THE LANCET.

LONDON: SATURDAY, AUGUST 29, 1908.

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Address to Students.

In October several hundreds of students will enter at different centres upon the long course of study which is to lead to their becoming qualified for the practice of medicine. The exact number cannot yet be guessed at, but it seems probable that it will not be so high an aggregate as in some previous years, and certainly will not promise an excess of medical men for the national service. It is, perhaps, too much to imagine that each one of these has been led to study medicine by a special liking for the life and work of a medical practitioner, but it is at least to be hoped that a large majority have been specially attracted towards medicine as a pursuit. The old-fashioned phrase that spoke of a man's "having a call" to some special work, a phrase that lingers now only in the "call" of some religious bodies, expressed the right idea that each man receives a summons, or call, to the work for which he is best suited. The idea survives, indeed, in the phrase "a man's calling," and "vocation" expresses the same thought through the Latin, but these words as now applied mean nothing more than the business or work which a man follows; indeed, the idea itself is so lost that most people confuse vocation and avocation, and imagine that the two are mere variants of one word, though they are really intended to be contrasted. That man will be likely to do best in any work who has a natural aptitude for it, and who feels that while doing it he is certainly fulfilling his destiny. On the other hand, a man who has no inclination towards the work which he undertakes will be less likely to do it well; he may put into his work as much energy as the other, but the zeal for the work will be wanting and the result will show the difference. "The labour we delight in physics pain," and the man who is doing work that he likes will always be able to do more work and better work than he who is compelled to follow a pursuit uncongenial to him.

In every school of medicine there must be some who are unsuited for the work which they have undertaken, or who have no inclination for it. In some it is not a mere absence of inclination, there is an actual distaste for the study of medicine. In cases such as these there is little hope of true success. Seldom do they do good work and for the most part they serve but to increase the number of those who fail repeatedly at examination after examination until they are the despair of their teachers and of their school. The choice of a profession is frequently made by a boy's father; if he is a medical man with a good practice it is only natural that he should wish to see his son follow in his footsteps and if the son himself is willing and able nothing could be better; it is not unreasonable to assume that there is often an inherited aptitude for medical practice, and this may well be so whether acquired characteristics are transmissible or not. Sometimes a father parcels out his boys amongst the various professions in the manner which seems to him best, little regard being paid to any natural inclination on the part of the son. All will remember the account which Eugene Wrayburn in "Our Mutual Friend" gives of his father, how he prearranged from the hour of the birth of each, and sometimes from an earlier period, what the little victim's calling and course in life should be, how one was to be a barrister, and a barrister he became; another was to become a pillar of the Church, and a pillar of the Church he was, albeit a very shaky one; a third was destined for the navy, and was commissioned as a naval officer, while equally early a fourth was destined to develop mechanical tastes. Dickens's sketch was, of course, intended to be a caricature, but, like all good caricatures, it only over-emphasises features that exist. There are many fathers who insist on devoting to particular pursuits, and to the medical profession among others, boys who are unsuited by natural aptitude to do well in the sphere of life chosen for them. It is certainly a difficult matter to decide how much weight should be given to the wishes and feelings of a boy of 16 or 17 years of age in settling his career, but there can be no doubt that it is unwise, and may be worse than unwise, to ignore entirely the inclinations of the boy himself. It may well be said that a boy at such an age is not old enough to know what is really best for him. This is true to a certain extent, and we know that at an earlier age the choice of the future profession varies with the boy's views from day to day, but at 16 years of age or so a lad may reasonably know what occupation is distasteful to him and what is attractive, and these likes and dislikes should certainly be given some weight, and that not small, in the decision, though the final judgment must rest in the father's hands. When a boy who is unsuited for it becomes a medical student it is not unlikely that he will relinquish the work before his studies are completed should opportunity offer. In the well-known statistics compiled by Sir James Paget, which were based on 1000 students who had been attached to St. Bartholomew's Hospital, it is shown that some 10 per cent. of the students gave up their medical studies before obtaining a qualification and betook themselves to some other pursuit. We cannot doubt that many of these were from the first unfitted for the study of medicine. Fortunately, it is not always absolutely necessary to decide for good and all at the very beginning of the student's work, for a preliminary examination in general knowledge has to be passed, and the same examination will in several cases avail for different branches of subsequent study. As a rule, it may be laid down that it is well for the student to pass the best examination in general knowledge that he can, and one of the most convenient for the purpose is the matriculation examination of the University of London, which despite the hard criticism that it comes in for, even in its modified form, is a useful test of preliminary training. It is obvious that a good preliminary training in general knowledge is of the greatest value for a medical student; and this is so for

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many reasons. The medical profession now occupies a higher position in the country than was formerly the case, and the more weight that is given in the counsels of the nation to the opinions of the medical profession the better it will be for the country. In order, however, to maintain and to be worthy of such a position it is necessary that the members of the profession should in general knowledge and culture be fully the equals of those with whom they have to work.

It may well happen that a boy is hesitating as to whether he should enter as a medical student or not, and his father may be in an equally uncertain frame of mind. For those in doubt what advantages possessed by the practice of medicine can be advanced to determine their choice? In the first place, it can be laid down as beyond possibility of dispute that the practice of medicine is beneficent; the good that it does cannot be measured by money. It preserves to a family the breadwinner, without whom there would be utter ruin; it saves for the mother and father the little child who has been threatened with death, and the lives of the old are prolonged by it in comfort. In less serious cases pain is relieved or banished, disabilities are removed, and health and strength are restored. If we may measure the value of a profession by the amount of good that it does there is none which can compare with the practice of medicine. That is so even if we consider only the therapeutic side of the science, but still more obvious is it when we think of the preventive work for which the profession is responsible. Vaccination itself saves the country from an enormous amount of sickness and many deaths; by the discoveries of the mode of infection in typhoid fever it has become possible to diminish greatly the number of cases of this disease. By prophylaxis in surgery it has been possible to reduce the death-rate of all operative procedures, and in numberless other ways medicine in its various branches has best treated disease by preventing it. So much, and very briefly, for good done, and ill prevented; we have next to consider what recompense does the practice of medicine offer for the work effected? Here the answer can hardly be as enthusiastic as we could wish. A few, a very few when we consider the large number of medical men in this country, earn large incomes, but even these incomes can hardly be considered large when we compare them with the pecuniary results obtainable in some other callings. A goodly number of medical men earn a moderate income and only too many are hardly able to make ends meet. It has, indeed, been said that the average income throughout the profession is less than £250 a year, but it is difficult to imagine on what data the estimate has been based, and in our opinion the statement, which has been widely circulated, is incorrect. In addition to the medical services of the Navy and the Army there are now very many municipal and county council appointments which are open to medical men, and recent legislation has led to the creation of many posts in connexion with elementary education. In most of these Government or official posts the pay is not very high, but it is certain, and the certainty of payment goes far to make up for the smallness of the amount. There is another advantage of medicine worthy of mention, and that is that the mere increase of years is no bar to the successful perfo ance of work. In many callings a man may easily be old at 40, and every year that he lives he may find chance of earning a livelihood diminishes. In medici however, it is not so; unless a medical man is rende incapable by illness or infirmity his age is no drawback his work; in fact, so far as the public is concerned, increase of age is considered to be necessarily accompan by an increase in professional knowledge and ability; a with certain limitations the public view is a just one, and o that juniors in the medical profession would be well advis to give more heed to.

We have mentioned some of the advantages which a connected with the practice of medicine, but it would l unfair to refrain from referring to the disadvantages whi it often entails. Before a man is allowed to practise his pr fession he has to spend at least five years of his work i study; this, the statutory period, does not nearly suffice f the average student and does not include the time spent i work for the preliminary examination in general knowledg This is a long training, and when the student is qualific he will find that much hard work remains. Whateve branch of the profession he adopts there will be mucl to be done without any payment other than of a approving conscience. He will find that at any hour o the day or night he is liable to be disturbed by an appea for medical assistance of one kind or another. He wil find that his generosity is often abused, that many wh are well able to pay his fees will endeavour on one plea o another to escape paying their just debts. Yet with all its disadvantages, all its troubles, there is no profession which is more loved by its followers than is the profession of medicine, and few indeed would be willing to exchange it for another.

When it has been finally decided that a young man shall become a medical student it is necessary that a medical school should be chosen, and there is no lack of choice. To decide between London and provincial schools is by no means easy, for there is much to be said on both sides. At the present day there are many provincial medical schools as well equipped as any schools in London and the amount of clinical material is probably as great, but London is unapproachable in the extent of its educational and clinical facilities; no provincial museum—in fact, no medical museum anywhere—can be compared with the museum of the Royal College of Surgeons of England, and we feel that it is a definite gain to any student of medicine to spend at least a portion of his time in London. In London there is, again, sufficient variety of schools from which a choice can be made and many considerations will exert an influence. Sometimes a school is chosen because of the presence of a well-known name on the staff, but this must not be given too great weight; sometimes even the name of a consulting surgeon or physician of a hospital may influence the choice, owing to a want of knowledge of the fact that the members of the consulting staff have no active connexion either with the patients or the students of a hospital. Some students will go to one hospital becar e the medical school is large; others will prefer a small medical school. There is reason for each choice. In a small school the probability of a student ultimately attaining to a position on the staff is vastly greater than at a large school, where the competition is often very keen. When a student is the son of a medical man usually he goes to his father's old hospital. One medical school may excel in one department and another in another. At one time it was possible for a student to take one class at one hospital and another at a second hospital, and perhaps even a third class at still another hospital. There is something to be said for such an arrangement, but now a student usually takes all his classes and practical work, at all events in the final subjects, at one medical school.

At the present time it cannot be said that the educational and examining bodies of London so far as they have to do with medical matters are in a satisfactory condition. There is room for amendment in many ways. In the first place, there is a great waste of energy in the teaching of the earlier subjects of the curriculum. Certain of the medical schools have expressed their willingness to resign the teaching of some of the earlier subjects, such as biology and physics, and several are also willing to give up the teaching of anatomy, physiology, and chemistry, while others prefer, for the present at any rate, to persevere in the complete educational curriculum. We do not propose to enter into the details of this difficult and vexed question at this moment, but no one can deny that at the present time in London there is unnecessary duplication and triplication of the teaching of these subjects, in fact, if the English language could supply a suitable word it might be used to express the fact that many lectures and demonstrations are repeated unnecessarily 10 or 12 times. What are the results? The classes at many of the schools are pitiably small, so that the remuneration of the teachers is absent or not at all commensurate with the work which they do. It also follows that the amounts that can be expended on accessories for lectures and demonstrations are smaller than they should be. There is a sound argument in favour of the present arrangement and that is that the teaching is done for the most part by medical men who are engaged in the practice of their profession and therefore is more likely to have a direct bearing on the student's subsequent work. But more than this ought to be advanced to justify a waste of energy that is proving a drawback to medical education in the capital of the empire, and many who have given years of their life to the problems of medical education believe that amalgamation of the teaching of the earlier subjects is necessary and that it will in time come about. It is not suggested that all the students should be brought to a single centre, though that may be the ideal plan. Three or four centres may reasonably be arranged in London, so that propinquity to the several hospitals may be considered. We feel sure that such an arrangement would prove a very certain gain to the students of London and would pave the way to further reforms. The Senate of the University of London has returned to the donors the sums subscribed in support of a movement in this direction, an action which has been much criticised, but although the matter has been postponed for a while, we do not doubt that in the near future some scheme or schemes of concentration will be found necessary, if London is to be, as it should be, the leading medical centre of the country.

There is one very great disability under which the London medical student labours, and that is the difficulty that he often finds in obtaining the degree of M.D. When the University of London was reconstituted a few years ago it was hoped that it would have made the degree of M.D. more accessible, but the result of the reconstitution of the University has been that the difficulties have not been removed, and in addition the increase of the fee for the M.D. examination from £5 to £20 may deter many of the poorer students from venturing to enter. To the medical world the University of London seems to be suffering from an excess of machinery; it reminds us of the ingenious contrivances of some inventors of perpetual motion, who, by the employment of an immense number of wheels and levers, endeavour to hide from themselves and others that all this assemblance of working parts can do no work. We do not doubt the earnestness and the zeal of the present senators, they are doubtless doing their best, but the result is a muddle. One of the chief faults of the regulations for the medical degrees of the University is the undue importance attached to the earlier subjects in medical study, for they are looked upon as worthy of being studied for themselves instead of as merely introductory to the subjects which are essentially medical. These earlier subjects, anatomy, physiology, and chemistry, are doubtless of much importance, and for special cases and as science subjects they deserve the fullest attention, but for the average medical student they are chiefly to be studied for the bearing which they have on the practice of medicine and surgery. It is true that the study of these subjects is a good training, but time does not permit the average student, even with the additional period now added by the University of London to its medical curriculum, to devote himself to them for so long as is needed for the examinations of the University. Another evil flows from the attempt to make the average student learn so much of these earlier subjects, and that is, that he does not remember later as much as he really needs. All who have taught students the final subjects will agree that the average student has forgotten the greater part, or even nearly the whole, of his anatomy, physiology, and chemistry, so that he cannot utilise to the full the later teaching. Let the student study these earlier subjects with a reference to the applicability of the knowledge to his life work and not merely with reference to their scientific interest.

We would interpret widely the reference of anatomy, physiology, and chemistry to medicine and surgery; we do not urge any narrow limitations of the teaching of these subjects, but all through the teaching the ultimate object must be borne in mind. We are now thinking mainly of physiology and chemistry. It is not easy for a student to devote too much time to anatomy, and there is comparatively little of the subject which may not prove of value at one time or another, though the teacher must bear in mind the wonderful faculty for forgetting possessed by most students as soon as the examination is passed. In physiology, and especially in chemistry, much of what is taught in all the medical schools of the country is of no direct use to the student in view of his future pursuits, and though it may be reasonable enough to include it in the syllabus of a science degree it is out of place in the curriculum of the average medical student. It is only necessary to glance at any examination paper on organic chemistry for the London M.B. degree to appreciate the correctness of this statement. The questions have for the most part nothing to do with the practice of medicine, and the syllabus as set forth in the regulations shows that those who drew it up did not realise the needs of medical students. The object of medical education is to train men to practise with success the various branches of medicine. To that end all training must be subservient, and any teaching which obstructs or retards the progress of the student is clearly harmful. The average student is undoubtedly hindered by the overloaded character of the curriculum. For students aiming at honours it may be well to insist on a high academic standard in subjects not strictly professional, but for the average student it is a decided mistake, and it is he whose needs have to be considered in arranging a scheme of education and examination. At present the purely educational bodies are helpless; they must supply what is called for by the examining bodies, and on these latter the onus of the present condition of affairs rests. The old schools of Oxford and Cambridge, Edinburgh, and Dublin, and the modern schools of our great commercial centres are all concerned, though the position may seem to press now more upon one than upon another.

In London we have a special position. We have an excellent examining board in medical subjects—namely, the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England Their examinations are admirably conducted, their requirements are reasonable, and the standard is high, as high as is required for many degrees of M.D. in the British Isles or elsewhere, but the corporations cannot grant a degree of M.D. to their successful condidates. The average London student is therefore at a disadvantage with his provincial fellows, for the public, which knows very little about medical degrees and distinctions, looks upon the M.D., any M.D., as evidence of medical knowledge, while it hardly distinguishes between F.R.C.S. and F.R.G.S. or between L.R.C.P. and R.S.V.P. It is undoubtedly a handicap for a medical practitioner to be without the degree of M.D. and the consciousness of having passed examinations as searching as those passed by many holding that degree will not make up for the lack of it. This is an urgent matter for the London student, and he naturally looks to his University to come to his assistance. The final subjects are those which are most important to the average student, who will spend his life in the practice of some branch of medicine. On his knowledge of them his success in treatment will depend, and here the man who holds the English Conjoint diploma is the equal of any qualified medical man on the professional roll. There was a time when lectures formed the greater part of the course of instruction of the student, and there was a reason for this since text-books were few and incomplete. At the present time, however, books abound on every conceivable branch of medicine and lectures have lost much of their pristine value. Their importance has been tranferred to demonstrations and practical work, and these object-less are immensely more instructive to the student. There no centre in the world so good as London for clinical instruction, and the University of London should be eage to enrol among its graduates a large number of the medical men trained in such a manner.

With the progress of medicine the extent of the subjects included within that name has enormously widened and the creation of special departments of medical knowledge has added greatly to the amount of learning demanded from the student at his final examinations. The teacher of each special department naturally asks, and the public also asks, Why is a student generally not examined in diseases of the eye, of the ear, or of the skin? Of course, an occasional question in each of these subjects is set at the written examination, occasionally even a clinical case involving some knowledge of a special branch is shown, but there is no definite examination in these special subjects. Hygiene has taken an important place in modern medicine and it requires, and often receives, recognition in the final examinations, but hygiene is as much a special branch in actual practice as ophthalmology, and should be treated in the same way by examiners. A knowledge of anæsthetics should also be made compulsory on all candidates. A student must obtain a certificate of having learned to vaccinate, perhaps one of the simplest operations that a medical man ever has to perform, while he is not required to produce any evidence of having been instructed in the administration of anæsthetics, a vastly more difficult matter. And this increase in the area of therapeutics is by no means all that our educational authorities have to deal with. Within recent years great strides have been made in the art of diagnosis. Blood examinations are very different from what they were 20 or 30 years ago. Then it sufficed if the number of red and white corpuscles was given, with perhaps the percentage of hæmoglobin; now a differential count of the varieties of leucocytes is often considered necessary. The various blood reactions form another important branch of investigation for diagnostic purposes and the opsonic reaction has introduced a still more complex diagnostic aid which is also of great therapeutic importance. The Roentgen rays also, of equal use for diagnosis and treatment, have added another complication to the already huge mass of medical knowledge to be absorbed by the student. We mention opsonins and the x rays as of therapeutic as well as of diagnostic importance, and there are in the realm of therapeutics many recent additions to our medica armamentarium with which the student is expected to b acquainted. The preparation of sera and of vaccines has already reached an important stage, and it appears that th future of these and similar methods of treatment will b very important. What can be done in this serious stat of affairs? How is the medical student to be taught hi work within a reasonable limit of time, or to put the question round the other way, how is it to be decided what is th reasonable limit of his necessary education?

At the present time there is a tendency to th growing up of a distinction between two classes o medical men. We are not referring to the line that have been drawn between surgeons and physicians or even to the distinction between general practitioners and consultants, but to the clinicians and the laboratory workers. There is not time, there is not a possibility of one man being able to become an experienced clinician whether in medicine or surgery and at the same time experienced in the laboratory processes which now form so important a part of modern diagnosis and treatment. Examiners are apparently insisting on a smattering of all these subjects, and something must be done to lighten the burden. We have endeavoured to show that in the earlier subjects the average student may be readily and beneficially relieved from a great deal of top-hamper which only seems to diminish his stability; but more relief still is needed. It has been suggested that a large part of the laboratory work should be placed into the hands of laymen, nd undoubtedly some admirable scientific investigations pon medical subjects are now being conducted by men who ave received no distinct medical training. We should be orry to see any great development of this principle, for it ill tend to divorce the laboratory work completely from he clinical work. Even at the present time there is a endency for the pathologist to override the clinician. It might be possible for the final examinations to be differentiated so that a student might qualify in pathology and not necessarily in the other branches of medicine, but although this idea has received some support it hardly commends itself to us in this form. Another suggestion is that the medical student should begin his special training quite young, as our naval officers do, the study of the preliminary scientific subjects at an early age being more convenient than the postponement of qualification for several years. Some countries do require a long course of medical training; we believe that in Sweden the curriculum lasts ten years or so; but this again is not a solution that commends itself to us. The segregation of medical men into a class from boyhood would tend to restrict their sympathies and capacities, and the medical practitioner, above all individuals in the social scheme, ought to be a person of wide sympathies.

We are inclined to think that a qualifying examination for all should be passed, that the standard and course of study required should be very much like those of the Conjoint Examining Board of England, and that those passing this final examination should attain the degree of M.D. For those wishing to engage in research work or in hygiene or in any special work a further course of study in that special subject should be required to be followed in due course by a special examination It is right that students and their parents should know that the present position of medical education in this country, and especially in London, is unsatisfactory, and that there must be amendments.

WORTHING HOSPITAL.—The Rev. C. H. W. Capron, who died at Worthing on August 20th, has left a bequest of £1000 to the Worthing Hospital. The deceased gentleman was formerly rector of Stoke Doyle, Northamptonshire, and vicar of Warmington in the same county. He had resided in Worthing since his retirement from active clerical duties 28 years ago He was 82 years of age. This generous bequest comes very appropriately with the Worthing Hospital extension scheme referred to in THE LANCET of August 8th.

THE STUDENT'S GUIDE.

SESSION 1908-1909.

A PREFATORY STATEMENT.

THE quantity of the subjects which fall necessarily within the scope of our educational number has now become very large, and it may be as well, as on previous occasions, to explain the scheme upon which the following guide to a medical career in this country is constructed.

The General Council of Medical Education and Registration, conveniently known as the General Medical Council, is the controlling authority, under the Privy Council, of the medical education of the land. Under the provisions of the Medical Acts various universities and corporations are recognised as being examining bodies whose degrees or diplomas entitle to medical registration, and it is among the duties of the General Medical Council to keep the official register and to insure by periodical visitations that the tests of the various examining bodies are maintained at a due standard. We begin by detailing the powers of the General Medical Council, and go on to give in detail the regulations of the various examining bodies.

But the student must be taught as well as examined, and the systems under which he can obtain instruction do not conform to one pattern. The curriculum of the medical student falls into two parts, the preliminary subjects and the professional subjects, and the two cannot be sharply divided. The extent to which they are allowed to overlap under different schemes of education varies a good deal, while the extent to which they ought to overlap is a perennial subject of debate. The preliminary subjects are, to mention only the four important ones, chemistry, biology, anatomy, and physiology, and they are taught in the school proper; the professional subjects, medicine, surgery, and obstetric medicine—under which headings all forms of specialism are included—must be learned in the wards of a hospital. All schemes of medical education require a school and a hospital, but there their uniformity ends.

There are nine universities in England and four in Scotland which possess a faculty of medicine. The number in England will be increased quite shortly, while in Ireland under the Irish Universities Bill the number will be raised to three. The universities are prepared to educate their students to a varying extent, or to delegate the preparation of their candidates to other recognised bodies; they then examine their students, generally and in England invariably, with the help of examiners brought in from other medical centres, and bestow degrees in medicine upon the successful candidates. We give the regulations of these universities and follow with those of the Royal Colleges of the three divisions of the United Kingdom, of the Society of Apothecaries, and of the Apothecaries' Hall of Ireland.

From this point we pass to the consideration of the hospitals at which the latter part of the medical training of the students must be received. The students at these hospitals may look to the hospital medical school for the whole of their training, as, for example, the student working for the diploma of a corporation would generally do; or they may be taking out a clinical course at the hospital, intending to graduate at one of the universities. In a sense, therefore, the medical school and wards of every hospital form part of a university, by supplying an integral section of the teaching required by the university from candidates for medical graduation; and this has been recognised in the reconstitution of the University of London under which all the medical schools of the metropolis are affiliated to the University of London.

Detailed information concerning all the medical schools and their hospitals naturally forms the bulk of the STUDENTS' NUMBER of THE LANCET; but we follow upon this with an account of the condition of medical employment in the Naval, Military, and Indian Medical Service, and in the Public Health Service, concluding with a report upon the system of education in dental surgery.

We think that the reader with this brief prefatory statement before him will know where to look for any subject upon which he wants enlightenment.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION OF THE UNITED KINGDOM.

POWERS AND DUTIES OF THE GENERAL MEDICAL COUNCIL.

As there is apparently, even among members of the medical profession, a great amount of ignorance as to the powers and duties of the General Medical Council, we think it well to lay clearly before our readers what the General Medical Council is and also what it is not.

Many of the false ideas on the subject are due to the use of the shortened title, "General Medical Council." The full title is, "General Council of Medical Education and Registration of the United Kingdom." This title is in accordance with the Medical Act of 1858, by which the General Medical Council was established under the Privy Council to enable persons requiring medical aid to distinguish qualified from unqualified practitioners. The Council was thus instituted not primarily for the benefit of the medical profession but to insure an efficient medical service to the public. It is obvious that by so doing the profession itself gained, in that official sanction was given to reputable practitioners only, while a proper guarantee was afforded to the public that the standard of medical education should always keep abreast of the scientific knowledge of the day. The powers of the Council under which it fulfils these important functions fall under four heads. It is first a registering body: it registers the entry of students upon their medical studies and also the attainment by them of the degrees or other qualifications that legally entitle them to practise medicine. This last duty forms its chief service to the State, as a complete list of practitioners of legal standing is thus rendered available for the information of the public. Secondly, it assures the public that the education of medical men is kept up to an efficient standpoint by maintaining at the proper pitch the standard of the various medical examinations. Thirdly, it is a penal and disciplinary body, having power to remove from the Register any practitioner adjudged guilty of conduct "infamous in a professional respect." Here again it is the public interest that is first considered, although these powers are for the very material advantage of the medical profession. The last duty of the Council is the codification of pharmaceutical remedies. Reform in the administration of the finances of the Council has of recent years removed acute pecuniary strain from that body, but the day should soon come when the State, recognising the public value of the work of the Council, should be willing to subsidise its efforts. Registrars are appointed by the General Council and by the Branch Councils to keep registers of qualified persons. They are bound by Section XIV. of the Act to keep their registers correctly, a duty which, mainly owing to the apathy of members of the medical profession, can only be performed with difficulty.

It is as well here to put down the advantages, such as they are, of being duly registered. A duly registered practitioner may sue in the courts of law for the recovery of charges for medical attendance or advice, or surgical attendance or advice, or for the supply of medicine, or for the performance of any operation—provided that he is not debarred from suing by being a Fellow or a Member of any corporation which objects to its Fellows or Members so suing. He may be exempted, if he so desire, from serving on juries, from serving sundry corporate and parochial offices, and from serving in the Militia. Only a registered practitioner can hold appointments in the navy, army, and in sundry Poor-law and other institutions. Only a registered practitioner can sign a valid medical certificate. Removal of the name from the Register debars a man from all the above-mentioned privileges.

The General Medical Council is in no way a medical protection society or a medical defence union. It is not a professional union or a guild charged with looking after the interests of the medical profession after the manner of the old trades guilds, except in so far as it is concerned with the education of medical students. It has no powers over any member of the medical profession except to remove the name of any offending member from the roll of the profession or Medical Register. It cannot take away any degree, or diploma, or licence, and even if a practitioner is struck off the Medical Register there is nothing in the existing state of the law to prevent such practitioner continuing to practise, provided that he does not use name or title implying that he is registered. Practiti may be removed from the Medical Register (1) if con of felony or misdemeanour in England, or in Ireland, Scotland of any crime or offence, and (2) on being adj by the General Medical Council to have been guil "infamous conduct in a professional respect."

The General Medical Council is, we repeat, prir a body charged with looking after medical educa it is but little concerned with medical politics and matter of fact, the time of the Council is almost er *taken up with considering educational and regist* matters, the latter including the penal cases of re from the Register. The Council at present consists members, of whom, as will be seen by the annexed all but 10 are official representatives of some corporate Five members are chosen by the Crown on the of the Privy Council, and five others are electe the members of the medical profession as Direct sentatives.

President of the General Council.—Dr. Donald MacAl Members of the General Council.—Dr. Norman chosen by the Royal College of Physicians of Lo Mr. Henry Morris, Royal College of Surgeons of Eng Sir Hugh Reeve Beevor, Bart., M.D., Apothecaries' Soc London; Mr. Arthur Thomson, M.B., University of O (vacancy), University of Cambridge; Sir George Philipson, M.D., University of Durham; Dr. Henry Pye-Smith, University of London; Mr. Harry Young, M.B., Victoria University of Manchester Robert Saundby, University of Birmingham; Dr. Ri Caton, University of Liverpool; Dr. Alfred George University of Leeds; and Dr. William Tusting Coc University of Sheffield. Sir John Batty Tuke, M.D., chosen by the Royal College of Physicians of Edinb Dr. James William Beeman Hodsdon, Royal Colle Surgeons of Edinburgh; Dr. John Lindsay Steven, Fa of Physicians and Surgeons of Glasgow; Sir Thomas Ri Fraser, M.D., University of Edinburgh; Dr. D MacAlister, University of Glasgow; Dr. David White Fi University of Aberdeen; and Dr. John Yule Ma University of St. Andrews. Sir John William Moore c by the Royal College of Physicians of Ireland; Sir Th Myles, Royal College of Surgeons in Ireland; Dr. Fr George Adye-Curran, Apothecaries' Hall of Ireland Charles Ball, University of Dublin; and Sir Christopher Nixon, Bart., M.D., Royal University of Ireland. *Nomi* by His Majesty, with the advice of his *Privy* Cou Mr. Charles Sissmore Tomes, Sir William Henry P K.C.B., Sir John Williams, Bart., K.C.V.O., Dr. Caldwell McVail, and Dr. James Little. Electe Direct Representatives Dr. Langley Browne, Dr. H Latimer, Dr. L. S. McManus, Dr. Norman Walker, Dr. Leonard Kidd. Treasurers of the General Co Mr. Charles Sissmore Tomes and Mr. Henry Morris.

THE EDUCATIONAL CURRICULUM.

Professional Education.—The course of professional s after registration shall occupy at least five years. Final Examination in Medicine, Surgery, and Midw must not be passed before the close of the fifth acad year of medical study.

Registration and Preliminary Examination of Me Students.—The following are the General Medical Coun Regulations in reference to the registration of student medicine:—

Every medical student shall be registered in the ma prescribed by the General Medical Council. The registra of medical students shall be placed under the charge of branch registrars. Every person desirous of being regist as a medical student shall apply to the branch registrar of the division of the United Kingdom in which he is residing; and shall produce or forward to the branch registrar a certificate of his having passed a preliminary examination as required by the General Medical Council, and evidence that he has attained the age of 16 years, and has commenced medical study. The branch registrar shall enter the applicant's name and other particulars in the Students' Register and shall give him a certificate of such registration. Each of the branch registrars shall supply to the several licensing bodies, medical schools, and hospitals, in that part of the United Kingdom of which he is registrar, a sufficient number of blank forms of application for the registration of medical students. The commencement of the course of professional study recognised by any of the qualifying bodies shall not be reckoned as dating earlier than 15 days before the date of registration. In addition to the universities and schools of medicine there are many institutions where medical study may be commenced. Applications for special exceptions are dealt with by the Students' Registration Committee, which reports all such cases to the Council.

The Preliminary Examination in General Education, required to be passed previously to registration as a medical student, is as follows:—

1. English language, including grammar and composition. 2. Latin, including grammar, translation from unprescribed Latin books, and translation of English passages into Latin. 3. Mathematics, comprising (*a*) arithmetic, (*b*) algebra, incl [illegible] and (c) geometry, the subject matter of [illegible] with easy deductions. 4. One of the [illegible] (*b*) a modern language.

In many cases the Council will not accept certificates of pass in Preliminary Examination in General Education unless the whole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been passed at the same time.

A degree in Arts of any university of the United Kingdom or of the colonies or a certificate of having passed the final examination for a degree in Arts or Science of any university in the United Kingdom is considered a sufficient testimonial of proficiency.

H. E. Allen, LL.B., Registrar of the General Council and of the Branch Council for England, 299, Oxford-street, London, W.—James Robertson, Registrar of the Branch Council for Scotland, 54, George-square, Edinburgh.—Richard J. E. Roe, Registrar of the Branch Council for Ireland, 35, Dawson-street, Dublin.

THE EXAMINING BODIES.

The following is a list of Examining Bodies whose examinations in general education are recognised by the General Medical Council as qualifying for registration as a medical or dental student.

I.—*Universities in the United Kingdom.*

University of Oxford.—Junior Local Examinations. Senior Local Examinations. Higher Local Examinations. Responsions. Moderations.

University of Cambridge.—Junior Local Examinations. Senior Local Examinations. Higher Local Examinations. Previous Examination. General Examination.

University of Durham.—Matriculation Examination for Science, Letters, and Music. Senior Local Examinations.

University of London.—Matriculation Examination.

Victoria University of Manchester.—Matriculation Examination.

University of Birmingham.—Matriculation Examination.

University of Liverpool.—Matriculation Examination.

University of Leeds.—Matriculation Examination.

University of Wales.—Matriculation Examination.

University of Edinburgh.—Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery.

University of Aberdeen.—Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery.

University of Glasgow.—Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery.

University of St. Andrews.—Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery. Final Examination for the diploma of L.L.A.

University of Dublin.—Public Entrance Examination. Examination for the first, second, third, or fourth year in Arts.

Royal University of Ireland.—This university is in course of dissolution, while the new *Catholic University in Dublin* and the new *University of Belfast* are rising in their stead. The examination in each of the new bodies will be, of course, duly recognised from the beginning.

Oxford and Cambridge Schools Examination Board.—Higher Certificate and School Examinations, Higher Certificate (certificates to include the required subjects).

II.—*Medical Licensing Bodies.*

Royal Colleges of Physicians and Surgeons in Ireland.—Preliminary Examination.

III.—*Educational Bodies other than Universities.*

College of Preceptors.—Examination for a First Class Certificate; Preliminary Examination for Medical Students.

Intermediate Education Board of Ireland.—Middle Grade Examination; Senior Grade Examination.

Educational Institute of Scotland.—Preliminary Medical Examination.

Scottish Education Department.—Leaving Certificates in Lower and Higher Grades and in Honours.

Central Welsh Board.—Senior Certificate Examination.

IV.—*Indian, Colonial, and Foreign Universities and Colleges.*

Every Certificate from Indian, Colonial, and Foreign Universities and Colleges must contain evidence that the Examination has been conducted by or under the authority of the Body granting it, must include all the subjects required by the General Medical Council, and must state that all the subjects of Examination have been passed in at one time; copies of the form of the required Certificate are supplied by the Registrar of the Council for the purpose. In the case of Natives of India or other Oriental countries whose vernacular is other than English an Examination in a Classical Oriental Language may be accepted instead of an Examination in Latin. The German Abiturienten-Examen of the Gymnasia and Real-gymnasia and the examinations entitling to the French diplomas of Bachelier ès Lettres and Bachelier ès Sciences are recognised by the General Medical Council.

The remainder of the curriculum, though all under the supervision of the Council, is in detail in the hands of the various degree- and diploma-granting bodies whose representatives are members of the General Medical Council. In the next pages we give the regulations of the various examining bodies, but it must always be remembered that the examinations are under the supervision of the General Medical Council who visit the various centres in turn and closely inspect the procedure.

REGULATIONS

OF THE

MEDICAL EXAMINING BODIES IN THE UNITED KINGDOM.

UNIVERSITY OF OXFORD.

THERE are two degrees in Medicine, *B.M. and D.M.*, and two degrees in Surgery, *B.Ch. and M.Ch.*

Graduates in Arts (B.A. or M.A.) are alone eligible for these degrees. The most convenient course for the B.A. degree for intending graduates in Medicine is to take Responsions, the Preliminary Science Examinations mentioned below, and the Final Honour School of Physiology. In order to obtain the degrees of B.M. and B.Ch. the following examinations must be passed:—1. Preliminary subjects: Mechanics and Physics, Chemistry, Animal Morphology, and Botany. 2. Professional. (*a*) First Examination: Subjects—Organic Chemistry, unless the candidate has obtained a first or second class in Chemistry in the Natural Science School; Human Physiology, unless he has obtained a first or second class in Animal Physiology in the Natural Science School; Human Anatomy and Materia Medica with Pharmacy. (*b*) Second Examination: Subjects—Medicine, Surgery, Midwifery, Pathology, Forensic Medicine with Hygiene. The approximate dates of the examinations are as follows:—Preliminaries—Mechanics, Physics, and Chemistry, December and June; Animal Morphology, December and *March*; *Botany*, March and June; Professional (First and Second B.M.), June and December.

The First Examination for the degrees of B.M. and B.Ch. may be passed as soon as the Preliminary Scientific Examinations have been completed. The subjects of this examination may be presented separately or in any combination or in any order, provided Anatomy and Physiology be passed together.

The Second Examination may be passed after the completion of the first but Pathology and Hygiene may be taken before or with the remaining subjects. Before admission to the Second Examination candidates must present Certificates of attendance on a course of laboratory instruction in Practical Pathology and Bacteriology and of having acted as post-mortem clerk for three months, surgical dresser for six months, and clinical clerk for six months. Also he must produce certificates of instruction in Infectious and Mental Diseases, and of attendance on Labours, and of proficiency in the practice of Vaccination. Also in respect of the First Examination candidates must present certificates showing that they have dissected the whole body once and have attended courses of laboratory instruction in Practical Histology and Practical Physiology.

The degree of D.M. is granted to Bachelors of Medicine of the University provided they have entered their thirty-ninth term and have composed on some medical subject a dissertation which is approved by the professors in the Faculty of Medicine and examiners for the degree of B.M. whose subject is dealt with. A book published within two years of the candidate's application for the degree may be substituted for a dissertation. The Regius Professor may direct the dissertation to be read in public. The degree of M.Ch. is granted to Bachelors of Surgery of the University who have entered their twenty-seventh term, who are members of the surgical staff of a recognised hospital, or have acted as Dresser or House Surgeon in such a hospital for six months, and who have passed the M.Ch. examination in Surgery, Surgical Anatomy, and Surgical Operations. This examination is held annually, in June, at the end of the Second B.M. Examination.

Travelling Fellowship, &c.[1]—A Radcliffe Travelling Fellowship is awarded annually after an examination held in February. It is tenable for three years and is of the annual value of £200. The stipend is paid by University College. The examination is in Physiology, Pathology, and Hygiene, and is partly "practical." Candidates must be graduates in Medicine of the University. The holder must travel abroad for the purpose of medical study. Application should be made to the Radcliffe Examiners, Radcliffe Library, University Museum. A Rolleston Memorial Prize is awarded once in two years to members of the Universities of Oxford and Cambridge of not more than ten years' standing for an original research in some Biological subject, including Physiology or Pathology. The Radcliffe Prize, founded by University College (1907) is of the value of £50 and is awarded biennially for research in some branch of medical science. The prize will be awarded in 1909. Candidates must send in their memoirs to the University Registry on or before Dec. 1st, 1908. The award will be made in March, 1909. No memoir for which any University prize has already been awarded is admitted to competition for the Radcliffe prize, and the prize will not be awarded more than once to the same candidate.

More detailed information may be obtained from the University Calendar; from the Examination Statutes, 1902, which contain the official schedules of the several subjects of examination in both Arts and Medicine; from the Student's Handbook to the University (all of which are published by the Clarendon Press); from the Regius Professor of Medicine; and from the Professors in the several departments of medical science.

Professors—Anthropology: E. B. Tylor, M.A. Botany (Sherard): S. H. Vines, M.A. Chemistry (Waynflete): W. Odling, M.A. Comparative Anatomy (Linacre); G. C. Bourne, D.Sc. Human Anatomy: A. Thomson, M.A. Medicine (Regius): W. Osler, D.M., Hon. D.Sc., Natural Philosophy (Sedleian): A. E. H. Love, D Sc. Physics (Wykeham): J. S. E. Townsend, M.A. Physiology (Waynflete): F. Gotch, M.A., D.Sc. Reader: J. S. Haldane, M.A. Zoology: E. B. Poulton, M.A., D.Sc. Pathology: G. Dreyer, M.D. Lecturer: E. W. A. Walker, D.M.

In addition to the University lectures and classes the several Colleges provide their undergraduates with tuition for all examinations up to the B.A. degree.

UNIVERSITY OF CAMBRIDGE.

The student must enter at one of the Colleges, or as a non-collegiate student, and keep nine terms (three years) by residence in the University. He must pass the Previous Examination in Classics, Mathematics, &c., which may, and should if possible, be done before coming into residence in October, or he may obtain exemption through the Oxford and Cambridge Schools Examination Board, the Oxford or Cambridge Senior Local Examinations, the London Matriculation Examination, the Scotch Education Department, Responsions at Oxford, and the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield. He may then devote himself to medical study in the University, attending the hospital and the medical lectures, dissecting, &c. Or he may, as nearly all students now do, proceed to take a degree in Arts, either continuing mathematical and classical study and passing the ordinary examinations for B.A. or going out in one of the Honour Triposes. The Natural Sciences Tripos is the most appropriate, as some of the subjects are practically the same as those for the first and second M.B. examinations.

For the degree of *Bachelor of Medicine* (*M.B.*) five years of medical study are required. This time may be spent in Cambridge or at one of the recognised Schools of Medicine. The first three or four years are usually spent in Cambridge, the student remaining in the University till he has passed, say, the examination for the Natural Sciences Tripos and the first and second, and the first part of the third, examinations for M.B. Cambridge being now a complete School of Medicine, all the requisite lectures and hospital practice may be attended here, and many students remain to attend lectures and hospital practice until they have passed the first part of the third examination for M.B. The supply of subjects for Dissection is abundant, and the laboratories for Pathology, Bacteriology, and Pharmacology are well equipped. Addenbrooke's Hospital provides for the necessary clinical training.

There are three examinations for M.B. The *first* includes Chemistry and other branches of Physics and Elementary Biology. These parts may be taken together or separately. The *second* includes Human Anatomy and Physiology. The *third* is divided into two parts—viz., (1) Pharmacology and General Pathology; (2) Principles and Practice of Surgery, Midwifery and Diseases Peculiar to Women, Principles and Practice of Physic. The examinations are partly in writing, partly oral, and partly practical, in the hospital, in the dissecting room, and in the laboratories. An Act has then to be kept in the Public Schools, by the candidate reading an original dissertation composed by himself on some subject approved by the Regius Professor of Physic.

As Operative and Clinical Surgery now form parts of the third M.B. examination candidates who have passed both parts of that examination are admitted to the registrable degree of *Bachelor of Surgery* (*B.C.*) without separate examination and without keeping an Act.

The degree of *Doctor of Medicine* (*M.D.*) may be taken three years after that of M.B. or four years after that of M.A. An Act has to be kept, consisting of an original Thesis sustained in the Public Schools with *vivâ voce* examination; and an extempore essay has to be written on some subject relating to Physiology, Pathology, the Practice of Medicine, or State Medicine.

For the degree of *Master of Surgery* (*M.C.*) the candidate must have passed all the examinations for B.C., or if he is an M.A. have obtained some other registrable qualification in surgery. He is required either (1) to pass an examination in Surgical Anatomy and Surgical Operations, Pathology, and the Principles and Practice of Surgery, and to write an extempore essay on a Surgical Subject; or (2) to submit to the Medical Board original contributions to the advancement of the Science or Art of Surgery. Before he can be admitted to the examination two years at least must have elapsed from the time when he completed all required for the degree of B.C. Before submitting original contributions he must have been qualified at least three years.

University Prize in Medicine.—The Raymond Horton Smith Prize (value £19) is awarded to that candidate for the degree of M D. who presents the best thesis for the degree during the academical year, provided that he has taken honours in a tripos examination.

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[1] See also scholarship tables, p. 664.

An abstract of the Regulations and Schedules of the range of the examinations in Chemistry, Physics, Biology, Pharmacology, and General Pathology may be obtained upon sending a stamped directed envelope to the Registrary, Cambridge.

Examinations in Tropical Medicine and Hygiene.—Two Examinations in Tropical Medicine and Hygiene are conducted yearly by the State Medicine Syndicate of the University of Cambridge. The examinations are held in Cambridge early in January and in the middle of August. Each examination will extend over four days.

Any person whose name is on the Medical Register is admissible as a candidate to the Examination provided (I.) that a period of not less than 12 months have elapsed between his attainment of a registrable qualification and his admission to the examination; (II.) that he produce evidence, satisfactory to the Syndicate, that he has diligently studied Pathology (including parasitology and bacteriology) in relation to Tropical Diseases, Clinical Medicine, and Surgery at a Hospital for Tropical Diseases, and Hygiene and Methods of Sanitation applicable to Tropical Climates. As evidence of study and attainments a candidate may present to the Syndicate (1) any dissertation, memoir, or other record of work carried out by himself on a subject connected with Tropical Medicine or Hygiene; (2) any Certificate or Diploma in Public Health or Sanitary Science he may have obtained from a recognised Examining Body. Such evidence will be considered by the Syndicate in determining whether he is qualified for admission to the examination and by the examiners in determining whether, if admitted, he shall be included in the list of successful candidates.

The examination will be partly oral and partly practical and will have reference to the nature, incidence, prevention, and treatment of the epidemic and other diseases prevalent in tropical countries. It will comprise the following subjects: 1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters. 2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including—malaria; blackwater fever; trypanosomiasis; relapsing fever; dengue; yellow fever; plague; tetanus; beri-beri; dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhœal affections of the tropics; diseases due to cestode and other worms; filariasis; bilharzial disease; specific boils, sores, and other cutaneous affections; mycetoma; ophthalmic affections of the tropics; affections caused by poisonous plants and animals, and by poisoned weapons; sunstroke. 3. The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene. acclimatisation. Principles of general hygiene, with special reference to food- and water-supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, jails, pilgrim, and coolie ships. Principles and methods of disinfection.

Every candidate who passes the examination to the satisfaction of the examiners will receive from the University a diploma testifying to his knowledge and skill in tropical medicine and hygiene.

The fee for the examination is £9 9s., and all applications for information should be addressed to Professor G. H. F. Nuttall, F.R.S., 3, Cranmer-road, Cambridge.

The Professors, Readers, and Lecturers in the various subjects are as follows. Professors—Anatomy: A. Macalister, M.D. Biology (Quick): G H. F. Nuttall, Sc.D. Botany: A. C. Seward, M.A. Chemistry: (vacant). Medicine (Downing): J. B. Bradbury, M.D. Natural Philosophy (Jacksonian): Sir James Dewar, M.A. Pathology: G. Sims Woodhead, M.A. Physic (Regius): T. Clifford Allbutt, M.D. Physiology: J. N. Langley, M.A. Surgery: F. H. Marsh, M.A. Zoology, &c.: A. Sedgwick, M.A. Readers—Botany: F. F. Blackman, M.A. Chemical Physiology: F. G. Hopkins, M.A., and A. E. Shipley, M.A. Lecturers—Physics: G. F. C. Searle, M.A., and C. T. R. Wilson, M.A. Botany: A. G. Tansley, M.A. Chemistry: Dr. Sell and Dr. Fenton. Organic Chemistry: S. Ruhemann, M.A. Advanced Morphology of Vertebrates: H. Gadow, M.A. Advanced Morphology of Invertebrates: A. E. Shipley, M.A. Advanced Physiology: W. H. Gaskell, M.D., and L. E. Shore, M.D. Physiology: H. K. Anderson, M.D. Physiological and Experimental Psychology: W. H. Rivers, M.A. Medical Jurisprudence: B. Anningson, M.D. Medicine: L. Humphry, M.D. Midwifery: A. C. Ingle, M.D. Surgery: G. E. Wherry, M.A., F.R.C.S. Pathology (Huddersfield): T. S. P. Strangeways, M.A. Physiological Anthropology: W. L. H. Duckworth, M.D.

UNIVERSITY OF LONDON.

The University of London was established by Royal Charter in 1836 as a purely examining and degree conferring body with several affiliated colleges but no direct teaching functions. In 1900 it was reconstituted under the Act of Parliament 1898 and became a teaching body. Many schools already existing became constituent colleges, including all the metropolitan medical schools. It is necessary that the teachers in these should be recognised and approved by the Senate as conducting work of university rank, and in this way the University may be said to have benefited the whole of medical education in London. It also appoints teachers in special subjects to give lectures at the University and the question of a further centralisation of preliminary scientific studies is at present occupying the very serious attention of the University and its constituent schools. The medical degrees awarded by the University are those of M.D., M.S.. and M.B., B.S., the two latter being now given together as a graduating degree, whereas formerly the M.B. alone was a qualifying degree and the B.S. was taken optionally as a separate examination. The medical degrees of the University of London are granted to both internal and external students, the former being students of the constituent schools and colleges of the University.

Teaching Staff.—The teaching staff of the University is organised under two heads: 1. Appointed teachers—i.e., such as are appointed by, and are paid out of the funds of, the University. 2. Recognised teachers—i.e., those who have been appointed and are paid by the several schools of the University and other institutions at which instruction is given under the auspices of the University, and who have been recognised by the Senate as conducting work of University standard. Thus in the Faculty of Medicine, although there are at present no appointed teachers, there are 401 recognised teachers belonging to the various metropolitan medical schools. In the Faculty of Science J. N. Collie, Ph.D., F.R.S., and S. Smiles, D.Sc., are the appointed teachers in Organic Chemistry; Sir William Ramsay, Ph.D., F.R.S., and N. T. M. Wilsmore, M.Sc., are appointed teachers in General Chemistry; and A. D. Waller, M.D., F.R.S., who is Dean of the Faculty and also Director of the Physiological Laboratory, is the appointed teacher in Physiology, and E. A. Minchin, M.A., in Protozoology. There are 212 recognised teachers in the Faculty of Science. The lecturers in the Medical Sciences and the professors in the Faculties of Medicine in King's College, London, and University College, London, will be found enumerated under their respective medical schools.

Internal and External Students.—Students of the University may be either internal or external. Internal students are those who have matriculated at the University and are studying in a school or schools or under one or more of the teachers of the University. The medical schools in question are those connected with University College Hospital. King's College Hospital, St. Bartholomew's Hospital, the London Hospital, Guy's Hospital, St. Thomas's Hospital, St. George's Hospital, the Middlesex Hospital, St. Mary's Hospital, Charing Cross Hospital, Westminster Hospital, and the London (Royal Free Hospital) School of Medicine for Women. The London School of Tropical Medicine and the Lister Institute of Preventive Medicine are also recognised as schools of the University in special departments. External students are those who undertake approved courses of study at schools recognised by the University but not belonging to it.

The Matriculation Examination.—Students before being admitted to the University must either (1) have passed the Matriculation or the School Examination (Matriculation or Higher Standard), or (2) have been exempted therefrom under Statute 116 of the University which recognises certain other examinations in its lieu. The examinations take place three times in each year—namely, on Sept. 15th (if that day be a Monday, or if not, on the Monday next preceding the 15th), on the second Monday in January, and on the second Monday in June (or July, as may be hereafter

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UNIVERSITY OF CAMBRIDGE.

The student must enter at one of the Colleges, or as a non-collegiate student, and keep nine terms (three years) by residence in the University. He must pass the Previous Examination in Classics, Mathematics, &c., which may, and should if possible, be done before coming into residence in October, or he may obtain exemption through the Oxford and Cambridge Schools Examination Board, the Oxford or Cambridge Senior Local Examinations, the London Matriculation Examination, the Scotch Education Department, Responsions at Oxford, and the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield. He may then devote himself to medical study in the University, attending the hospital and the medical lectures, dissecting, &c. Or he may, as nearly all students now do, proceed to take a degree in Arts, either continuing mathematical and classical study and passing the ordinary examinations for B.A. or going out in one of the Honour Triposes. The Natural Sciences Tripos is the most appropriate, as some of the subjects are practically the same as those for the first and second M.B. examinations.

For the degree of *Bachelor of Medicine* (*M.B.*) five years of medical study are required. This time may be spent in Cambridge or at one of the recognised Schools of Medicine. The first three or four years are usually spent in Cambridge, the student remaining in the University till he has passed, say, the examination for the Natural Sciences Tripos and the first and second, and the first part of the third, examinations for M.B. Cambridge being now a complete School of Medicine, all the requisite lectures and hospital practice may be attended here, and many students remain to attend lectures and hospital practice until they have passed the first part of the third examination for M.B. The supply of subjects for Dissection is abundant, and the laboratories for Pathology, Bacteriology, and Pharmacology are well equipped. Addenbrooke's Hospital provides for the necessary clinical training.

There are three examinations for M.B. The *first* includes Chemistry and other branches of Physics and Elementary Biology. These parts may be taken together or separately. The *second* includes Human Anatomy and Physiology. Th *third* is divided into two parts—viz., (1) Pharmacology an General Pathology; (2) Principles and Practice of Surger Midwifery and Diseases Peculiar to Women, Principle and Practice of Physic. The examinations are partly i writing, partly oral, and partly practical, in the hospital in the dissecting room, and in the laboratories. A Act has then to be kept in the Public Schools, by th candidate reading an original dissertation composed b himself on some subject approved by the Regius Professo of Physic.

As Operative and Clinical Surgery now form parts of th third M.B. examination candidates who have passed bot parts of that examination are admitted to the registrabl degree of *Bachelor of Surgery* (*B.C.*) without separat examination and without keeping an Act.

The degree of *Doctor of Medicine* (*M.D.*) may be take three years after that of M.B. or four years after that o M.A. An Act has to be kept, consisting of an original Thesi sustained in the Public Schools with *vivâ voce* examination and an extempore essay has to be written on some subjec relating to Physiology, Pathology, the Practice of Medicine, or State Medicine.

For the degree of *Master of Surgery* (*M.C.*) the candidat must have passed all the examinations for B.C., o if he is an M.A. have obtained some other registrable qualification in surgery. He is required either (1) to pass an examination in Surgical Anatomy and Surgical Operations, Pathology, and the Principles and Practice of Surgery, and to write an extempore essay on a Surgical Subject; or (2) to submit to the Medical Board original contributions to the advancement of the Science or Art of Surgery. Before he can be admitted to the examination two years at least must have elapsed from the time when he completed all required for the degree of B.C. Before submitting original contributions he must have been qualified at least three years.

University Prize in Medicine.—The Raymond Horton Smith Prize (value £19) is awarded to that candidate for the degree of M D. who presents the best thesis for the degree during the academical year, provided that he has taken honours in a tripos examination.

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[1] See also scholarship tables, p. 664.

An abstract of the Regulations and Schedules of the range of the examinations in Chemistry, Physics, Biology, Pharmacology, and General Pathology may be obtained upon sending a stamped directed envelope to the Registrary, Cambridge.

Examinations in Tropical Medicine and Hygiene.—Two Examinations in Tropical Medicine and Hygiene are conducted yearly by the State Medicine Syndicate of the University of Cambridge. The examinations are held in Cambridge early in January and in the middle of August. Each examination will extend over four days.

Any person whose name is on the Medical Register is admissible as a candidate to the Examination provided (I.) that a period of not less than 12 months have elapsed between his attainment of a registrable qualification and his admission to the examination; (II.) that he produce evidence, satisfactory to the Syndicate, that he has diligently studied Pathology (including parasitology and bacteriology) in relation to Tropical Diseases, Clinical Medicine, and Surgery at a Hospital for Tropical Diseases, and Hygiene and Methods of Sanitation applicable to Tropical Climates. As evidence of study and attainments a candidate may present to the Syndicate (1) any dissertation, memoir, or other record of work carried out by himself on a subject connected with Tropical Medicine or Hygiene; (2) any Certificate or Diploma in Public Health or Sanitary Science he may have obtained from a recognised Examining Body. Such evidence will be considered by the Syndicate in determining whether he is qualified for admission to the examination and by the examiners in determining whether, if admitted, he shall be included in the list of successful candidates.

The examination will be partly oral and partly practical and will have reference to the nature, incidence, prevention, and treatment of the epidemic and other diseases prevalent in tropical countries. It will comprise the following subjects: 1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters. 2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including—malaria; blackwater fever; trypanosomiasis; relapsing fever; dengue; yellow fever; plague; tetanus; beri-beri; dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhœal affections of the tropics; diseases due to cestode and other worms; filariasis; bilharzial disease; specific boils, sores, and other cutaneous affections; mycetoma; ophthalmic affections of the tropics; affections caused by poisonous plants and animals, and by poisoned weapons; sunstroke. 3. The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene. acclimatisation. Principles of general hygiene, with special reference to food- and water-supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, jails, pilgrim, and coolie ships. Principles and methods of disinfection.

Every candidate who passes the examination to the satisfaction of the examiners will receive from the University a diploma testifying to his knowledge and skill in tropical medicine and hygiene.

The fee for the examination is £9 9*s*., and all applications for information should be addressed to Professor G. H. F. Nuttall, F.R.S., 3, Cranmer-road, Cambridge.

The Professors, Readers, and Lecturers in the various subjects are as follows. Professors—Anatomy: A. Macalister, M.D. Biology (Quick): G H. F. Nuttall, Sc.D. Botany: A. C. Seward, M.A. Chemistry: (vacant). Medicine (Downing): J. B. Bradbury, M.D. Natural Philosophy (Jacksonian): Sir James Dewar, M.A. Pathology: G. Sims Woodhead, M.A. Physic (Regius): T. Clifford Allbutt, M.D. Physiology: J. N. Langley, M.A. Surgery: F. H. Marsh, M.A. Zoology, &c.: A. Sedgwick, M.A. Readers—Botany: F. F. Blackman, M.A. Chemical Physiology: F. G. Hopkins, M.A., and A. E. Shipley, M.A. Lecturers—Physics: G. F. C. Searle, M.A., and C. T. R. Wilson, M.A. Botany: A. G. Tansley, M.A. Chemistry: Dr. Sell and Dr. Fenton. Organic Chemistry: S. Ruhemann, M.A. Advanced Morphology of Vertebrates: H. Gadow, M.A. Advanced Morphology of Invertebrates: A. E. Shipley, M.A. Advanced Physiology: W H. Gaskell, M.D., and L. E. Shore, M.D. Physiology: H. K. Anderson, M.D. Physiological and Experimental Psychology: W. H. Rivers, M.A. Medical Jurisprudence: B. Anningson, M.D. Medicine: L. Humphry, M.D. Midwifery: A. C. Ingle, M.D. Surgery: G. E. Wherry, M.A., F.R.C.S. Pathology (Huddersfield): T. S. P. Strangeways, M.A. Physiological Anthropology: W. L. H. Duckworth, M.D.

UNIVERSITY OF LONDON.

The University of London was established by Royal Charter in 1836 as a purely examining and degree conferring body with several affiliated colleges but no direct teaching functions. In 1900 it was reconstituted under the Act of Parliament 1898 and became a teaching body. Many schools already existing became constituent colleges, including all the metropolitan medical schools. It is necessary that the teachers in these should be recognised and approved by the Senate as conducting work of university rank, and in this way the University may be said to have benefited the whole of medical education in London. It also appoints teachers in special subjects to give lectures at the University and the question of a further centralisation of preliminary scientific studies is at present occupying the very serious attention of the University and its constituent schools. The medical degrees awarded by the University are those of M.D., M.S., and M.B., B.S., the two latter being now given together as a graduating degree, whereas formerly the M.B. alone was a qualifying degree and the B.S. was taken optionally as a separate examination. The medical degrees of the University of London are granted to both internal and external students, the former being students of the constituent schools and colleges of the University.

Teaching Staff.—The teaching staff of the University is organised under two heads: 1. Appointed teachers—i.e., such as are appointed by, and are paid out of the funds of, the University. 2. Recognised teachers—i.e., those who have been appointed and are paid by the several schools of the University and other institutions at which instruction is given under the auspices of the University, and who have been recognised by the Senate as conducting work of University standard. Thus in the Faculty of Medicine, although there are at present no appointed teachers, there are 401 recognised teachers belonging to the various metropolitan medical schools. In the Faculty of Science J. N. Collie, Ph.D., F.R.S., and S. Smiles, D.Sc., are the appointed teachers in Organic Chemistry; Sir William Ramsay, Ph.D., F.R.S., and N. T. M. Wilsmore, M.Sc., are appointed teachers in General Chemistry; and A. D. Waller, M.D., F.R.S., who is Dean of the Faculty and also Director of the Physiological Laboratory, is the appointed teacher in Physiology, and E. A. Minchin, M.A., in Protozoology. There are 212 recognised teachers in the Faculty of Science. The lecturers in the Medical Sciences and the professors in the Faculties of Medicine in King's College, London, and University College, London, will be found enumerated under their respective medical schools.

Internal and External Students.—Students of the University may be either internal or external. Internal students are those who have matriculated at the University and are studying in a school or schools or under one or more of the teachers of the University. The medical schools in question are those connected with University College Hospital, King's College Hospital, St. Bartholomew's Hospital, the London Hospital, Guy's Hospital, St. Thomas's Hospital, St. George's Hospital, the Middlesex Hospital, St. Mary's Hospital, Charing Cross Hospital, Westminster Hospital, and the London (Royal Free Hospital) School of Medicine for Women. The London School of Tropical Medicine and the Lister Institute of Preventive Medicine are also recognised as schools of the University in special departments. External students are those who undertake approved courses of study at schools recognised by the University but not belonging to it.

The Matriculation Examination.—Students before being admitted to the University must either (1) have passed the Matriculation or the School Examination (Matriculation or Higher Standard), or (2) have been exempted therefrom under Statute 116 of the University which recognises certain other examinations in its lieu. The examinations take place three times in each year—namely, on Sept. 15th (if that day be a Monday, or if not, on the Monday next preceding the 15th), on the second Monday in January, and on the second Monday in June (or July, as may be hereafter determined). The examinations in January and June (or July), but not that in September. may be held not only at the University of London, but also, under special arrangement, in other parts of the United Kingdom or in the colonies. (Neither Botany nor Drawing can be chosen for subjects in the Colonies.) It is noteworthy that the September examination affords an opportunity for prospective medical students who may have failed at the midsummer examination to pass the Matriculation in time to enter upon their medical course in October. Every candidate must, on or before August 20th for the September examination, on or before Nov. 25th for the January examination, and on or before April 25th for the June (or July) examination, apply by postcard to the Principal for a form of entry, of which the first in order must be returned 14 days before the commencement of the September examination, the second on or before Dec. 1st, and the third on or before May 1st, accompanied in the same cover by a certificate showing that the candidate has completed his sixteenth year, and by his fee for the examination. A certificate from the Registrar-General in London or from the superintendent registrar of the district, or a certified copy of the baptismal register, or a declaration of the candidate's age, made before a magistrate by his parent or guardian, or by the candidate if of full age, will be accepted. As candidates cannot be admitted after the list is closed any candidate who may not have received a form of entry within a week after applying for it should communicate immediately with the Principal, stating the exact date of his application and the place where it was posted. Every candidate must pay a fee of £2. If he withdraws his name before the last day of entry it shall be returned to him. If he fails to present himself he shall be allowed to enter for a subsequent Matriculation within eight months on payment of £1. If he retires after the commencement of the examination or fails to pass it the full fee of £2 shall be payable on every re-entry. Candidates must show a competent knowledge of each of the following five subjects, according to the details specified: 1. English—Composition, Précis-writing, salient facts in English History and Geography. A subject for an essay, to be chosen by candidates, to test power of expression, thought and arrangement and general knowledge. 2. Elementary Mathematics—Arithmetic, Algebra (including quadratic equations and graphs of simple functions), and the subjects of Euclid (Books I. to IV.). 3. Latin, or Elementary Mechanics, or Elementary Physics (Heat, Light, and Sound), or Elementary Chemistry, or Elementary Botany. 4 and 5. Two of the following subjects. neither of which has been taken under Section 3 (if Latin be not taken one of the other subjects must be another language from the list): Latin, Greek, French, German, Ancient History, Modern History, Logic, Physical and General Geography, Geometrical and Mechanical Drawing, Mathematics (more advanced), Elementary Mechanics, Elementary Chemistry, Elementary Physics (Heat, Light, and Sound), Elementary Physics (Electricity and Magnetism), and Botany. Additional subjects, of which, however, candidates must give notice two months previous to the examination, are: Arabic, Sanskrit, Spanish, Portuguese, Italian, Hebrew, Chinese, Modern Dutch, and Zoology. A pass certificate signed by the Principal is delivered to each successful candidate after the report of the examiners shall have been approved by the Senate.

Provincial Examinations for Matriculation.—These examinations are appointed by the Senate from time to time upon the application of any city, institution, or college desiring to be named as a local centre for one or more examinations and are carried on simultaneously with the examinations in London under the supervision of sub-examiners also appointed by the Senate. Candidates wishing to be examined at any provincial centre must give notice upon their forms of entry to the Principal of the University, who will then make all necessary arrangements. Besides the University fee, a fee usually varying from £1 to £3 is charged by the local authorities and must be paid *at the local centre* immediately before the commencement of the several examinations.

Bachelor of Medicine and Surgery.—[N.B. The regulations immediately following have undergone radical revision and will only remain in force until July, 1909. The revised regulations which will obtain after that date are summarised later.]

A. Internal Students.—In order to be admitted to the Bachelor's degrees a student must normally, after registration as an internal student, have: (1) attended prescribed courses of study for five years in one or more schools of the University; and (2) passed the following examinations: Preliminary Scientific Examination, Part I. (Inorganic Chemistry, Physics, and Biology), to be passed, as a rule, not less than one academic year after matriculation;[2] Preliminary Scientific Examination, Part II. (Organic Chemistry), to be passed not less than six months after Part I. of the Preliminary Scientific Examination; Intermediate Examination in Medicine (Anatomy, Physiology, and Pharmacology, including Pharmacy and Materia Medica), to be passed not less than two years after Part I., and not less than one year after Part II. of the Preliminary Scientific Examination; Final Examination (Medicine Surgery, Midwifery, and Diseases of Women, Pathology, Forensic Medicine, and Hygiene), to be passed not less than two academic years after passing in Anatomy and Physiology at the Intermediate Examination and not less than five years after Matriculation.[2]

B. External Students.—To be admitted to the Bachelor's degrees an external student must (1) have passed the Matriculation examination or have been exempted therefrom under Statute 116 not less than five years previously; (2) have passed four subsequent examinations similar to those required of an internal student; and (3) have been engaged in their professional studies during five years subsequent to Matriculation and four years subsequent to their passing the Preliminary Scientific Examination, Part I., at one or more of the medical institutions or schools recognised by this University for the purpose, one year at least of the four to have been spent in one or more of the recognised institutions or schools in the United Kingdom.

Preliminary Scientific Examination.—[N.B The last examination under these regulations will be held in January, 1909.] The Preliminary Scientific Examination, Part I. (Inorganic Chemistry, Physics, and Biology), will take place twice in each year, commencing on the third Monday in January and on the second Monday in July. It must be passed by internal students not less than one academic year after matriculation and by external students not less than nine months after matriculation. Every candidate must apply (internal students to the academic registrar and external students to the external registrar) for a Form of Entry on or before May 24th or Dec. 5th, which must be returned, accompanied by the proper fee, not later than June 1st for the July examination or Dec. 12th for the January examination. The fee is £5 for each entry to the whole examination, provided that all the subjects are taken at one time. When less than the whole examination is taken at one time it is £2 for each subject. The examination will include papers, practical work, and oral questions on Inorganic Chemistry, Physics, Botany, and Zoology. Candidates must present themselves either (1) in Inorganic Chemistry, Physics, and Biology; or (2) in Inorganic Chemistry and Physics; or (3) in Biology. If they fail in any one subject they may present themselves for re-examination in that subject alone, provided that if they fail in both inorganic chemistry and physics they must present themselves for re-examination in these two subjects taken together. Part II. of the Preliminary Scientific Examination will take place twice in each year, commencing on the Thursdays following the third Monday in January and the second Monday in July. No candidate will be admitted to this examination within six months of having passed Part I. Every candidate must apply (internal students to the academic registrar and external students to the external registrar) on or before May 24th or Dec. 5th for a form of entry, which must be returned not later than June 1st for the July examination or Dec. 12th for the January examination. No fee will be charged for a first entry, but £2 will be charged for each subsequent entry. The examination will include a paper, practical work, and oral questions in Organic Chemistry.

Intermediate Examination in Medicine. [N B The la examination under these regulations will be held in Januar 1909.]—The Intermediate examination in Medicine tak place twice in each year, commencing on the third Mond in January and on the first Monday in July The subjec of the examination are Anatomy, Physiology and Histolog and Pharmacology, including Materia Medica. No candidat shall be admitted to this examination unless he have passe Part I. of the Preliminary Scientific examination at least tw years previously and Part II. at least one year previousl

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[2] With certain exemptions.

Internal students must have completed the second and third years' course of study prescribed for them by the University and external students must produce certificates of having subsequently to having passed Part I. of the Preliminary Scientific examination been a student during two years at one or more of the medical institutions or schools recognised by this University and of having attended (1) a course of not less than 100 lectures on Human Anatomy; (2) a course of Dissections for not less than 12 months; (3) a course of not less than 60 lectures on Physiology; (4) courses of Experimental Physiology, Histology, and Physiological Chemistry for not less than three months each; (5) lectures and demonstrations on Pharmacology, Pharmacy, and Materia Medica for not less than three months; and (6) Practical Pharmacy for not less than two months. These certificates (as is the case also with all the certificates hereinafter mentioned) must be transmitted to the Registrar at least four weeks before the commencement of the examination. The fee for each entry to the whole examination is £10. For re-examination in one subject it is £5.

M.B., B.S. Examination.—The M.B., B.S. examination takes place twice in each year, commencing on the last Monday in October and on the first Monday in May. No candidate will be admitted to this examination within two academic years from the date of passing the Intermediate examination. Bachelors of Medicine of this University who graduated in or before May, 1904, may obtain the B.S. degree by passing the Surgical part of the M.B., B.S. examination. Every candidate must produce certificates of having passed the intermediate examination and of having subsequently attended courses of instruction in (1) Principles and Practice of Medicine, including a two months' course of instruction at a recognised Fever Hospital; (2) Clinical Methods and Physical Diagnosis; (3) Insanity (with clinical demonstrations at a recognised Asylum); (4) Therapeutics; (5) Vaccination; (6) Principles and Practice of Surgery; (7) Operative Surgery, Surgical Anatomy, Practical Surgery, and the Administration of Anæsthetics; (8) Diseases of the Eye, Ear, and Throat; (9) Midwifery and Diseases of Women; (10) Practical Midwifery, the conduct of at least 20 Labours, and practice as a Clinical clerk in Gynæcological work; (11) Pathology and Bacteriology; (12) work of the Post-mortem room; (13) Forensic Medicine; and (14) Hygiene. He must also have attended the Medical and Surgical practice of a recognised hospital for two years and a fever hospital for two months. He must have had clinical instruction and must have held the posts of medical clinical clerk and surgical dresser for periods of six months each. For internal students the above form the subjects of the fourth and fifth years of study as prescribed by the University. Candidates will be examined in Medicine (including Therapeutics and Mental Diseases), Pathology, Forensic Medicine and Hygiene, Surgery, Midwifery, and Diseases of Women. The subjects may be divided into two groups—namely: (1) Medicine, Pathology, Forensic Medicine, and Hygiene; and (2) Surgery, Midwifery, and Diseases of Women. These groups may be taken either separately or together. The fee is £10 for each entry to the whole examination and £5 for examination or re-examination in either group. There will be no separate examination held for Honours but the list of candidates who have passed will be published in two parts—namely, an Honours list and a Pass list

Doctor of Medicine.—The examination for this degree takes place twice in each year, commencing on the first Monday in December and on the first Monday in July. Candidates must have taken the degrees of M.B., B.S. not less than two years previously, but for those who have taken the M.B., B.S. degrees with *Honours* or have done certain original work this period of delay may be reduced to one year. Candidates who have obtained their M.B. degrees in or before May, 1904, will not be required to hold the degree of B.S. before seeking the doctorate. They may present themselves for examination in one of the following branches, namely: (1) Medicine; (2) Pathology; (3) Mental Diseases; (4) Midwifery and Diseases of Women; (5) State Medicine; and (6) Tropical Medicine. Certain conditions have to be fulfilled in each case, varying according to the nature of the branch in question. Candidates who have passed or presented themselves for the M.D. examination in one branch may present themselves for examination in another branch at a subsequent examination. Any candidate for the degree of M.D. may transmit to the Registrar, not less than two months before the commencement of the examination, a thesis or published work having definite relation to the branch of Medicine in which he is a candidate, and if the thesis be approved by the examiners the candidate may be exempted from the written examination. The fee is £20, and for re-examination £10.

Master in Surgery.—The examination for the degree of Master in Surgery takes place twice in each year and commences on the first Monday in December and on the first Monday in July. Candidates must produce certificates of having taken the degrees of M.B. and B.S. not less than two years previously (with certain exemptions, as in the examination for the M.D.) and of having subsequently held for at least six months a resident or non-resident Surgical hospital appointment. The examination is conducted by means of printed papers and *vivâ-voce* interrogation, and the subjects are Surgery, Surgical Pathology and Anatomy, a Clinical examination, and operations on the dead body. Any candidate for the degree of M.S. may transmit to the Registrar, not later than two months before the commencement of the examination, a thesis or published work having definite relation to Surgery, and if the thesis be approved by the examiners the candidate may be exempted from the written examination in Surgery. The fee is £20.

Full details of the prescribed curricula of study, with the syllabus for each examination and of certain exemptions which the Senate has power to grant in respect to certain examinations and the courses of study presented for them, and the names of the recognised Internal and External Schools of the University, can be obtained from the Academic Registrar, University of London, S.W.

On and after July 1st, 1909, a new set of regulations, which have been framed recently by the Senate, will come into force for the medical degree of London University. Their chief distinctions from the present *régime* are as follows:—

In order to be admitted to the degrees of M.B., B.S., (*a*) an internal student must, after his resignation, have attended prescribed courses of study for *five and a half years* in one or more schools of the University; and (*b*) an external student must have passed the Matriculation Examination (or obtained exemption therefrom) not less than *five and a half years* previously. Both internal and external students must further have passed the following subsequent examinations, after having presented certificates of having fulfilled the respective courses of study prescribed in the syllabus for each.

1. *The First Examination for Medical Degrees.*—In Chemistry, Physics, and General Biology (corresponding to the present Preliminary Scientific Examination, Part I.). To be passed by (*a*) internal students not less than one academic year after matriculation; and (*b*) external students not less than nine months after matriculation. (Examination fee £5.) Candidates must at their first entry present themselves in all three subjects but may be re-examined in one subject if they fail in that subject only. (Fee £2.)

2. *The Second Examination for Medical Degrees.*—To be passed in two parts as follows: Part I., in Organic Chemistry (corresponding to the present Preliminary Scientific Examination, Part II.), not less than six months after completing the first examination (fee £2); and Part II., in Human Anatomy and Embryology, Physiology, and Pharmacology, including Pharmacy and Materia Medica (which corresponds to the present Intermediate Examination in Medicine), after passing Part I. of the second examination and not less than 18 months after completing the first examination. (Fee £8.) Candidates who fail in one subject alone may be re-examined in that subject. (Fee £4.)

3. *The Third Examination for Medical Degrees*, or M.B., B.S. examination (corresponding in every way to the present M.B., B.S. examination and comprising the same subjects in the same groups), to be passed not less than three years after passing in Anatomy and Physiology at the second examination, Part II. (Fee £10.) The regulations for the M.D. and M.S. degrees remain unaltered.

It will be thus seen that the results of the revision of the curriculum will be to extend its duration by *six months* and that in the future candidates for medical degrees at London University will spend two and a *half* years in studying for their first two examinations and three years in their clinical studies, whereas at present their course is allotted in the ratio of three years to two years in favour of the preliminary studies.

The course of study of the subjects for the first examination have been modified. They are to be treated "in a general manner and with regard to the subsequent work of the student." The latter instruction is also applied to the practical course of experimental and physiological chemistry. The course in Biology, which has been planned to afford "a general introduction to the science of life," will require less knowledge of detail than at present. In future 60 lectures and 120 hours' practical work will be required in Biology, in place of the present 100 lectures and 140 hours' practical work respectively. Practical work in Physics will occupy 60 instead of the present 120 hours, and in the study of Organic Chemistry 20 hours will be taken from the lectures and added to the experimental work. The curricula for Anatomy, Pharmacology, and Materia Medica and for the subjects of the final examination remain unaltered, and may be obtained from the Academic Registrar at the University.

UNIVERSITY OF DURHAM.

One Diploma and six degrees are conferred—viz., the Diploma in Public Health and the degrees of Bachelor of Medicine, Bachelor of Surgery, Master of Surgery, Doctor of Medicine, Bachelor of Hygiene, and Doctor of Hygiene. These degrees are open both to Men and Women.

For the degree of *Bachelor of Medicine* there are four professional examinations. The subjects of the First Examination are—Elementary Anatomy and Elementary Biology, Chemistry, and Physics. The subjects of the Second Examination are—Anatomy, Physiology, Materia Medica, Therapeutics, Pharmacology, Pharmacy. The subjects for the Third Examination are—Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology. The subjects of the Fourth Examination are—Medicine, Clinical Medicine and Psychological Medicine, Surgery and Clinical Surgery, Midwifery and Diseases of Women and Children.

It is required that at least one of the five years of professional education shall be spent in attendance at the University College of Medicine, Newcastle-upon-Tyne. Candidates who have passed the First and Second Examinations of the University will be exempt from First and Second Examinations of the Conjoint Board.

For the degree of *Bachelor of Surgery* every candidate must have passed the examination for the degree of Bachelor of Medicine of the University of Durham and must have attended one course of lectures on Operative Surgery and one course on Regional Anatomy. Candidates will be required to perform operations on the dead body and to give proof of practical knowledge of the use of surgical instruments and appliances.

For the degree of *Master of Surgery* candidates must not be less than 24 years of age and must satisfy the University as to their knowledge of Greek or German. In case they shall not have passed in one of these subjects at the Matriculation Examination for the M.B. degree they must present themselves at Durham for examination in it at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M.S. They must also have obtained the degree of Bachelor of Surgery of the University of Durham and must have been engaged for at least two years subsequently to the date of acquirement of the degree of Bachelor of Surgery, in attendance on the practice of a recognised hospital, or in the naval or military services, or in medical or surgical practice. The subjects of examination are:—Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, Surgical Operations, Clinical Surgery.

For the degree of *Doctor of Medicine* candidates must be not less than 24 years of age and must satisfy the University as to their knowledge of Greek or German. In case they shall not have passed in one of these subjects at the Matriculation Examination for the M.B. degree they must present themselves at Durham for examination in it at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M.D. They must also have obtained the degree of Bachelor of Medicine of the University of Durham and must have been engaged for at least two years subsequently to the date of acquirement of the degree of Bachelor of Medicine in attendance on the practice of a recognised hospital, or in the military or naval services, or in medical and surgical practice. Each candidate must present an essay prepared entirely by himself, which must be typewritten, based on original research or observation, on some medical subject selected by himself, and approved of by the Professor of Medicine and must pass an examination thereon, and must be prepared to answer questions on the other subjects of his curriculum so far as they are related to the subject of the essay.

Doctor of Medicine (without residence).—The University of Durham has instituted a special examination whereby the degree of Doctor of Medicine may be obtained without residence. Candidates shall not be under 40 years of age and shall have been in active practice for 15 years as registered medical practitioners. They shall produce certificates of moral character from three registered members of the medical profession, and if they have not passed an examination in Arts previously to the Professional Examination in virtue of which they have been placed on the Register, they shall be required to pass in Classics and Mathematics. Candidates who have passed an examination in Arts previously to being placed on the Register are required to pass an examination in Latin. They will be examined in the Principles and Practice of Medicine, including Psychological Medicine, Hygiene, and Therapeutics, the Principles and Practice of Surgery, Midwifery, and Diseases of Women and Children, Pathology (Medical and Surgical), Anatomy (Medical and Surgical), Medical Jurisprudence, and Toxicology. The fee will be 50 guineas, of which 20 guineas will be retained if the candidate fails to satisfy the examiners.

Candidates for any of the above degrees must give at least 28 days' notice to Professor Howden, Secretary, College of Medicine, Newcastle-upon-Tyne. In the case of the M.D. (essay) examination candidates must send in their essays six weeks before the date of the examination.

Professors—Medicine: Sir G. H. Philipson, M.D., D.C.L. Surgery: F. Page, F.R.C.S. Physiology: T. Oliver, M.D. Anatomy: R. Howden, M.B. Midwifery: R. P. R Lyle. M.D. Comparative Pathology: H. J. Hutchens, M R C.S.

ARMSTRONG COLLEGE, NEWCASTLE.—Professors—Physics: H. Stroud, D.Sc. Chemistry: Phillips Bedson, D.Sc., and A. Meek, M.Sc. Botany: M. C. Potter, M.A.

THE VICTORIA UNIVERSITY OF MANCHESTER.

Matriculation, which consists in signing the University Register, must precede entry upon any course of study. Those only can matriculate who are registered students of the University.

Four degrees in Medicine and Surgery are conferred by the University—viz., Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

All candidates for degrees in Medicine and Surgery are required to pass an examination called the Matriculation Examination (Faculty of Medicine), or to have passed such other examination as may be recognised by the University for this purpose.[3]

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Before admission to the degree of M.B. or Ch.B. candidates are required to present certificates that they will have attained the age of 21 years on the day of graduation and that they have pursued the courses of study required by the University Regulations during a period of not less than five years subsequently to the date of their registration by the General Medical Council two of such years having been passed in the University and one year at least having been passed in the University subsequently to the date of passing the First M.B. Examination. All candidates for the degrees of Bachelor of Medicine and Bachelor of Surgery are required to satisfy the examiners in the several subjects of the following examinations: the First Examination, the Second Examination, the Third Examination, and the Final Examination.

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[3] The Board will [illegible] exemption from the Matriculation Exam[illegible] [illegible] Medical Council have been [illegible] [illegible] plied to re[illegible] persons who hold Certificates of [illegible] [illegible] cations for exemption from [illegible] [illegible] The fee for registe[illegible] is £1.

The First Examination.—The subjects of examination are as follows:—(1) Chemistry; (2) Physics; (3) Biology. Candidates must have attended during at least one year courses both of lectures and of laboratory work in each of the above-named subjects. The Examination is divided into two parts: Part 1, Physics and Chemistry; Part 2, Biology; and the candidates may pass in these parts separately under certain conditions.

The Second Examination.—The subjects of examination are as follows:—(1) Anatomy; (2) Physiology, including Physiological Chemistry and Histology. Candidates may pass in (1) and (2) separately under certain conditions.

The Third Examination.—(1) Pathology; (2) Pharmacology and Therapeutics; (3) Hygiene. These subjects may be taken separately under certain conditions.

The Final Examination.—The subjects of examination are as follows:—(1) Medicine, Systematic and Clinical (including Mental Diseases and Diseases of Children); (2) Surgery, Systematic, Clinical, and Practical; (3) Midwifery and Gynæcology (including Practical Gynæcology); (4) Forensic Medicine (including Toxicology). These subjects may be taken separately under certain conditions.

Candidates for the Final Examination must have completed the fifth year of medical study.

Degree of Doctor of Medicine.—Candidates are not eligible for the degree of Doctor of Medicine unless they have previously received the degrees of Bachelor of Medicine and Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees. Candidates may elect either (1) to present an original dissertation; or (2) to undergo an examination. The dissertation must embody the results of personal observation or original research, either in some department of medicine or of some science directly relative to medicine. The examination will consist of an examination in the Principles and Practice of Medicine, in Pathology, and in some other subject to be selected by the candidate. It will be partly written, partly practical.

Degree of Master of Surgery.—Candidates are not eligible for the degree of Master of Surgery unless they have previously received the degrees of Bachelor of Medicine and Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees. The subjects of examination are as follows: (1) Surgical Anatomy; (2) Surgery; (3) Operative Surgery; (4) Clinical Surgery; (5) Ophthalmology; and (6) Pathology and Bacteriology.

Professors—Physics: E. Rutherford, D.Sc., F.R.S. Chemistry: H. B. Dixon, M.A., F.R.S. Organic Chemistry: W. H. Perkin, D.Sc., F.R.S. Zoology: S. J. Hickson, D.Sc., F.R.S. Botany: F. E. Weiss, D.Sc. Physiology: W. Stirling, D.Sc. Anatomy: A. H. Young, F.R.C.S. Materia Medica: R. B. Wild, M.D. Comparative Pathology and Bacteriology: A. S. Delépine, M.Sc. Pathology: J. Lorrain Smith, M.D. Clinical Medicine: Graham Steell, M.D. Systematic Medicine: George R Murray, M.A, M.D. Systematic Surgery: G. A. Wright, M B., F.R.C.S. Clinical Surgery: F. A. Southam, M B., F R.C.S. Obstetrics and Gynæcology: Sir W. J. Sinclair, M.D. Forensic Medicine: J. Dixon Mann, M.D.

Communications should be addressed to the Registrar, The University, Manchester.

UNIVERSITY OF BIRMINGHAM.

The University of Birmingham grants the degrees of M.B., Ch.B., M.D., Ch.M., and also a degree and a diploma in Public Health. The course for the Bachelors' degrees extends over five years from the date of registration with the General Medical Council. As a rule the first four of these years must be spent in the University, but the Senate has power of recognising attendance at another University as part of the attendance qualifying for these degrees and of recognising examinations passed at such other Universities as exempting from the examinations in Chemistry, Physics, and Elementary Biology. In the case of such students at least three years must be spent in attendance upon classes at the University. The fifth year may be spent at any other school or schools of medicine recognised by the University.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—The student must have passed either the Matriculation Examination of the University or one of the following examinations. For the present the University will recognise any one of the following examinations, in lieu of its own Matriculation, in the case of medical students, provided always that such examination shall have included the subjects of English, Latin, Mathematics, and any one of the following: Greek, French, German, or any other modern foreign language, together with Chemistry or Experimental Mechanics, or some other branch of Experimental Physics, and that all the subjects have been passed at one examination: (*a*) the previous examination of the University of Cambridge; (*b*) responsions of the University of Oxford; (*c*) the Preliminary or Matriculation Examination of any recognised University; (*d*) the (Higher) Certificate of the Oxford and Cambridge Examinations Board; (*e*) the Oxford or Cambridge Senior Local Examination. A Matriculation Examination will be held on Sept. 14th, 1908, and succeeding days. First Examination.—Chemistry and Physics and Elementary Biology. Second Examination.—Anatomy and Physiology. Third Examination.—Pathology and Bacteriology, Materia Medica and Practical Pharmacy. Fourth Examination (at the end of the fourth year).—Forensic Medicine, Toxicology, and Public Health. Two years' hospital work must have been accomplished. Final Examination.—Medicine, Surgery, Midwifery, Gynæcology, Therapeutics, Mental Diseases, and Ophthalmology. Attendance at a general hospital for a year after the passing of the fourth examination will be required, also attendance at a fever hospital and lunatic asylum. Vaccination instruction must be taken out and courses of Ophthalmology, Medical and Surgical Anatomy, and Operative Surgery.

Degrees of Doctor of Medicine and Master of Surgery.—At the end of one year from the date of having passed the final M.B., Ch.B. examination the candidate will be eligible to present himself for the higher degrees of either Doctor of Medicine or Master of Surgery or both.

Candidates for either of these degrees will be required to comply with the following regulations. Every candidate for the degree of M.D. shall present a thesis embodying observations in some subject embraced in one of the departments of the medical curriculum enumerated below, and in addition he will be required to pass a general examination in Principles and Practice of Medicine. It will be in the power of the Board of Examiners to exempt a candidate whose thesis is of exceptional merit from any part of these examinations.

A thesis may be presented in any of the following departments of study: (*a*) Anatomy, including Comparative Anatomy, (*b*) Physiology, (*c*) Human or Comparative Pathology, (*d*) Bacteriology, (*e*) Pharmacology, (*f*) Therapeutics, (*g*) Medicine, (*h*) Mental Diseases, (*i*) Preventive Medicine or Public Health, (*j*) Toxicology, (*k*) Legal Medicine, (*l*) Midwifery.

Candidates for the degree of Ch.M. are required to comply with the following regulations:—At the end of one year from the date of having passed the final M.B., Ch.B. Examination candidates will be eligible to present themselves for the higher degree of Master of Surgery. Candidates for this degree will be required to comply with the following regulations: 1. Every candidate shall present a thesis, embodying observations in some subject embraced in one of the departments of the medical curriculum enumerated below; in addition the candidates will be required to pass a general examination in Principles and Practice of Surgery and to perform operations on the cadaver. 2. It will be in the power of the board of examiners to exempt a candidate whose thesis is of exceptional merit from any part of these examinations. 3. The candidate may be examined in that department of the medical curriculum from which the subject of his thesis is chosen and the examiners may require to see the notes of original observations on which the thesis is based, (*a*) Surgery, (*b*) Pathology, (*c*) Bacteriology, (*d*) Gynæcology, (*e*) Ophthalmology.

Degree in Public Health.—For the regulations for this degree and for the diploma in the same subject see p. 687.

Fees.—Matriculation, £2; First Examination, £2; Second Examination, £2; Third Examination, £2; Fourth Examination, £2; Final Examination, £2; Admission Fee to degrees of M.B., Ch.B., £6: M.D. or Ch.M., £2; Admission Fee to degree of M.D. or Ch.M., £8.

Professors—Physics: J. H. Poynting, Sc.D., F.R.S. Chemistry: P. H. Frankland, Ph.D., F.R.S. Elementary Biology: T. W. Bridge, Sc.D., F.R.S. Medicine: R.

Saundby, M.D., and A. H. Carter, M.D. Surgery: Bennet May, F.R.C.S., and G. Barling, F.R.C.S. Anatomy: A. Robinson, M.D. Physiology: E. W. Wace Carlier, M.D. Therapeutics: A. Foxwell, M.D. Forensic Medicine: J. T. J. Morrison, F.R.C.S. Hygiene and Public Health: A. Bostock Hill, M.D. Midwifery: E. Malins, M.D. Gynæcology: J. W. Taylor, F.R.C.S. Pathology: R. F. C. Leith, F.R.C.P. Edin. Lunacy and Mental Disease: E. B. Whitcombe, M.B. Operative Surgery: Jordan Lloyd, F.R.C.S. Ophthalmology: Priestley Smith, F.R.C.S.

UNIVERSITY OF LIVERPOOL.

The student must pass either (1) the University Matriculation Examination, or (2) the Final Examination for Graduation in Arts of any university in Great Britain and Ireland, or (3) the Matriculation Examination of the University of London, or (4) the Higher Certificate Examination of Oxford and Cambridge Joint Board, or (5) the Senior Local Examination of Oxford or Cambridge, with honours, or (6) some other examination of equal standard accepted by the Joint Matriculation Board. The course of professional study, subsequent to passing the Matriculation Examination and having been registered as a medical student, extends over five years. The degrees in the Faculty of Medicine are Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Candidates for the degrees of Bachelor of Medicine and of Surgery must have attained the age of 21 years on the day of graduation. At least two of the five years of medical study must have been passed in the University, and one year at least must have been passed in the University subsequently to the date of passing the First Examination. The other three years may be passed at any college or medical school recognised for this purpose by the University. Candidates must pass three examinations entitled respectively: the First Examination, the Second Examination, and the Final Examination. The fee is £5 for each examination. The subjects of the First Examination are: (1) Chemistry, Inorganic and Organic; (2) Biology (Zoology and Botany); and (3) Physics. The examination is divided into two parts—namely, (1) chemistry and physics, and (2) biology; and candidates may pass in these parts separately. The subjects of the Second Examination are (*a*) Anatomy and Physiology (including Physiological Chemistry and Histology), and (*b*) Materia Medica and Pharmacy. Candidates may pass in *a* or *b* separately. The subjects for the Final Examination are (1) Pharmacology and Therapeutics; (2) General Pathology and Morbid Anatomy; (3) Forensic Medicine and Toxicology, and Public Health; (4) Obstetrics and Diseases of Women; (5) Surgery, Systematic, Clinical, and Practical; and (6) Medicine, Systematic, and Clinical, including Mental Diseases and Diseases of Children. Candidates may either present themselves in all the six subjects of examination on the same occasion, or may pass the examination in two parts, the first part consisting of two or three of subjects (1), (2), and (3); the second part of the remaining subjects. Candidates for the first part of the examination must have completed the fourth winter of medical study in accordance with the regulations of the University.

Degrees of Doctor of Medicine and Master of Surgery.—No candidate will be admitted to the degrees of Doctor of Medicine or Master of Surgery unless he has previously received the Degrees of Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examinations for those degrees. Candidates for the degree of Doctor of Medicine are required to present a dissertation embodying the results of personal observations or original research, either in some department of medicine or of some science directly relative to medicine: provided always that original work published in scientific journals or separately shall be admissible in lieu of, or in addition to, a dissertation specially written for the degree. No candidate shall be admitted to the degree unless his application after report from the Faculty of Medicine shall have been accepted by the Senate. Candidates may be required to undergo examination in any subject connected with the dissertation. The subjects of examination for the degree of Master of Surgery are (1) Surgical Anatomy, (2) Surgery, (3) Operative Surgery, (4) Clinical Surgery, (5) Ophthalmology, and (6) Pathology and Bacteriology.

Professors—Physiology: C. S. Sherrington, M.D., F.R.S. Physics: L. R. Wilberforce, M.A. Chemistry: J. Campbell Brown, D.Sc. Natural History: W. A. Herdman, D.Sc., F.R.S. Botany: R. J. H. Gibson, M.A. Anatomy: A. Melville Paterson, M.D. Medicine: T. Robinson Glynn, M.D. Surgery: Rushton Parker, F.R.C.S. Pathology: Sir Rubert Boyce, M.B., F.R.S. Midwifery and Gynæcology: H. Briggs, M.D. Therapeutics: J. H. Abram, M.D. Hygiene: E. W. Hope, D.Sc. Tropical Medicine: Major Ronald Ross, C.B., F.R.S. Bio-Chemistry: B. Moore, D.Sc. Comparative Pathology: H. E. Annett, M.D.

UNIVERSITY OF LEEDS.

Candidates presenting themselves for Matriculation in the Faculty of Medicine must pass an examination in English (Language or Literature) and English History, Mathematics and Latin, and in two of eight optional subjects. Exemption from the matriculation examination is granted to graduates of any university of the United Kingdom provided Latin has formed part of one of the degree examinations.

Four degrees in Medicine and Surgery are conferred—viz.: Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), also Degrees and Diplomas in Dental Surgery and a Diploma in Public Health.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Candidates for the degrees of Bachelor of Medicine and of Surgery are required to present certificates showing that they will have attained the age of 21 years on the day of graduation, and that they have attended courses of instruction approved by the University extending over not less than five years, two of such years, at least, having been passed in the University subsequently to the date of passing the First Examination. Candidates must also satisfy the examiners in the several subjects of the following examinations entitled respectively: the Matriculation Examination, or such other examination as may have been recognised by the Joint Matriculation Board in its stead; the First Examination; the Second Examination; and the Final Examination.

The First Examination.—The First Examination consists of: Part I., Physics and Chemistry; Part II., Biology. Candidates will be allowed to pass the two parts separately.

The Second Examination.—The Second Examination consists of: Part I., Anatomy and Physiology; Part II., Materia Medica and Pharmacy. Candidates will be allowed to pass the two parts separately.

The Final Examination.—The Final Examination consists of: Part I., Pathology and Bacteriology, Forensic Medicine, and Public Health. Part II., Medicine: Systematic and Clinical, including Mental Diseases and Diseases of Children; Surgery: Systematic, Clinical and Practical; Obstetrics and Gynæcology, Systematic, Clinical, and Practical; Pharmacology and Therapeutics. Candidates will be allowed to pass the two parts separately and they may present themselves for examination in Part I. at the end of the tenth term.

Degree of Doctor of Medicine.—Candidates are not eligible for the degree of Doctor of Medicine unless they have previously received the degrees of Bachelor of Medicine and Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees. Candidates for the degree of Doctor of Medicine are required to present a dissertation and, if the dissertation be accepted, to pass an examination. The dissertation, of which the subject must previously have received the approval of the Board of the Faculty of Medicine, must embody the results of personal observations or original research, either in some department of medicine or of some science directly related to medicine; provided always that original work published in scientific journals or in the Proceedings of learned societies, or separately, shall be admissible in lieu of, or in addition to, a dissertation specially written for the degree. Candidates will be required to write a short extempore essay on some topic connected with medicine and to answer questions on the history of medicine. They will also be examined orally on the dissertation or other work submitted. Any candidate may be exempted from a part or the whole of the examination if the Board of the Faculty so decide. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been accepted by the Senate.

Degree of Master of Surgery.—Candidates are not eligible for the degree of Master of Surgery unless they have previously received the degrees of Bachelor of Medicine and

Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees. Every candidate is also required to furnish certificates of attendance in accordance with the regulations of the University. The subjects of examination are as follows: Surgical Anatomy, Surgery, Operative Surgery, Clinical Surgery, Ophthalmology, Pathology, and Bacteriology.

Diploma in Public Health.—The regulations for this diploma will be found on p. 637.

Professors—Physics: W. Stroud, D.Sc. Chemistry: A. Smithells, B.Sc., F.R.S. Organic Chemistry: J. B. Cohen, B.Sc Zoology: W. Garstang, M.A. Botany: V. F. Blackman, M.A. Anatomy: T. Wardrop Griffith, M.D. Physiology and Histology: De Burgh Birch, M.D. Pathology: A. S. Grünbaum, M.D. Medicine: A. G. Barrs, M.D. Surgery: H. Littlewood, M.So., F.R.G.S. Obstetrics: J. B. Hellier, M.D. Public Health: J. S. Cameron, M.D. Therapeutics: H. J. Campbell, M.D.

UNIVERSITY OF SHEFFIELD.

Candidates for a medical degree shall have matriculated in the University or have passed such other examination as may be recognised for this purpose by the University and sanctioned by the Joint Matriculation Board. The subjects required by the General Medical Council must be included in the Matriculation Examination or its recognised substitute.

The Degrees in the Faculty of Medicine are Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

Degrees of Bachelor of Medicine and Bachelor of Surgery.—A candidate for the degrees of M.B., Ch.B., shall produce certificates that he will have attained the age of 21 years on the day of graduation; that he has pursued the courses of study required by the University regulations during a period of not less than five years subsequently to the date of his registration as a medical student by the General Medical Council, three of such years at least having been passed in the University and one year at least having been passed in the University subsequently *to the date* of passing the First Examination.

The First Examination.—The subjects of examination are chemistry, physics, and biology. The examination is divided into two parts, A (chemistry and physics) and B (biology), and candidates may pass in each part separately. The Intermediate B.Sc. Examination in these subjects will, on payment of the required additional fee, be accepted instead of this examination. Candidates must, after matriculation and registration as a medical student, have attended courses of instruction (lectures and laboratory work) in chemistry, physics, and biology, for one year each.

A Special Examination in Organic Chemistry.—This is held at the end of the first term in the *second* year of study, after completion of the First Examination.

The Second Examination.—The subjects of examination are anatomy, physiology, materia medica, and pharmacy. The examination is divided into two parts, A (anatomy and physiology) and B (materia medica and pharmacy), and candidates may pass in either part separately. Candidates must have completed the third winter session of professional study, must have passed the first examination, and must have attended (1) lectures on anatomy and dissections during two winter sessions and one summer session; (2) lectures on physiology during two winter sessions, practical physiology during two winter sessions, and histology during one summer session; and (3) materia medica and pharmacy for three months.

The Third or Final Examination.—The subjects of examination are divided into two parts—namely, A (forensic medicine and toxicology, public health, and pathology and morbid anatomy) and B (medicine, including pharmacology and therapeutics, mental diseases, and diseases of children, surgery, obstetrics, and gynæcology). Candidates may present themselves for examination in both parts on the same occasion or separately, but Part A may not be passed before the completion of the fourth year of study. Candidates for the whole examination or for Part B must have completed the fifth year of study.

Degree of Doctor of Medicine.—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, must present a thesis embodying observations in some subject approved by the professor of medicine, and must pass an examination in the Principles and Practice of Medicine.

Degree of Master of Surgery.—Candidates for the degree of Ch.M. must have passed the examination for the degrees of M.B., Ch.B. *at least one year previously* and must, since taking the degrees of M.B., Ch.B., have held for not less than six months a surgical appointment in a public hospital or other public institution, affording full opportunity for the study of Practical Surgery.

The subjects of examination are Systematic, Clinical, and Operative Surgery, Surgical Anatomy, Surgical Pathology, and Bacteriology.

Professors—Physics: W. M. Hicks, Sc.D., F.R.S. Chemistry: W. Palmer Wynne, D.Sc., F.R.S. Biology: Alfred Denny, M.Sc., F.L.S. Anatomy: C. J. Patten, M.A., M.D., D.Sc. Physiology: J. S. Macdonald, B.A., L.R.C.S., L.R.C.P. Medicine: D. Burgess, M.A., M.B., F.R.C.P. Materia Medica, &c.: W. T. Cocking, M.D. Surgery: R. J. Pye-Smith, Ch.M., F.R.C.S. *Pathology*: J. M. Beattie, M.A., M.D. Midwifery: R. Favell, Ch.M., M.R.C.S. Ophthalmology: Simeon Snell, D.Sc., F.R.C.S. Edin. Public Health: Ralph P. Williams, M.D., B.S., D.P.H.

UNIVERSITY OF EDINBURGH.

Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh—viz., Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.). The degree of Bachelor of Surgery cannot be conferred on any person who does not at the same time obtain the degree of Bachelor of Medicine, and similarly the degree of Bachelor of Medicine is not conferred on any person who does not at the same time obtain the degree of Bachelor of Surgery.

A diploma in Tropical Medicine and Hygiene (D.T.M. and H.) is granted to graduates in Medicine and Surgery of the University of not less than six months' standing. The course of study includes (1) Practical Bacteriology; (2) Diseases of Tropical Climates; (3) Tropical Hygiene; (4) a Practical Course in Medical Entomology and Protozoology and Venomous Animals; and (5) a Course of Clinical Instruction in Tropical Diseases. Any two of these courses may be taken under Extra-academical Teachers and exemption from the latter course may be granted to those graduates who have been engaged for a period of at least 12 months in the treatment of Tropical Diseases in any tropical or subtropical country. The examinations for the diploma, which will embrace all the foregoing subjects, are held in January and July of each year.

Before commencing his medical studies each student must pass a preliminary examination in (1) English, (2) Latin, (3) Elementary Mathematics, and (4) Greek or French or German: provided always that, in the case of a candidate whose native language is not English, an examination in the native language of the candidate may be substituted for one in either French or German, and an examination in any other classical language for one in Latin or Greek.

No one is admitted to the degrees of *Bachelor of Medicine* and *Bachelor of Surgery* who has not been engaged in Medical and Surgical study for five years. *No course* of lectures will be allowed to qualify unless the lecturer certifies that it has embraced at least 100 lectures, or 50 lectures, as may be required by the regulations, and that the student has also duly performed the work of the class.

Candidates for the degrees of M.B. and Ch.B. must have attended for at least three academic years the medical and surgical practice either of the Royal Infirmary, Edinburgh, *or* of a general hospital elsewhere which accommodates not fewer than 80 patients and possesses a distinct staff of physicians and surgeons. They must have attended Clinical Surgery during a course or courses extending over not less than nine months. These courses may be conducted by the professor of clinical surgery, or by professors or lecturers appointed for the purpose by the University Court, or by the ordinary surgeons of the Royal Infirmary, Edinburgh, or of a general hospital defined and recognised as hereinbefore provided, and shall consist of regular instruction at the bedside, along with clinical lectures. A similar course of clinical medicine during a course or courses extending over not less than nine months is required. The candidate must have attended a course of instruction in Mental Diseases given by the University Lecturer, or by a recognised Teacher, consisting of not less than six Class-room meetings for lectures and demonstrations and ten meetings in the Wards of a recognised Asylum for the insane. The candidate must have attended a coarse of 25 meetings on Practical Pharmacy in a university or recognised school of medicine, or have dispensed drugs for a period of three months in a hospital or dispensary, or in an establishment recognised by the Pharmaceutical Society. The candidate must have attended for at least six months, by apprenticeship or otherwise, the out-practice of a hospital, or the practice of a dispensary, or of a physician or surgeon, or of a member of the London or Dublin Society of Apothecaries. He must have acted as clerk in the medical wards and dresser in the surgical wards of a public hospital for a period of six months in each case; and must also have availed himself, to such an extent as may be required by the Senatus, with the approval of the University Court, of opportunities of studying at a hospital or dispensary, Post-mortem Examinations, Fevers, Diseases of the Eye, Operative Surgery, and one of the three following—viz.: Diseases of Children; Diseases of the Larynx, Ear, and Nose; and Diseases of the Skin, or such other special departments as may from time to time be determined. The candidate must have attended, under the superintendence of a registered medical practitioner, 25 cases of labour, or such additional number as the Senatus, with the sanction of the University Court, may from time to time determine; or have attended for three months the practice of a lying-in hospital, or of the maternity department of a general hospital or other public charitable institution and have conducted personally 12 or such an additional number of cases of labour as the Senatus, with the approval of the University Court, may from time to time determine. The candidate must have been properly instructed in Vaccination at a public vaccination station, by a public vaccinator, authorised by the proper Government authority to grant certificates of proficiency in vaccination.

With respect to the places and institutions at which the studies of the candidate may be prosecuted the following regulations have effect:—Two of the five years of medical study must be spent in the University of Edinburgh. The remaining three years may be spent in any University of the United Kingdom, or in any Indian, Colonial, or Foreign university recognised for the purpose by the University Court, or in such medical schools or under such teachers as may be recognised for the purpose by the University Court. Of the subjects of study, 16 in number—viz., Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, Practical Physiology, Practice of Medicine, Surgery, Midwifery and Diseases of Women, Pathology, Practical Pathology, Physics, Botany, Zoology, Medical Jurisprudence, and Public Health—not less than eight must be taken in the University of Edinburgh or in some other university of the United Kingdom, or in some Foreign or Colonial university entitled to confer the degree of Doctor of Medicine, recognised for the purpose by the University Court, or, in a college incorporated with, or affiliated to, a university entitled to confer the degree of Doctor of Medicine, recognised for the purpose by the University Court.

Women are admitted to graduation in medicine under practically the same conditions as men, excepting that, until provision is made in the University for instruction of women in all subjects of the medical curriculum, the regulations as to places of study contained in the foregoing paragraph do not apply to them. The Medical College for Women, 30, Chambers-street, Edinburgh, has been recognised as a medical school whose courses of instruction qualify for graduation.

Each candidate is examined, both in writing and orally, and clinically where the nature of the subject admits:—First, in Chemistry, Zoology, Botany, and Physics; second, in Anatomy and Physiology; third, in Materia Medica and Therapeutics and Pathology; and fourth, in Surgery, Medicine, Midwifery, Forensic Medicine, and Public Health, and clinically in Medicine, Surgery, and Gynæcology in a hospital. The examinations are conducted, as far as possible, by demonstrations of objects placed before the candidates. Candidates who profess themselves ready to submit to an examination in the first division of these subjects may be admitted to examination therein at the first period of examination after they have completed their attendance on the necessary classes. Candidates who have passed their examination in the first division of these subjects may be admitted to examination in the second division at the end of their third winter session. Candidates who have passed their examinations in the subjects comprised in the first and second divisions may be admitted to examination in the thir division at the end of the fourth winter session. Candidate who have passed their examinations in the subjects com prised in the first, second, and third divisions may b admitted to examination in the fourth or final division whe they have completed the fifth year of study.

Under a new medical ordinance it is provided that cand dates may pass all or any of the subjects of the first divisio —viz., Botany, Zoology, Physics, or Chemistry—at a un versity in the United Kingdom or at any other universit approved by the Senate for this purpose, when such subjec qualify for a degree in arts or science. In the secon division the examination in Physiology may be taken at a time and in Anatomy at any time after the first half sessi of the third winter session. In the third division the ex mination in Pathology may be taken at any time after t end of the third summer session in the case of students w begin the medical curriculum in October and at the end the fourth summer session in the case of students w begin their medical curriculum in May. In Materia Medi the examination may be taken at any time after the end the fourth winter session. Candidates may be admitted examination in Practical Pharmacy and in the physica chemical, and botanical characters of medicinal substanc at any examination held after they have completed t qualifying course of study. In the fourth division a stude after taking the prescribed courses of study may be ex mined in Forensic Medicine and Public Health at any tim in Midwifery at any time after the end of the first ha session, of the fifth winter session, in the Practice of Medici and Surgery at any time after the end of the fifth win session, and in Clinical Medicine (including the subject Diseases Peculiar to Women) and Clinical Surgery at t end of the fifth year of study. These new ordinances apply students who entered the University at or after the beginni of the winter session 1907, but students who ente before that date have the option of finishing their cou under the existing regulations or of taking advantage of t new ordinances.

The fee to be paid for the degrees of Bachelor of Medici and Bachelor of Surgery is £23 2*s.*, and the proportion this sum to be paid by a candidate at each division the examination shall be as follows—viz.: For the Fi Division of the Examination (Botany, Zoology, Physi and Chemistry), £6 6*s.*; for the Second Division (Anaton and Physiology), £5 5*s.*; for the Third Division (Patholc and Materia Medica and Therapeutics), £4 4*s.*; and for t Final Division (Surgery and Clinical Surgery, Medicine a Clinical Medicine, Midwifery, Clinical Gynæcology, a Forensic Medicine and Public Health), £7 7*s.*

Bachelors of Medicine and *Bachelors of Surgery* m proceed to the degrees of *Doctor of Medicine* and *Mas of Surgery* after they have spent one year in the medi or surgical wards respectively of a hospital, or the Milit or Naval Medical Services, or in scientific work bear directly on their profession, or two years in practice. each case an examination must be passed and a the submitted for approval of the Faculty. The fee to be p for the degree of M.D. is £10 10*s.*, and the fee to be p for the degree of Ch.M. is £10 10*s.*

Professors—Natural Philosophy: J. G. Macgregor, D. Materia Medica: Sir Thomas R. Fraser, M.D., F.R Forensic Medicine: H. Harvey Littlejohn, M.B., F.R.C.S Chemistry: James Walker, D.Sc., F.R.S. Surgery: J Chiene, C.B., M.D. Medicine: J. Wyllie, M.D. Anaton D. J. Cunningham, M.D. Pathology: William Smith Gre field, M.D. Midwifery: Sir John Halliday Croom, M Clinical Medicine: Sir T. R. Fraser, W. S. Greenfield, and Wyllie. Clinical Surgery: F. M. Caird, M.B., F.R.C Botany: I. Bayley Balfour, M.D. Physiology: E. A. Schäf F.R.S. Zoology: J. Cossar Ewart, M.D. Public Health, & C. Hunter Stewart, M.B., D.Sc.

UNIVERSITY OF GLASGOW.

The University of Glasgow is both a teaching and degree-granting body, but admits to graduation o candidates whose preliminary examination and cou of study conform to its own regulations. Wit certain limits instruction given by recognised medi schools and teachers may be accepted, but ei of the subjects other than clinical must be ta in this or some other recognised university entit to confer the degree of M.D., and at least two years of course must be taken in Glasgow University. Under new regulations six degrees, open both to men and women, are conferred: M.B. and Ch.B. (always conjointly), M.D. and Ch.M.; B.Sc. in Public Health; D.Sc. in Public Health; and B.Sc. in Pharmacy. A Preliminary Examination must be passed in (1) English, (2) Latin, (3) Elementary Mathematics, and (4) Greek, or French, or German, with possible options to students whose native language is not English in the case of the fourth subject. Candidates taking the University preliminary examination are not obliged to pass in all the four subjects at one examination but must do so at not more than two occasions.

For the degrees of M.B. and Ch.B. a curriculum of five years required, in each of the first four of which the student must attend at least two five months' courses, or alternately one five months' course and two courses of two and a half months. The minimum of attendance in the first four years includes five months' courses in the following subjects:—Anatomy, Practical Anatomy (two courses), Chemistry, Materia Medica and Therapeutics, Physiology, Practice of Medicine, Surgery, Midwifery and Diseases of Women and Infants, and Pathology; and courses of two and a half months in the following: Practical Chemistry, Physics, Botany, Zoology, Practical Physiology, Practical Pathology, Medical Jurisprudence, and Public Health. Candidates must attend at least three years the Medical and Surgical Practice of a recognised hospital accommodating at least 80 patients and having a distinct staff of physicians and surgeons. At least nine months' hospital attendance is required on both Clinical Surgery and Clinical Medicine, and the student must have acted as clerk in medical and dresser in surgical wards, and must have had six months' outdoor practice; he must also have attended a course of Mental Diseases and of Practical Pharmacy (25 meetings), must have been properly instructed in Vaccination at a public vaccination station, and must have attended at least 12 cases of labour, or three months of the Practice of a Lying-in Hospital, six cases being personally conducted. The University also requires further study in Post-Mortem Examinations, Fevers, and Ophthalmology, and recommends study in other special subjects. If a candidate has completed in a University of the United Kingdom a course of study and passed an examination in Botany, Zoology, Physics, or Chemistry, qualifying for a degree in Science or in Arts, he is held to have passed the examinations in such subject or subjects.

There are four Professional Examinations, the first comprising Botany, Zoology, Physics, and Chemistry, to be taken after the completion of the included courses (candidates being at liberty to take two subjects at a time); the second comprising Anatomy, Physiology, and Materia Medica and Therapeutics, to be taken at the end of the third winter session; the third comprising Pathology, Medical Jurisprudence, and Public Health, to be taken at the end of the fourth winter session; and the fourth or final, comprising Surgery, Clinical Surgery, Practice of Medicine, Clinical Medicine, and Midwifery, to be taken on completion of the fifth year of study.

The degrees of M.D. (Doctor of Medicine) and Ch.M. (Master of Surgery) are higher degrees in Medicine and Surgery respectively, and candidates (not under 24 years of age) who have previously obtained the double bachelorship may be admitted to either M.D. or Ch.M. on completing the after course prescribed, including an examination in Clinical Medicine for M.D. and an examination in Surgical Anatomy, operations on the dead body, and Clinical Surgery for Ch.M.

Fees.—The Fees for M.B. and Ch.B. are £23 2*s.* The class fee in each subject of the curriculum for M.B. and Ch.B. is £2 2*s.*, £3 3*s.*, or £4 4*s.*, and the present fees for hospital attendance are £10 10*s.* The fee for M.D. is £10 10*s.* (stamp duty being now abolished), and for Ch.M. £10 10*s.*

The great majority of the students take their hospital course at the Western Infirmary, where clinical instruction is given by professors of the University and others. Clinical instruction on Fevers is given at Ruchil and Belvidere Hospitals, while special courses, largely of a practical nature and embracing work in Hospital or Asylum wards, are conducted by University Lecturers on the Ear, the Throat and Nose, and Insanity. Queen Margaret College, hitherto conducted as a separate institution for the higher education of women, has now been made over to the University and its medical classes for women are conducted under University professors and other lecturers appointed by the University Court, whilst for clinical instruction female students are admitted to the Royal Infirmary.

Bursaries and Prizes to the annual amount of over £1000 are appropriated to medical students, and Scholarships and Fellowships to the annual amount of about £1600 may be held by medical students who have gone through the Arts course.

Professors—Natural Philosophy: A. Gray, LL.D., F.R.S. Materia Medica: Ralph Stockman, M.D. Chemistry: John Fergusson, LL.D. Surgery: Sir William Macewen, M.D., F.R.S. Practice of Medicine: Sir Thomas McCall Anderson, M.D. Midwifery: Murdoch Cameron, M.D. Anatomy: John Cleland, M.D., F.R.S. Zoology: John G. Kerr, M.A. Botany: F. O. Bower, D.Sc., F.R.S. Physiology: D. Noel Paton, M.D. Forensic Medicine: John Glaister, M.D. Clinical Surgery: Sir H. C. Cameron, M.D. Clinical Medicine: S. Gemmell, M.D. Pathology: Robert Muir, M.A., M.D.

UNIVERSITY OF ABERDEEN.

The University of Aberdeen grants four degrees in Medicine and Surgery—viz., Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), Bachelor of Medicine (M.B.), and Bachelor of Surgery (Ch.B.). The two degrees of M.B. and Ch.B. are not conferred separately and the higher degrees of M.D. and Ch.M. are only granted to holders of the M.B. and Ch.B. degrees.

Degrees of M.B. and Ch.B.—Before commencing his medical studies each student must pass a Preliminary Examination in (1) English, (2) Latin, (3) Mathematics, and (4) Greek, or French, or German. In the case of a candidate whose native language is not English an examination in the candidate's native language may be substituted for one in French or German, and an examination in any other classical language for one in Latin or Greek. The curriculum for the degrees extend over a period of five years, during which attendance is required in the following subjects: Botany, Zoology, Physics, Chemistry (Systematic and Practical), Anatomy (Systematic and Practical), Physiology (Systematic and Practical), Materia Medica and Therapeutics, Practical Pharmacy, Pathology (Systematic and Practical), Medical Jurisprudence and Public Health, Surgery, Medicine, and Midwifery.

Candidates must attend for at least three years the medical and surgical practice of a recognised hospital accommodating at least 80 patients and having a distinct staff of physicians and surgeons, and they must have attended courses of at least nine months in clinical medicine and clinical surgery. The candidate must have acted as clerk in the medical and dresser in the surgical wards of a hospital and must have attended for at least six months the practice of a dispensary or the out-practice of a hospital, &c. Attendance is also required on courses in Mental Diseases, Fevers, Ophthalmology, Post-mortem Examinations, and other special subjects. The candidate is also required to have been properly instructed in Vaccination and to have attended at least 12 Midwifery cases.

Professional Examinations are held twice in each year—namely, in March and July, directly after the close of the winter and summer sessions.

The fee for the degrees of M.B. and Ch.B. amounts to £23 2*s.* Matriculation fee for the winter and summer sessions, £1 1*s.*; summer session alone, 10*s.* 6*d.*

Besides the Royal Infirmary, students have the opportunity of attending the following institutions: City Fever Hospital, Sick Children's Hospital, General Dispensary, and Lying-in and Vaccine Institutions (daily), Royal Lunatic Asylum, Ophthalmic Institution, &c.

Degrees of M.D. and Ch.M.—Candidates for either of these degrees must already hold the degrees of M.B. and Ch.B. of Aberdeen. A thesis has to be presented for approval by the Medical Faculty and an examination has to be passed in Clinical Medicine or Clinical Surgery as the case may be. Fee for each of the degrees £10 10*s.*

A diploma in Public Health is granted by the University to graduates in Medicine of a University in the United Kingdom, after a special examination. The diploma can be entered on the Register of the General Medical Council.

Application for further information should be addressed to the Secretary of the Medical Faculty.

Professors—Natural Philosophy: C. Niven, M.A., F.R.S. Physiology: J. A. MacWilliam, M.D. Medicine: David

White Finlay, M.D. Chemistry: F. R. Japp, LL.D., F.R.S. Anatomy: R. W. Reid, M.D., F.R.C.S. Surgery: A. Ogston, C.M. Materia Medica: J. T. Cash, M.D., F.R.S. Midwifery: W. Stevenson, M.D. Forensic Medicine: Matthew Hay, M.D. Botany: J. W. H. Trail, M.D., F.R.S. Pathology: D. J. Hamilton, M.B., LL.D. Natural History: J. Arthur Thomson, M.A.

UNIVERSITY OF ST. ANDREWS (UNITED COLLEGE, ST. ANDREWS AND UNIVERSITY COLLEGE, DUNDEE).

The following are extracts from the Regulations for Degrees in Medicine contained in Ordinance No. 45 (St. Andrews, No 4) of the Commissioners under the Universities (Scotland) Act, 1889. These regulations came into force on April 19th, 1897. Four degrees in Medicine and Surgery shall be conferred by the University of St. Andrews—viz., Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.). The degrees of M.B. and Ch.B. shall always be conjoined. Before commencing his medical studies each student shall pass a Preliminary Examination in (*a*) English, (*b*) Latin, (*c*) Elementary Mathematics, and (*d*) one of the following optional subjects:—(α) Greek, (β) French, (γ) German, (δ) Italian, (ε) any other Modern Language, (ζ) Logic. A degree in Arts or in Science in any of the Universities of the United Kingdom and in some colonial or foreign universities shall exempt from the Preliminary Examination. The Preliminary Examination for graduation in Medicine and Surgery, Arts or Science, of the University of St. Andrews is accepted as equivalent to the Registration Examination required by the General Medical Council (the certificate to include the required subjects). Also the Final Examination for a degree in Arts or Science and the Final Examination for the Diploma of L.L.A.

Degree of Bachelor of Medicine and Bachelor of Surgery.—Candidates must have been engaged in medical study for at least five years. In each of the first four years the candidate must have attended at least two courses of instruction in one or more of the subjects of study specified below, each course extending over a session of not less than five months, either continuous or divided into two terms, or, alternatively, one such course along with two courses, each extending over a session of not less than two and a half months. During the fifth or final year the candidate shall be engaged in clinical study for at least nine months at the Infirmary of Dundee or at one or more of such public hospitals or dispensaries, British or foreign, as may be recognised for the purpose by the University Court. The candidate must have received instruction in each of the following subjects of study, including such examinations as may be prescribed in the various classes—viz.: Anatomy, Practical Anatomy, Chemistry, Materia Medica, Physiology, or Institutes of Medicine, Practice of Medicine, Surgery, Midwifery and the Diseases peculiar to Women and Infants, Pathology, Practical Chemistry, Physics (including the Dynamics of Solids, Liquids, and Gases, and the Rudiments of Sound, Heat, Light, and Electricity), Elementary Botany, Elementary Zoology, Practical Physiology, Practical Pathology, Forensic Medicine, and Public Health. The candidate must have attended for at least three years the Medical and Surgical Practice either of the Infirmary of Dundee or of a General Hospital elsewhere which accommodates not fewer than 80 patients and possesses a distinct staff of physicians and surgeons and is recognised for the purpose by the University Court. Additional subjects of study are Practical Pharmacy, Mental Diseases, Practical Midwifery Vaccination, Children's Diseases, Fevers, Ophthalmology, and Post-mortem Examinations.

With respect to the places and institutions at which the studies of the candidate may be prosecuted the following regulations shall have effect:—1. Two of the five years of medical study must be spent in the University of St. Andrews. 2. The remaining three years may be spent in any University of the United Kingdom or in any Indian, Colonial, or Foreign University recognised for the purpose by the University Court, or in such medical schools or under such teachers as may be recognised for the purpose by the University Court.

Women shall be admitted to graduation in Medicine, subject to the provisions of Ordinance No. 18 [General No. 9—Regulations for the Graduation of Women and for their Instruction in the Universities]: Provided always that every candidate for graduation shall produce evidence of having satisfied the conditions herein laid down with respect to the Preliminary Examination, and shall be examined in all the subjects necessary for graduation by the Examiners of the University of St. Andrews. All the classes necessary for graduation shall be taken in the University of St. Andrews, except in so far as instruction obtained elsewhere is allowed by the said Ordinance.

Professional Examinations for the Degrees of Bachelor of Medicine and Bachelor of Surgery.—Each candidate shall be examined both in writing and orally, and also clinically where the nature of the subject admits, in the following divisions—viz., first, in Botany, Zoology, Physics, and Chemistry; second, in Anatomy, Physiology, and Materia Medica; third, in Pathology, and Forensic Medicine and Public Health; and fourth, in Surgery and Clinical Surgery, Practice of Medicine and Clinical Medicine, and Midwifery and Gynæcology.

The fee to be paid for the degrees of Bachelor of Medicine and Bachelor of Surgery shall be 22 guineas and the proportion of this sum to be paid by a candidate at each division of the examination shall be regulated from time to time by the University Court. The fee to be paid for the degree of Doctor of Medicine shall be 10 guineas, exclusive of any stamp duty which for the time may be demanded. The fee to be paid for the degree of Master of Surgery shall be 10 guineas.

The whole medical curriculum can be taken in University College or the first two years in United College.

Bursaries, United College, St. Andrews.—Fourteen Taylour Thomson Bursaries for female Medical students of the annual value of from £20 to £30 each, tenable for one or two years. The Bursaries are awarded in the order of merit, the most valuable ones being given to those students who obtain the highest marks in the Preliminary Examination and who are prepared to take two Anni Medici at the United College, St. Andrews.

University College, Dundee.—(*a*) Open to either sex Eleven Entrance Bursaries of £15, tenable for one year. (*b*) Open to either sex: Four £20 and three £15, second year. (*c*) Four £20 and two £15, third year. (*d*) Two £20, fourth year. (*e*) Two £20, fifth year. (*f*) Bute Bursary, founded in 1893 by the late Most Honourable the Marquis of Bute, K.T. This Bursary consists of the free proceeds of £1000. (*g*) Two Bursaries of the annual value of £25, tenable for three years at either University College, Dundee, or at any Scottish University (local candidates only).

Professors—Natural Philosophy: William Peddie, D.Sc., F.R.S.E. Chemistry: (vacant). Natural History (Boyd Baxter's): D'Arcy W. Thompson, M.A., C.B. Botany (White's): Patrick Geddes, F.R.S.E. Anatomy (Cox's): J. Yule Mackay, M.D., LL.D. Physiology: E. W. Reid, B.A., D.Sc., M.B., M.R.C.S., F.R.S. Pathology: L. R. Sutherland, M.B., C.M. Surgery: D. MacEwan, M.D. Medicine: Alexander M. Stalker, M.A., M.D. Midwifery: J. A. C. Kynoch, M.B., F.R.C.P.Edin. Materia Medica: C. R. Marshall, M.A., M.D.

United College of St. Salvator and St. Leonard.—Professors—Natural Philosophy: A. S. Butler, M.A. Natural History: W. C. McIntosh, M.D., LL.D., F.R.S. Chemistry: Thomas Purdie, B.Sc., Ph.D., LL.D., F.R.S. Anatomy: James Musgrove, M.D., C.M. Physiology: (vacant).

For further particulars apply to the Dean of the Medical Faculty, University College, Dundee.

UNIVERSITY OF DUBLIN (TRINITY COLLEGE).

Matriculation.—All students in the School of Physic intending to practise Physic must pass a matriculation examination. This may be either the Public Entrance of Trinity College and a Junior Freshman Term or a special Medical Preliminary, or, for Extern Students, an examination recognised by the General Medical Council. No student can be admitted for the winter course after Nov. 25th.

Degrees in Medicine (M.B.), Surgery (B.Ch.), and Midwifery (B.A.O.).—Candidates for these degrees must be of B.A. standing and must be for at least five academic years on the books of the Medical School, reckoned from the date of matriculation. The Arts course may be concurrent with the medical course and the B.A. degree need not be taken before the final medical examinations, but the medical degrees are not conferred without the Arts degree. The following courses must be attended:—(1)

Lectures—Systematic, Descriptive and Applied Anatomy, Chemistry and Practical Chemistry, Surgery and Operative Surgery, Histology, Botany, Zoology, Physics, Physiology and Practical Physiology, Practice of Medicine, Midwifery, Pathology, Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene; (2) three courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other recognised Dublin Hospital (two years at a recognised London or Edinburgh hospital before the commencement of the Dublin curriculum may be counted as one year spent in such Dublin hospital); (3) Practical Vaccination, one month's instruction; (4) Mental Disease, three months; (5) Practical Midwifery with Clinical Lectures, including not less than 30 cases, six months; (6) Ophthalmic Surgery, three months. Three groups of examinations have to be passed. Preliminary Scientific Examination, including Physics and Chemistry, Botany and Zoology. The Intermediate Medical Part I., including Anatomy and Institutes of Medicine (Practical Histology and Physiology). The Intermediate Medical Part II., including Applied Anatomy and Applied Physiology; and the Final Examination, which is divided into Part I., Materia Medica, Jurisprudence, and Pathology; and Part II., Medicine, Surgery, Midwifery, Gynæcology, Clinical Medicine, Mental Diseases, Clinical Surgery, Operations, and Clinical Ophthalmology. Part I. may be passed in the fourth year and Part II. in the fifth year. Fee for the *Liceat ad Examinandum*, £10. Fee for the degrees, £17.

Doctor in Medicine.—A Doctor in Medicine must have passed all the qualifying examinations and must be a B.A. of three years' standing. He must also read a thesis before the Regius Professor of Physic. Total amount of fees for this degree, £13.

Master in Surgery.—A Master in Surgery must be a Bachelor in Surgery of the University of Dublin of not less than three years' standing, and must produce satisfactory evidence of having been engaged for not less than two years from the date of his registration in the study, or study and practice, of his profession. He must then pass an examination in the following subjects:—1. Clinical Surgery. 2. Operative Surgery. 3. Surgical Pathology. 4. Surgery. 5. Surgical Anatomy (on the dead subject), and one of the following optional subjects:—1. Surgery in one of the following branches—viz., Ophthalmic and Aural, Gynæcological and Dental. 2. Mental Disease. 3. Medical Jurisprudence and Hygiene. 4. Advanced Anatomy and Physiology. 5. Comparative Anatomy. Fee for the degree of Master in Surgery, £11.

Master in Obstetric Science.—A Master in Obstetric Science must be fully qualified and produce a certificate of having attended a summer course in Obstetric Medicine and Surgery. He is then required to pass an examination in the following subjects:—1. Practice of Midwifery. 2. Gynæcology. 3. Anatomy of Female Pelvis and Elementary Embryology. 4. Clinical Gynæcology. Fee for the degree of Master in Obstetric Science, £5.

University Diplomas.—Candidates for the diplomas in Medicine, Surgery, or Obstetric Science must be matriculated in Medicine and must have completed two years in Arts and five years in Medical Studies. The Course and Examination necessary for the diplomas are the same as for the degrees. A diploma in Medicine, Surgery, and Midwifery is a registrable qualification conferred upon candidates who have completed a full five years' course in Medicine and two years in Arts. The diploma, like the degree, qualifies for registration. A diplomate, on completing his course in Arts and proceeding to the degree of B.A., may become a Bachelor by paying the degree fees. Fee for the *Liceat ad Examinandum*, £10. Fee for the diplomas in Medicine, Surgery, and Midwifery, £11.

Professors and Lecturers.—Natural Philosophy: F. Purser, M.A. Anatomy and Surgery: A. F. Dixon, D.Sc., M.B University Anatomist: Sir C. B. Ball, M.D., M.Ch. Physic (Regius): James Little, M.D. Surgery (Regius): Sir C. B. Ball, M.Ch. Surgery: E. H. Taylor, M.D. Botany: H. H. Dixon, D.Sc. Physics: W. E. Thrift, F.T.C.D. Pathology: A. C. O'Sullivan, M.D., F.T.C.D. Institutes of Medicine: W. H. Thompson, M.D., D.Sc. Medicine: J. Magee Finny, M.D. Materia Medica: W. G. Smith, M.D. Midwifery: Sir A. V. Macan, M.B. Jurisprudence and Hygiene: H. T. Bewley, M.D. Chemistry: Sidney Young, D.Sc. Comparative Anatomy and Zoology: H. W. Mackintosh, M.A.

ROYAL UNIVERSITY OF IRELAND.

The position of this University is only temporary if the Irish Universities Bill becomes law. We, however, give the existing regulations.

Candidates for any degree in this University must have passed either the Matriculation Examination or the Senior Grade Examination of the Board of Intermediate Education for Ireland in the subjects prescribed for the Matriculation Examination of this University. Candidates can only claim exemption from the Matriculation Examination of this University by applying for such exemption in the same year in which they shall have passed aforesaid examination. Students from other universities and colleges are included in this rule.

The following degrees, &c., are conferred by the University in this Faculty:—Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, Master of Surgery, Bachelor of Obstetrics and Master of Obstetrics; in Sanitary Science, a special diploma; and in Mental Disease, a special diploma.

The course for degrees in Medicine, &c., is of at least five years' duration.

The First Examination in Medicine.—Students may be admitted to this examination after the lapse of one academical year from the time of their matriculation. They must also have previously passed the First University Examination and completed the first year of the medical curriculum. The subjects of this examination are Natural Philosophy, Systematic Chemistry, Zoology and Botany. The examination in each subject will comprise two parts:—(1) a written examination and (2) a practical examination. Particular weight will be given to the practical part of the examination. Candidates at the First Examination in Medicine who at the First University Examination did not obtain 30 per cent. of the marks assigned to French or German will be required to present themselves for a qualifying examination in French or German. Failure to obtain 30 per cent. of the marks assigned to either of those languages will involve the loss of the examination.

The Second Examination in Medicine.—Students will be admitted to this examination after the lapse of one medical year from the time of passing the First Examination in Medicine, provided they have completed the second year of the medical curriculum. The subjects for this examination are Anatomy, Physiology, and Practical Chemistry.

The Third Examination in Medicine.—Students will be admitted to this examination after the lapse of one medical year from the time of passing the Second Examination in Medicine, provided they have completed the third year of the medical curriculum. The subjects for this examination will be Anatomy, Physiology, and Materia Medica (Pharmacology and Therapeutics).

The Examination for the Medical Degrees.—Students will be admitted to this examination after the lapse of not less than one medical year from the time of passing the Third Examination in Medicine, provided they have completed the course of medical studies prescribed for the entire medical curriculum. The examination consists of three parts or divisions:—(*a*) Medicine, including Therapeutics and Pathology, Mental Diseases, Medical Jurisprudence and Sanitary Science. (*b*) Surgery, Theoretical, Clinical, Operative; Surgical Anatomy, with Ophthalmology and Otology; Surgical Pathology. (*c*) Midwifery and Diseases of Women and Children. Each part of this examination must be passed as a whole. Upon completing satisfactorily his examination in all three divisions the candidate will, in addition to the parchment diplomas recording his admission to the Medical Degrees of M.B., B.Ch., and B.A.O., receive a certificate of having passed a qualifying examination in the subjects of Medicine, Surgery, and Midwifery. The fee for this certificate is £10, which must be paid prior to the candidate's admission to these Degrees.

The M.D. Degree.—Candidates may present themselves for the examination for this degree after the lapse of three academical years from the time of obtaining the degrees of M.B., B.Ch., B.A.O. They must at the same time produce a certificate of having been, for at least two academical years, engaged in hospital or private, medical, surgical, or obstetrical practice, or in the military or naval medical service. Every candidate will be examined at the bedside, and required to diagnose at least three medical cases, and prescribe treatment, and to write detailed reports on at least two cases to be selected by the examiners and to discuss the questions arising thereon.

The M. Ch. Degree.—This degree will be conferred only on graduates in Medicine of the University of at least three years' standing. They must at the same time produce a certificate of having been, for at least two academical years, engaged in hospital or private, medical, surgical, or obstetrical practice, or in the military or naval medical service. The examination for this degree will comprise Surgical Diseases and Surgery, both theoretical and operative; Surgical Anatomy; Ophthalmology and Otology; Surgical Pathology; and will include—(*a*) a written examination; (*b*) a clinical examination; (*c*) an examination on Surgical Instruments and Appliances; and (*d*) an examination in Operative Surgery.

The M.A O. Degree.—This degree will be conferred only on graduates in Medicine of the University of at least three years' standing. They must at the same time produce a certificate of having been, for at least two academical years, engaged in hospital or private, medical, surgical, or obstetrical practice, or in the military or naval medical service. The examination will comprise the Theory and Practice of Midwifery and of Diseases of Women and Children, Pathology, and the Use of Instruments and Appliances and will include—(*a*) a written examination; (*b*) a clinical examination so far as practicable; and (*c*) an oral examination, with practical illustrations.

UNIVERSITY OF WALES.

This University has now the privilege of granting degrees in Medicine and Diplomas in Public Health. At the three constituent Colleges of Aberystwyth, Bangor, and Cardiff there are Professors of Chemistry, Botany, Zoology, and Physics, so that the students of the University can obtain proper instruction in the ancillary subjects. The foundation of a Medical Faculty has been laid at University College, Cardiff, where there is a recognised school of medicine.

University College, Cardiff: School of Medicine.—All classes are open to both men and women students who may spend three out of their five years of medical study at Cardiff. The courses of study are recognised as qualifying for the Preliminary Scientific and Intermediate Examination in Medicine in the University of London and for the corresponding examinations in the other Universities. Students who are preparing for these examinations may compound for their courses by paying a fee of £57 10*s.*, while a composition fee of £41 10*s.* includes all the necessary courses for the first and second examinations for the Diploma of the Conjoint Board. In all cases the composition fees may be paid by instalments. Hospital instruction is given at the Cardiff Infirmary. The attention of students about to matriculate is drawn to the numerous entrance scholarships and exhibitions, varying in value from £10 to £30 per annum, offered for competition at University College, Cardiff, in September next, most of which may be held by medical students. Full particulars of the examination for these may be obtained by application to the Registrar. In the department of Public Health established in 1899 instruction is given qualifying for the D.P.H. examinations. Further information may be obtained from the Dean of the Faculty of Medicine.

Lecturers.—Physics: Professor A. L. Selby. Chemistry: Professor C. M. Thompson. Zoology: Professor W. N. Parker. Botany: Professor A. H. Trow. Anatomy: Professor David Hepburn. Physiology: Professor J. B. Haycraft. Materia Medica and Therapeutics: Dr. W. Mitchell Stevens. Bacteriology: Mr. H. A. Schölberg. Hygienic Chemistry: Mr. Sugden. Public Health and Hygiene: Dr. E. Walford and Dr. W. Williams. Midwifery (for Midwives): Dr. E. J. Maclean.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.[4]

Any candidate who desires to obtain both the Licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England is required to complete five years of professional study at recognised Medical Schools and Hospitals and to comply with the following regulations and to pass the examinations hereinafter set forth. Six months of the curriculum may be spent in an Institution recognised by the Board for instruction in Chemistry, Physics, Practical Chemistry, and Biology.

Professional Examinations.—There are three Examinations, called herein the First Examination, the Second Examination, and the Third or Final Examination, each being partly written, partly oral, and partly practical. These examinations will be held in the months of January, April, July, and October, unless otherwise appointed. Every candidate intending to present himself for examination is required to give notice in writing to Mr. F. G. Hallett, secretary of the Examining Board, Examination Hall, Victoria Embankment, W.C., 14 clear days before the day on which the examination commences, transmitting at the same time the required certificates.

The subjects of the *First Examination* are—Chemistry, Physics, Elementary Biology, and Practical Pharmacy. A candidate may take this examination in three parts at different times (Chemistry and Physics must be taken together until the required standard is reached in both or in one of these subjects, but a candidate will not be allowed to pass in one without obtaining at the same time at least half the number of marks required to pass in the other). A candidate will be admitted to examination in Chemistry and Physics, in Practical Pharmacy, and Elementary Biology on producing evidence of having passed the required Preliminary Examination and of having received instruction in these subjects at a recognised institution, or he may take Pharmacy at any time during the curriculum. (*Note:* In the case of students who commence their professional studies after June 1st, 1904, certificates must be produced of 180 hours' instruction and laboratory work in chemistry; 120 hours' instruction and laboratory work in physics; and 120 hours' instruction and laboratory work in biology. These courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education.) Synopses of the subjects of examination may be obtained on application. A candidate rejected in one part or more of the First Examination will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection, and he will be re-examined in the subject or subjects in which he has been rejected. If referred in Chemistry, Physics, or Biology he must produce evidence of further instruction at a recognised Institution. Any candidate who shall produce satisfactory evidence of having passed an examination for a degree in Medicine on any of the subjects of this examination conducted at a university in the United Kingdom, in India, or in a British colony will be exempt from examination in those subjects in which he has passed.

The fees for admission to the *First Examination* are as follows: For the whole examination, £10 10*s.*; for re-examination after rejection in Parts I. and II., £3 3*s.*; and for re-examination in each of the other parts, £2 2*s.*

The subjects of the *Second Examination* are Anatomy and Physiology. Candidates will be required to pass in both subjects at one and the same time. Candidates will be admissible to the Second Examination on production of the required certificates of professional study. The study of Anatomy and Physiology before passing in two of first three parts of the First Professional Examination is not recognised.

A candidate referred on the *Second Examination* will be required, before being admitted to re-examination, to produce a certificate that he has pursued, to the satisfaction of his teachers, in a recognised place of study, his Anatomical and Physiological studies during a period of not less than three months subsequently to the date of his reference.

The fees for admission to the *Second Examination* are: £10 10*s.* for the whole examination and £6 6*s.* for re-examination after rejection.

The subjects of the *Third* or *Final Examination* are: Part I. Medicine, including Medical Anatomy, Pathology, Practical Pharmacy, Therapeutics, Forensic Medicine, and Public Health. Candidates who have passed in Practical Pharmacy at the First Examination will not be re-examined in that subject at the Third Examination. Part II. Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances. Part III. Midwifery and Diseases Peculiar to Women. Candidates may present themselves for examination in Midwifery and Diseases of Women at any time after the completion of the fourth year of professional study at a Medical School and Hospital, not less than one year after passing the Second Examination, on production of the required certificates. Candidates may present themselves for examination in Medicine and Surgery at the completion of the five years' curriculum, not less than two years from the date of passing the Second Examination, on production of the required certificates. Candidates may take this examination in three parts *at different times*, or *they may* present themselves for the whole examination at one time. They will be required *to produce the following evidence before being admitted to* the several parts of the *Third* or *Final Examination*—viz., in Medicine, of having attended Lectures on Medicine, Pathology including Bacteriology, Pharmacology, and Therapeutics, Forensic Medicine, and Public Health; Practical Instruction in Medicine; Medical Hospital Practice during two winter and two summer sessions; Demonstrations in the Post-mortem Room during 12 months; Clinical Lectures on Medicine during nine months; of having discharged the duties of Medical Clinical Clerk; Instruction in the Administration of Anæsthetics; Practice of a Fever Hospital and Clinical Demonstrations at a recognised Lunatic Asylum; in Surgery, of having attended Lectures on Surgery and Pathology including Bacteriology; Practical Instruction in Surgery; of having performed operations upon the Dead Subject; Surgical Hospital Practice during two winter and two *summer sessions*; Demonstrations in the Post-mortem Room during 12 months; Clinical Lectures on Surgery during nine months; of having discharged the duties of Surgical Dresser; Instruction in the Administration of Anæsthetics; and Clinical Instruction in Ophthalmology; in Midwifery of having attended Lectures on Midwifery; Practical Instruction in Midwifery; Clinical or other Lectures, with Practical Instruction in Diseases Peculiar to Women; and of attendance on 20 Labours.

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[4] The diploma of Member of the Royal College of Surgeons of England and the Licence of the Royal College of Physicians of London are no longer granted separately except to students who commenced their professional study prior to Oct. 1st, 1884.

The fees for admission to the *Third* or *Final Examination* are as follows: For the whole examination, £21. Part I. For re-examination in Medicine, including Medical Anatomy, Pathology, Therapeutics, Forensic Medicine, and Public Health, £5 5*s.*; for re-examination in Practical Pharmacy (if taken at this examination), £2 2*s.* Part II. For re-examination in Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances, £5 5*s.* Part III. For re-examination in Midwifery and Diseases Peculiar to Women, £3 3*s.*

A candidate referred on the *Third or Final Examination* will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection and will be required, before being admitted to re-examination, to produce a certificate, in regard to Medicine and Surgery, of having attended the Medical and Surgical Practice, or the Medical or Surgical Practice, as the case may be, during the period of his reference; and in regard to Midwifery and Diseases Peculiar to Women a certificate of having received, subsequently to the date of his reference, not less than three months' instruction in that subject by a recognised teacher.

Students of recognised universities in England, Scotland, and Ireland, who have passed examinations for a degree in Medicine at their universities in the subjects of the First and Second Examinations of the Examining Board, may enter for the Final Examination at the expiration of two years from the date of passing in Anatomy and Physiology, on production of the required certificates.

Graduates in Medicine of certain recognised Indian, Colonial, and Foreign universities may present themselves for the Final examination under special conditions which can be ascertained on application to the Secretary.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

In addition to the diplomas granted by the English Conjoint Board, the Royal College of Physicians of London and the Royal College of Surgeons of England grant honour diplomas, which no longer give the right to practise professionally if held separately. The Royal College of Physicians of London has two such diplomas, the *Fellowship* which is a purely honorary distinction and the *Membership* which is obtained by examination.

Membership.—Every candidate for the Membership of the College must furnish proof of having attained the age of 25 years. Candidates must not be engaged in trade, dispense medicine, make any engagement with a chemist, or any other person for the supply of medicine, or practise medicine or surgery in partnership, by deed or otherwise. Any candidate being already registered or having passed a qualifying examination in accordance with the Medical Act of 1886, who has obtained the degree of Doctor or Bachelor of Medicine at a University in the United Kingdom, in India, or a British colony, or who has obtained a foreign qualification entitling him to practise medicine or surgery in the country where such qualification has been conferred, wherein the courses of study and the examinations *to be undergone previously to graduation have been adjudged* by the Censors' Board to be satisfactory, will (if the Censors *think fit*) be admitted to the Pass Examination. The nature and extent of this examination will, in the case of each candidate, be determined by the Censors' Board. All other candidates must produce proof of having passed the examinations required for the Licence of the College. The examination is directed partly to pathology and partly to the practice of medicine and may be modified in circumstances to be ascertained by application to the Registrar. For example, candidates under 40 years of age are examined in an ancient or modern language, a test from which their seniors are exempt. The fee for admission as a *Member of the College* is 40 guineas, except when the candidate for Membership is a Licentiate of the College, in which case the fee already paid for the Licence shall be deducted from the 40 guineas. The fee for the examination is £6 6*s.*

Fellowship.—The *Fellows* are selected annually from the ranks of the *Members*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The Royal College of Surgeons of England confers its diploma of Fellow upon a few distinguished persons in an honorary capacity. Two Members of long standing may also be elected to the Fellowship annually. But the bulk of the Fellows obtain the diploma as the result of examination.

Fellowship.—The examination for the Fellowship is divided into two parts—viz., the First Examination and the Second Examination. The subjects of the First Examination are Anatomy and Physiology and the questions on these subjects may require an elementary acquaintance with Comparative Anatomy and Physiology. The examination is partly written and partly *vivâ voce*. The subjects of the Second Examination are Surgery, including Surgical Anatomy and Pathology. The examination is partly written and partly *vivâ voce* and includes the examination of patients and the performance of operations on the dead body. The examinations are held during the months of May and November of each year.

The fees for examination are:—First Examination, each admission, five guineas. Second Examination, each admission, 12 guineas. Of such examination fees 17 guineas will be reckoned as part of the fee payable upon admission to the Fellowship. The fee to be paid upon admission to the Fellowship is 30 guineas, except when the candidate is a Member of the College, in which case the fee is 20 guineas.

A Member of the College is admissible to the First Examination at any time after receiving his Diploma of Membership. A candidate who is not a member of the College is admissible to the *first Professional* Examination for the Fellowship on the production of evidence of having passed the First and Second Examinations of the Examining Board in England by the Royal College of Physicians of London and the Royal College of Surgeons of England *(or, if a* member of a University recognised by the College for the purpose, of having passed the Examinations in his University equivalent to the First and Second Examinations of the Board) and on the production of certificates of attendance upon certain courses of study described in the Regulations.

A Member of the College is admissible to the Second Examination at any time after having passed the First Examination, on producing satisfactory evidence of having been engaged not less than six years in the study (or study and practice) of the profession.

A candidate who is not a Member of the College must possess the registrable surgical and medical degrees recognised by the Council and must have been engaged in the study (or study and practice) of the profession for not less than four years subsequent to the date of obtaining the recognised qualification, one year of which shall have been spent in attendance on the Surgical Practice of a recognised hospital. The diploma of Fellow is not conferred upon successful candidates until they have attained the age of 25 years.

The Regulations may be obtained on application to the Secretary of the Examining Board, Examination Hall, Victoria Embankment, London, W.C.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

These Colleges have made arrangements by which, after one series of examinations, held in Edinburgh or Glasgow, or both, the student may obtain the diplomas of the three Bodies.

The three Bodies grant their Single Licences only to candidates who already possess legal qualifications in Medicine or Surgery. Copies of the Regulations for the Single Licence of any of the Bodies may be had on application to the respective secretaries. The regulations which follow are for candidates who commenced study after Jan. 1st, 1892.

Professional Education.—I. The candidate must produce certificates or other satisfactory evidence of having attended the following separate and distinct courses of instruction: Physics, three months; Elementary Biology, three months; Chemistry, six months; Practical or Analytical Chemistry, three months; Anatomy, during at least six months; Practical Anatomy, twelve months; Physiology, six months; Materia Medica, three months; Pathology (including Practical Pathology), six months; Practice of Medicine, six months; Clinical Medicine, nine months; Principles and Practice of Surgery, six months; Clinical Surgery, nine months; Midwifery and the Diseases of Women and Children, three months; Medical Jurisprudence and Public Health, three months. The number of lectures certified as attended at any school not situated in Scotland should not be less than three-fourths of the total number of lectures delivered in a course. II. The candidate must also produce the following certificates:—(*a*) Of having personally attended not less than six cases of labour, or alternatively attendance on 12 cases of labour, at least five of these to be conducted personally under the direct superintendence of the practitioner who signs the certificate, who must be a registered medical practitioner, but the practical midwifery applicable to students commencing medical study on and after Oct. 1st, 1908, is as follows: 1. Every student before commencing the study of Practical Midwifery shall have attended a course of lectures on Surgery and Midwifery and be required to have held the offices of Clinical Medical Clerk and Surgical Dresser. 2. Every student shall be required either—(1) to have attended the indoor practice of a lying-in hospital or the lying-in wards of a general hospital for a period of three months to the satisfaction of the medical officer in charge, and after having received therein practical instruction in the conduct of labour, under the personal supervision of a medical officer, to have conducted 12 cases of labour under official medical supervision; or (2) to have conducted not less than 12 cases of labour, subject to the following conditions—That he has during one month given regular daily attendance upon the indoor practice of a lying-in hospital or the lying-in wards of a general hospital or Poor-law infirmary having a resident medical officer recognised for that purpose by any of the licensing bodies, and that he has therein conducted cases of labour under the personal supervision of a medical officer of the hospital or infirmary, who shall, when satisfied of the student's competence, authorise him to conduct outdoor cases under official medical supervision. 3. No certificate that the student has conducted the above-mentioned 12 cases of labour shall be accepted unless it is given by a member of the staff of a lying-in hospital or of the maternity charity of a general hospital or of a dispensary having an obstetric staff recognised for that purpose by any of the licensing bodies or of a Poor-law infirmary having a resident medical officer so recognised. (*b*) Of having attended, for three months, instruction in Practical Pharmacy; the certificate to be signed by the teacher, who must be a member of the Pharmaceutical Society of Great Britain, or the superintendent of the laboratory of a public hospital or dispensary, or a registered practitioner who dispenses medicines to his patients, or a teacher of a class of Practical Pharmacy. (*c*) Of having attended for 27 months the Medical and Surgical practice of a public general hospital containing on an average at least 80 patients available for clinical instruction and possessing distinct staffs of physicians and of surgeons. Evidence must be produced that the candidate has acted as Surgical Dresser and Medical Clinical Clerk for not less than three months in the wards in each case. (*d*) Of having attended for six months the practice of a public dispensary specially recognised by any of the above authorities, or the out-patient practice of a recognised general hospital or of having acted for six months as pupil to a registered practitioner who either holds such a public appointment, or has such opportunities of imparting practical knowledge as shall be satisfactory to the coöperating authorities; this attendance should be made after the student has passed the First and Second examinations. (*e*) Of having been instructed in the Theory and Practice of Vaccination by a Public Vaccinator authorised by the Local Government Board to grant certificates of proficiency in vaccination and of having performed operations under the teacher's inspection during a period of not less than six weeks.

In addition to the courses above prescribed candidates are required to attend the following courses: Diseases and Injuries of the Eye, three months; Insanity, three months; Infectious Diseases, three months.

The curriculum lasts for five years; the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries. The period of three years devoted to hospital practice may include clinical instruction in special subjects, and should also include instruction in administration of anæsthetics and attendance at post-mortem examinations. The student's regularity of attendance in the wards and out-patients' departments of the hospitals and at the post-mortem examinations should be duly ascertained and noted on the certificate.

Candidates shall be subjected to four professional examinations:

First Examination.—The First examination shall embrace the following subjects—(1) Physics, (2) Chemistry, including Practical Chemistry, and (3) Elementary Biology. The fees payable for admission to the First examination shall be for the whole examination, £5; for each subject separately, £2 10s.

Second Examination.—The Second examination shall embrace Anatomy and Physiology including Histology; and candidates may be admitted to this examination at the end of the second year of medical study. The fees payable for admission to the Second examination shall be—for the whole examination, £5, and for re-entry after rejection, £3 for both subjects, and for each of the subjects separately, £3, and for re-entry for each subject after rejection, £2.

Third Examination.—The Third examination shall embrace Pathology and Materia Medica with Pharmacy. The fees payable for admission to the Third examination shall be—for the whole examination, £5; for re-entry in both subjects after rejection, £3; and for each of the subjects separately, £3, and for re-entry for each subject after rejection, £2.

Final Examination.—The Final examination shall not be taken earlier than the end of the fifth year of study and shall embrace the following subjects:—Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eye; Midwifery and Diseases of Women and of New-born Children; and Medical Jurisprudence and Public Health, but it is optional to candidates who have passed the Third Examination to be admitted to each of the subjects of the Final Examination on lodging certificates of having attended the necessary course or courses in that subject—viz., in Medical Jurisprudence and Public Health at any time; in Medicine and Surgery and Midwifery, at any time after the end of the fifth Winter Session, provided the Final Examination is completed within 15 months of passing any one of the three latter subjects. All candidates shall be subjected, in addition to the written and oral examinations, to clinical examinations in Medicine and Surgery, which shall include the

Examination of Patients, Physical Diagnosis, the Clinical use of the Microscope, Examination of the Urine and Urinary Deposits, Surgical Appliances, Bandages, Surface Markings, &c. The fees payable for the Final examination shall be,—for the whole examination, £15, for re-entry in all subjects after rejection, £5, and for each of the subjects separately, £5, with £3 for re-entry in each subject.

Candidates who enter on the footing of having passed the earlier examination at another Board shall pay the fees in respect of these examinations, as well as the Final examination fees.

There are six periods of examination annually, four in Edinburgh and two in Glasgow, and candidates may present themselves at either examining centre irrespectively of the place of the previous examination. The Registrar in Edinburgh is Mr. J. Robertson, solicitor, 54, George-square; and the *Registrar in Glasgow*, Mr. A. Duncan, *LL.D.*, 242, St. Vincent-street, to whom fees and certificates must be sent for the respective examinations.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

In addition to the diplomas granted by the Scottish Conjoint Board the Royal College of Physicians grant honour diplomas which no longer give the right to practise professionally if held separately, and also grant their Single Licence to candidates already possessing legal qualifications for professional practice.

The Royal College of Physicians of Edinburgh grants a *Membership* and a *Fellowship.*

Membership.—A candidate, who must be a Licentiate of the College of Physicians or a graduate of a British or Irish University and 24 years of age, is examined in medicine, therapeutics, and in any branch of the departments of medicine, such as general pathology, psychology, public health; obstetrics, tropical medicine, or medical jurisprudence. A candidate who for 40 years has been in the practise of his profession may be excused any or all of the examination. The fee for the Membership is £36 15*s.*, 15 guineas of which will be returned to any successful candidate who was already a Licentiate of the College at the time of qualifying for the Membership.

Fellowship.—The Fellows are selected, save with rare exceptions, from the ranks of the *Members.* They must be 25 years of age. The fee is £64 18*s.*

The College grants its *Single Licence* on terms similar to those of the Royal College of Surgeons of Edinburgh, as mentioned in the next section.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The Royal College of Surgeons of Edinburgh grants a diploma of Fellowship after examination to the holders of the surgical degrees of diplomas of such British examining bodies, as well as of the holders of such surgical degrees of the Universities of Canada, Australia, New Zealand, and the Indian Empire as are recognised by the College. The candidates for the examination must be 25 years of age and must have been engaged in practice for at least two years The examination is of a practical nature, partly written and partly *viva voce*, and must include surgery and surgical anatomy, operative surgery, and clinical practice. One optional subject must also be taken, the range of these specialisms covering every branch of medicine. The fee to be paid on entering for examination for Fellowship is £45, £15 of which will be returned to those who already hold the Licentiateship of the College. One month's notice of intention to present himself for examination must be given by the candidate to Mr. D. L. Eadie, 54, George-square, Edinburgh, clerk to the College, together with credentials signed by two Fellows of the College, one of whom must be a resident in Edinburgh, unless a special application be made to the President of the College. In exceptional circumstances registered medical practitioners who have distinguished themselves in the practice of their profession are admitted to the Fellowship without examination.

The Royal College of Surgeons of Edinburgh admits to the examination for its Single Licence any candidate who already holds a Diploma in Medicine of any British, Indian, or Colonial university or of any British or Colonial College of Physicians, or of the Society of Apothecaries of London or Apothecaries' Hall, Dublin, granted under the provisions of the Medical Act, 1886, whose preliminary examination and course of professional study is proved to be sufficient to fulfil the requirements of the College, or to those who have passed a full examination for any of the above. Female practitioners are now admitted to the Licence of the College but not to the Fellowship, and the regulations for the Licence apply to practitioners of either sex.

Every candidate for a surgical diploma must have followed his course of study in a university, or in an established school of medicine, or in a provincial school specially recognised by the College of Surgeons of that division of the United Kingdom in which it is situate.

Under the title Established School of Medicine are comprehended the medical schools of those cities of Great Britain and Ireland in which Diplomas in Surgery are granted, and such colonial and foreign schools as are similarly circumstanced in the countries in which they exist.

Professional Examination for the Diploma of the College.—Candidates for the Diploma of the College will be subjected to one professional examination, partly in writing and partly practically and orally.

Opportunities for the examinations will be presented four times in each year. On each of these occasions the candidates will assemble to write answers to the questions proposed, and the clinical and oral examinations shall be conducted on the days immediately succeeding.

Unsuccessful candidates will be remitted to their studies for a period to be determined by the judgment of the examiners, but not in any case for less than three months.

The examination will embrace the principles and practice of surgery (including operative surgery and surgical pathology), clinical surgery, and surgical anatomy, and will not take place before the termination of the full period of study.

Applications for examination must be made to Mr. D. L. Eadie, not later than one week prior to the date of examination.

On the production of the required documents Mr. Eadie will give the candidate an order authorising the examiners to admit him to examination.

The fee of £15 15*s.* payable to the College must be lodged in the hands of Mr. Eadie not later than one week preceding the examination day. The sum of £10 10*s.* will be returned to each unsuccessful candidate. Under special circumstances candidates can be examined on days other than those fixed by the regulations. The fee for a special examination is as follows, viz., £20 for examination, of which £10 will be returned to candidates remitted on examination.

In order to test more effectually the practical knowledge of candidates recent dissections and anatomical specimens will be employed during examination. They will also be subjected to a practical clinical examination in the Surgical Hospital, including the application of surgical apparatus, bandages, surface markings, &c., and may, if it be considered necessary to test their knowledge, be required to perform operations on the dead body.

THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

Like the preceding corporations, the Faculty of Physicians and Surgeons of Glasgow grant a Fellowship and a Licence to be held as separate qualifications.

Fellowship.—The Fellowship of the Faculty is granted after examination in medicine or surgery, together with an optional subject, which may be anatomy or physiology or be selected from any special branch of medicine or surgery, and 14 days' notice must be given by the candidate of his intention to present himself to Mr. Alexander Duncan, LL.D., the Faculty Hall, Glasgow. The fee for the Fellowship is £30, £10 of which sum are returned to any successful candidate who already holds the Licence of the faculty. In certain circumstances Fellows may be elected as a mark of distinction.

Licence.—The Licence of the faculty is granted as a separate qualification to qualified practitioners in Medicine after examination *in surgery, including* surgical anatomy and clinical surgery. The fee is 15 guineas.

ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS, IRELAND.

Every candidate for the Conjoint Examinations of the Colleges shall produce evidence of having before entering on medical studies, passed a Preliminary Examination in general education recognised by the Royal Colleges. Each candidate before receiving his diplomas must produce a registrar's certificate or other satisfactory evidence that he has attained the age of 21 years.

Preliminary Examination.—The subjects for examination are identical with those prescribed for the Preliminary Examination by the General Council of Medical Education and Registration.

Professional Examinations.—Every Candidate must pass four Professional Examinations—at the end of the first, second, third, and fifth years respectively of his professional studies. No candidate shall be admitted to the Final or Qualifying Examination within three months of his rejection at the Final or Qualifying Examination by any other Licensing body.

First Professional Examination.—Every candidate is required, before admission to the First Professional Examination, to produce evidence—(1) of having passed in the subjects of the Preliminary Examination; and (2) of having attended a course of—(*a*) lectures on Theoretical Chemistry, six months; (*b*) Practical Chemistry, three months; (*c*) Biology, three months; and (*d*) Physics.

The subjects of the First Professional Examination are the following:—1. (*a*) Chemistry; (*b*) Physics. 2. Biology. The fee for this examination is £15 15*s.*

Second Professional Examination.—Candidates are not admissible to this examination till they have passed in the subjects of the First Professional Examination and they must produce evidence of having attended (*a*) the practice of a medico-chirurgical hospital for nine months; (*b*) anatomical dissections, six months; and Lectures on (*a*) Anatomy, six months; (*b*) Physiology, six months; (*c*) Practical Physiology and Histology, three months.

The subjects of the Second Professional Examination are the following:—(1) Anatomy; and (2) Physiology and Histology. The fee for this examination is £10 10*s.*

Third Professional Examination.—Every candidate is required, before admission to the Third Professional Examination, to produce evidence of having passed the Second Professional Examination and certificates of having attended courses of instruction in (*a*) the practice of a medico-chirurgical hospital for nine months; (*b*) Pathology:—(1) Systematic, (2) Practical, three months each; (*c*) Materia Medica, Pharmacy, and Therapeutics, three months; (*d*) Forensic Medicine and Public Health, three months.

The subjects for the Third Professional Examination are the following:—(1) Pathology; (2) Materia Medica, Pharmacy, and Therapeutics; (3) Public Health and Forensic Medicine. The fee for this examination is £9 9*s.*

Final Professional Examination.—Before admission to the Final Examination candidates must have passed the Third Professional Examination and produced evidence of having attended in Division 1 the practice of a medico-chirurgical Hospital for nine months (unless such evidence has been previously produced for admission in Division 2); the practice of a recognised fever hospital or the fever wards of a recognised clinical hospital, three months; clinical instruction in Mental Diseases, one month (12 attendances); Lectures on Medicine, six months at a recognised medical school; of having performed the duties of medical clinical clerk in a recognised hospital for three months. In Division 2 of having attended the practice of a medico-chirurgical hospital for nine months (unless such evidence has been previously produced for admission to Division 1); clinical instruction in Ophthalmic and Aural Surgery, three months; lectures on Surgery, six months at a recognised Medical School; instruction in Operative Surgery, three months at a recognised medical school; of having performed the duties of surgical dresser in a recognised hospital for three months. In Division 3 of having attended a midwifery hospital or maternity and having been present at 20 labours, six months; instruction on Vaccination, six attendences to be certified by a public vaccinator; lectures on midwifery (including diseases peculiar to women and to new-born children), six months at a recognised medical school. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the Divisions 1, 2, or 3, provided he has completed his curriculum as far as concerns the division in which he presents himself. The examination in at least one of the divisions must be deferred till be end of the fifth year.

The subjects of the Final Examination are: (1) Medicine, including Fevers, Mental Diseases, and Diseases of Children; (2) Surgery, Operative and Ophthalmic; and (3) Midwifery and Gynæcology, Vaccination, and Diseases of New-born Children. The fee is £6 6*s.* Further particulars can be obtained from the Secretary of the Committee of Management, Royal College of Physicians, Kildare-street, Dublin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

The College issues its Licences in Medicine and in Midwifery to practitioners whose names appear on the Medical Register of the United Kingdom.

The Licence in Medicine.—The subjects of examination are: Practice of Medicine, Clinical Medicine, Pathology, Medical Jurisprudence, Midwifery, Hygiene, and Therapeutics.

The Licence in Midwifery.—Candidates must produce certificates of registration. A registered medical practitioner of five years' standing is exempted from the examination by printed questions.

Fees.—Fee for the Licence to practise Medicine, £15 15*s.* Fee for examination for the Licences in Medicine and Midwifery, if obtained within the interval of a month, £16 16*s.* —to be lodged in one sum. (*Any candidate who has been rejected at the examination for the Licence in Medicine loses this privilege and will be required to pay the full fee of five guineas for the Licence in Midwifery.*) Fee for special examination for the Licence to practise Medicine, £21. Fee for examination for the Licence to practise Midwifery, £5 5*s.* Fee for special examination for the Licence to practise Midwifery, £10 10*s.* The examinations for these Licences are held in the week following the first Friday in February, May, and November.

The Membership.—Examinations for Membership are held in January, April, July, and October. The fee for the examination is £21 to Licentiates of the College, or £36 15*s.* to non-Licentiates. Further particulars can be obtained from the Registrar of the Royal College of Physicians of Ireland, Kildare-street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The Licence in Surgery.—Candidates who hold registrable surgical diplomas (including the Licence of the Apothecaries' Companies of London and Dublin granted since October, 1886) are admitted to examination without further evidence of study. Candidates who hold medical qualifications only (including the L.S.A. granted before October, 1886) will be required to produce certificates of two courses of lectures in Anatomy and Dissections, one course of Practical Histology, one course of lectures in Surgery, and one course of Operative Surgery. Candidates are examined in Surgery, Clinical Surgery, Operative Surgery on the subject, Surgical Appliances, and Ophthalmic Surgery. The examination is partly written, partly *vivâ voce*, and partly practical. The fee is £26 5*s.*, of which £5 5*s.* is retained by the College in the case of unsuccessful candidates.

Diploma in Midwifery.—A diploma in Midwifery is granted after examination to persons possessing a registrable qualification. Candidates must produce evidence of (*a*) attendance on a course of lectures on Midwifery and Diseases of Women and Children in some school recognised by the Council; (*b*) attendance on six months' practice in connexion with a recognised lying-in hospital or dispensary for lying-in women and children; and (*c*) of having conducted at least 30 labour cases. The fee for the examination is £15 15*s.*, of which £5 5*s.* is retained by the College in case the candidate is unsuccessful.

Fellowship Examinations.—A candidate for the Fellowship shall make application to the President and Council to be admitted to examination and if the Council decide to entertain that application it shall lie on the table for at least a fortnight for consideration before it is put to the Council for approval. All the required evidences of study or qualification, fees, and testimonials as to character must be submitted previously to the application being considered, and the candidate shall then, if approved by the Council, be admitted to the next Sessional examination or to a special examination if granted by the Council, at such date as the President may fix. In order that these regulations may be carried out candidates are required to lodge their applications complete with the Registrar at least one month before the date of examination. Sessional Fellowship examinations commence, so far as arrangements permit, on the third Mondays in February, May, and November. Special examinations may be granted at other times by the Council if they see fit, on sufficient cause being shown, except during the months of August and September. Candidates for the Fellowship examination are divided into two Grades: I., Licentiates or Graduates in Surgery of less than 10 years' standing; II., Licentiates or Graduates in Surgery of more than 10 years' standing. Students not either Licentiates or Graduates in Surgery are permitted to present themselves for the *Primary* examination under Grade I.

Grade I.—Candidates are required to pass two examinations—Primary and Final. Candidates may present *themselves for the Final* examination immediately after passing the Primary part, provided they have complied with the necessary regulations. The subjects for the Primary examination are (*a*) Anatomy, including Dissections; and (*b*) Physiology and Histology.

The *subjects* for the Final examination are (*a*) Surgery, including Clinical and Operative Surgery; and (*b*) Surgical Pathology.

Grade II.[5]—The subjects for examination are (*a*) Surgical Anatomy; (*b*) Surgery, including Clinical and Operative Surgery; and (*c*) Surgical Pathology.

Fees.—Grade I.:—For Licentiates of the College: for Primary examination, £15 15*s.*; for Final examination, £10 10*s.* For *Licentiates* in Surgery of other licensing bodies: *for* Primary examination, £26 5*s.*; for Final examination, £15 15*s.* For Students of the College: for Primary *examination*, £5 5*s.*; for Final examination, £21. For Students of other licensing bodies: for Primary examination, £10 10*s.*; for Final examination, £31 10*s.* Grade II.:—Licentiates of the College, £26 5*s.*; *Licentiates* in Surgery of other licensing bodies, £42; extra fee for Special examination, £10 10*s.*

In case of rejection £10 10*s.*, in addition to the special fee, if such has been paid, is retained by the College and is not allowed in the fees of re-examination.

A rejected candidate *will not be* again admitted to examination until *after* a period of three months.

Further particulars can be obtained *from the Registrar of* the College, Stephen's-green, West Dublin.

SOCIETY OF APOTHECARIES OF LONDON.

There are two examinations—Primary and Final. The Final examination is divided into *Section I.* and Section II. The Primary examination is held quarterly. Final examinations are held monthly. No *examinations* are held in the month of September.

The Primary examination *consists* of two parts. Part I. Elementary Biology; Chemistry, Chemical Physics, including the Elementary Mechanics of Solids and Fluids, Heat, Light, and Electricity; *Practical* Chemistry; and Materia Medica and Pharmacy. A synopsis indicating the range of the subjects in the examination will be *sent* with the regulations on application. Evidence of instruction in *these subjects* must be produced prior to examination. Part II. includes Anatomy, Physiology, and *Histology*. *This* examination cannot be passed before the completion of twelve months' Practical Anatomy with Demonstrations, and *these subjects* cannot be taken separately except in the event of the candidate having previously passed *in one*. Evidence must be produced of the candidate's course of *study*. A schedule for the Primary examination, to be obtained of the Secretary, must be signed by the *Dean* of the Medical School or other authority. Section I. of the Final examination consists of three parts. Part I. includes the Principles and Practice of Surgery, *Surgical* Pathology, and Surgical Anatomy, Operative Manipulation, Instruments, and Appliances. Part II. includes the Principles and Practice of Medicine, Pharmacology, *Pathology*, and Morbid Histology; Forensic Medicine, Hygiene, Theory and Practice of Vaccination; and Mental Diseases. Part III. includes Midwifery, Gynæcology, and Diseases of New-born Children *and* the Use of Obstetric Instruments and Appliances. *Section* I. of the Final examination cannot be passed before the expiration of 45 months after registration as a medical student, during which time not less than three winter sessions and two summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognised by the Society. Section II. of the Final examination consists of two Parts. Part I. Clinical Surgery; Part II. Clinical Medicine and Medical Anatomy. Section II. cannot be passed before the end of the fifth year.

The course of study for the *Primary examination* is as follows:—Elementary Biology, not less than three months; Chemistry and Chemical Physics, six months; Practical Chemistry, three months; Pharmacy and Dispensing, three months; Anatomy, six months; Practical Anatomy with Demonstrations, 12 months; Physiology, six months; Histology with Demonstrations, three months. The study of these subjects must be pursued at a Medical School recognised by the Society. *Instruction in Pharmacy* and Dispensing must be given by a registered medical practitioner or by a member of the Pharmaceutical Society by examination or in a public hospital, infirmary, or dispensary.

The course of study for the *Final examination, Section I.*, includes attendance on the Surgical and Medical Practice (with Post-mortem Examinations) at a hospital connected with a medical school for a period of one winter and one summer session; lectures on the Principles and Practice of Surgery, six months; Practical Surgery, three months; *Clinical* Surgical Lectures, nine months; Dressership, six months; Performance of Surgical Operations on the Dead Body; lectures on Principles and Practice of Medicine, six months; Pathology, three months; Clinical Medical *Lectures, nine* months; Clinical Clerkship, six months; Forensic Medicine, Hygiene, and Insanity, three months; Midwifery and Gynæcology, three months; Clinical Instruction in the same, three months; a course of Practical Midwifery; attendance on 20 Midwifery cases. The course of medical study must extend over the above-mentioned period of 45 months and the offices of dresser or clinical clerk must be held at a hospital, or other institution recognised by the Society.

The course of study for the *Final examination, Section II.*, includes either attendance on the Practice of Medicine and Surgery at a hospital or other institution recognised by the Society for a further period of 12 months, or six months as above and six months as a pupil of a registered practitioner holding a public medical or surgical appointment, or attendance at two special hospitals for six months (three months at each hospital), and for six months at a general hospital, all such hospitals to be recognised by the Society. Evidence shall also be given of practical instruction in Infectious Diseases and in Mental Diseases (at a lunatic asylum or in the wards of an institution containing a special ward set apart for the treatment of mental diseases), and in any two of the following subjects: Ophthalmic Surgery, Laryngology with Rhinology and Otology, Dermatology, and Diseases of Children. No candidate is eligible for the *Final* examination who has not completed the curriculum prescribed by the Society, in evidence of which a *schedule*, to be obtained of the Secretary, must be produced, signed by the Dean of the Medical School or other authority. Prior to Section II. of the Final examination the candidate must produce certificates: (1) of being 21 years of age; (2) of moral character; (3) of the *course of medical* study; (4) of proficiency in vaccination signed by a teacher authorised by the Local Government *Board*; *and* (5) of instruction in the administration of anæsthetics. Candidates intending to present themselves for examination are required to give 14 days' notice. A form for this purpose will be sent on application.

Licentiates are eligible for the Membership of the Society of Apothecaries. Particulars may be obtained on application to the clerk.

The fee for the Licence is 20 guineas. The examination offices are open from 10 A.M. to 4 P.M.; on Saturdays from 10 A.M. to 1 P.M. All letters should be addressed to the *Secretary*, Court of Examiners, Society of Apothecaries of *London*, Blackfriars, E.C.

APOTHECARIES' HALL OF IRELAND.

The Licence of this Hall is granted to students who present certificates of having fully completed the course of study as laid down in the curriculum and who pass the necessary examinations. The diploma of the *Apothecaries' Hall* of Ireland entitles the holder to be registered as a practitioner in medicine, surgery, and midwifery, with also the privileges of the Apothecary's Licence. There are four professional examinations, the total fees for which amount to 21 guineas. Ladies are eligible for the diploma. Registered medical practitioners will receive the diploma of the Hall upon passing an examination in the subject or subjects not covered by their previous qualifications and on paying a fee of 10 guineas. If medicine or surgery be required five guineas extra will be charged.

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[5] On and after Jan. 1st, 1910, all Examinations *for* the Fellowship will be conducted under the scheme now known as Grade I. No candidate after the *above date* will, in any circumstances, be admitted to examination for the Fellowship of this College under the Scheme now known as Grade II., which will then cease to be used.

The fees payable for each examination are as follows:—first professional, £5 5*s.*; second, £5 5*s.*; third, £5 5*s.*; final examination, £6 6*s.* If a candidate gives three clear days' notice of his inability to attend he may present himself at the ensuing examination without a further fee. A candidate is allowed for each professional examination which he has completed at any other licensing body except the final. If he has passed in some only of the subjects in a given examination he has to pay the whole of the fee for that examination. The fees for re-examination are for each subject £1 1*s.*, except in the subjects of chemistry, pharmacy, surgery, medicine, anatomy, pathology, physiology, and ophthalmology, the fees for which are two guineas each. The fee for the third and final or final alone is £15 15*s.* when the other examinations have been taken elsewhere. All examination fees are to be lodged in the National Bank of Ireland, College Green, to the credit of the Examination Committee. Applications and schedules, together with bank receipt for the fee, must be lodged with the Registrar, Apothecaries' Hall, 40, Mary-street, Dublin, at least 14 clear days before the first day of examination.

There are four examinations—first, second, third, and final. They are held quarterly on the third Monday in January, April, July, and October. The first examination comprises biology, physics, theoretical and practical chemistry (with an examination at the bench). Pharmacy is put down in this examination, but it may be taken at any of the first three examinations. Candidates holding a Pharmaceutical licence are exempt from this subject. The second examination comprises anatomy of the whole body (including practical dissections), physiology and practical histology. The third examination comprises pathology, materia medica, medical jurisprudence, and hygiene. The final examination comprises medicine, including clinical and oral, surgery, including operations, clinical and oral, ophthalmic surgery, including clinical and oral, midwifery, and gynæcology.

Candidates who desire to obtain the Letters Testimonial of the Apothecaries' Hall in Ireland must before proceeding to the final examination produce evidence of having been registered as medical students for 57 months, also of having attended courses of instruction as follows:—one course each (of six months) of the following: anatomy (lectures), chemistry (theoretical), midwifery, practice of medicine, physiology, surgery, and dissections, two courses of six months each. Courses of three months: materia medica, medical jurisprudence, chemistry (practical), practical physiology and histology, operative surgery, physics, clinical ophthalmology, biology, clinical instruction in mental disease, pathology, and a course in vaccination. Medico-chirurgical hospital, 27 months to be distributed, at the student's own discretion, over the last four years of his study. The candidate may substitute for nine months in this hospital attendance, six months as a resident pupil. He will be required to present a certificate of having taken notes of at least six medical and surgical cases recorded under the supervision respectively of a physician and surgeon of his hospital. Three months' study of fever—which may be included in his 27 months' hospital attendance—in a hospital containing fever wards, and having taken notes of five cases of fever—viz., either typhus fever, typhoid fever, scarlet fever, small-pox, or measles. Six months' practical midwifery and diseases of women during the winter or summer of the third or the fourth year at a recognised lying-in hospital or maternity. Three months' practical pharmacy in a recognised clinical hospital or a recognised school of pharmacy, or a year in the compounding department of a licentiate apothecary or a pharmaceutical chemist. Each candidate before receiving his diploma must produce evidence that he has attained the age of 21 years. Each candidate must produce evidence of having before entering on medical studies passed a preliminary examination in general education recognised by the General Medical Council and of having been registered by that Council as a student in medicine. Certificates of medical study will not be recognised if the commencement of the course to which the certificate refers dates more than 15 days prior to such registration, except in the subjects of physics or biology. This registration is not undertaken by the Hall. The details of the course of education required and syllabus of the examinations will be supplied on application to the Registrar at 40, Mary-street, Dublin.

UNIVERSITY OF BRUSSELS.

British and other practitioners holding registrable qualifications are admitted to the examination for the Doctorate of the University of Brussels without further curriculum. It is essentially a practitioner's examination and is separate from that intended for the Belgian students who take up the medical curriculum of the University. The fees are—For matriculation, £8 12*s.*; for 1st Part, £4 4*s.*; for 2nd Part, £4 8*s.*; for 3rd Part, £4 8*s.*; for legalisation of diploma, 8*s.*—total, £22. Candidates who have paid in advance the fees for the three examinations, and are unsuccessful in the first, recover the fees paid for the second and third; those who fail in the second recover the fees paid for the third examination. Unsuccessful candidates are allowed to come up again three months after rejection on payment of examination fees only, provided this second appearance be in the course of the same academical year (October 1st to June 30th), otherwise they must renew the payment of the matriculation fee of £8 12*s.* The examination consists of three parts, viz.—1st Part: General Medicine; Materia Medica and Pharmacology; General Surgery; and Theory of Midwifery. 2nd Part: General Therapeutics; Pathology and Morbid Anatomy, with use of the microscope; Special Therapeutics and Medicine of Internal Diseases, including Mental Diseases; and Special Surgery. 3rd Part: Public and Private Hygiene; Medical Jurisprudence; Clinical Medicine; Clinical Surgery; examination in Operative Surgery, consisting of some of the usual operations on the dead subject—viz., Amputation, Ligature of an Artery, &c.; Ophthalmology; examination in Midwifery, consisting in obstetrical operation on the mannikin (model of pelvis); and examination in Regional Anatomy with Dissection. The time required for the three examinations seldom exceeds ten days, and is usually less. Candidates have the option of passing each part separately or of taking the three together, and the latter is the usual course; also of demanding a written examination on payment of an additional fee of one guinea for each part, a rule of which candidates rarely or never avail themselves. The examinations, which are *vivâ voce*, begin on the first Tuesday in November, December, February, May, and June. Candidates should appear with their diplomas at the Secretary's office not later than 2 P.M. on the day preceding the examination. Most of the examiners speak English and those who do not examine through the medium of an interpreter. Great importance is attached to practical knowledge, but candidates must also possess sound theoretical knowledge, the standard required varying with the subject. Pathological and other specimens are not usually shown. There are in England at present over 600 graduates holding this degree, and a British Association of Brussels Medical Graduates has been in existence for many years. Applications should be made to the Secrétariat, 14, Rue des Sols, Bruxelles.

METROPOLITAN MEDICAL SCHOOLS.[1]

ST. BARTHOLOMEW'S HOSPITAL.—The clinical practice of the hospital is large. The hospital contains 744 beds, of which 674 are for patients in the hospital at Smithfield and 70 for convalescent patients at Swanley.

This hospital receives within its walls more than 7000 in-patients annually and its out-patients and casualties amount to more than 126,000 annually.

Special departments have been organised for Diseases of Women and Children, the Eye, Ear, Larynx, and Skin, as well as for Orthopædic and Dental Surgery in which Chief Assistants and Clinical Assistants are appointed annually. There is an Electrical Department, including X Ray, &c. Surgical operations take place every day at 1.30 P.M. and Surgical Consultations are held on Thursdays at the same hour. The physicians and surgeons deliver clinical lectures weekly *during both the winter and the summer sessions.* Clinical Lectures on all special subjects are also given. The visits of the physicians and surgeons are made at 1.30.

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[1] For Scholarships see p. 657 *et seq.*

Ten house physicians and ten house surgeons are appointed annually. During their first six months of office they act as "junior" house physicians and house surgeons and receive a salary of £25 a year. During their second six months they become "senior" house physicians and house surgeons and are provided with rooms by the hospital authorities and receive £80 a year as salary. A resident midwifery assistant of an ophthalmic house surgeon and a house surgeon for disease of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two assistant anæsthetists are appointed annually, and receive salaries of £120 and £100 respectively, with rooms. An extern midwifery assistant is appointed every three months, and receives a salary of £80 a year. The clinical clerks, the obstetric clerks, the clerks to the medical out-patients, the dressers to the surgical in-patients and to the out-patients, and the dressers in the special departments are chosen from the students. All the appointments are now free. A residential college is attached to the hospital.

New Buildings.—The new buildings that have been recently opened comprise residential quarters for the resident staff, new casualty, medical, surgical, and special out-patient departments, new casualty wards, dispensary, and clinical lecture theatre. A new chemical laboratory has been added, available for the Medical School, and affording facilities for instruction in Public Health. A second new Block which will be devoted to Pathology will be opened in October.

The Medical School Buildings include three large lecture theatres, a large dissecting room, a spacious library (containing 13,000 volumes), a well-appointed museum of anatomy, physiology, comparative anatomy, materia medica, botany, and pathological anatomy. The pathological museum is the most complete in the kingdom. There are laboratories for chemistry, physiology, pathology, chemical pathology, pharmacology, physics, public health, and biology, giving ample accommodation in every department.

Special Classes for the Final F.R.C.S. are held twice yearly.

Instruction in Preliminary Science is given to University of London students in chemistry, biology, and physics throughout the year.

Laboratory Instruction for the D.P.H. is provided during the winter and summer sessions, and elementary instruction in Bacteriology is also given throughout the year.

The recreation ground of 10 acres is at Winchmore Hill for the use of the members of the Students' Union, which all students are expected to join. Additional rooms for the Students' Union have recently been added, viz.: (*a*) a large reading and smoking room; (*b*) a committee and writing room; and (*c*) luncheon and dining hall. These are in the new block.

Staff.—Consulting Physicians: Sir William S. Church, Bart., K.C.B., Dr. Hensley, Sir Lauder Brunton, Bart., F.R.S., Dr. Gee, and Sir Dyce Duckworth. Consulting Surgeons: Sir Thomas Smith, Bart., K.C.V.O., Mr. Willett, Mr. Butlin, Mr. Marsh, and Mr. Langton. Consulting Ophthalmic Surgeon: Mr. Henry Power. Physicians: Dr. Norman Moore, Dr. Samuel West, Dr. Ormerod, Dr. Herringham, and Dr. Tooth, C.M.G. Surgeons: Mr. Harrison Cripps, Mr. Bruce Clarke, Mr. Anthony Bowlby, C.M.G., Mr. Lockwood, and Mr. D'Arcy Power. Assistant Physicians: Dr. Garrod, Dr. Calvert, Dr. Morley Fletcher, Dr. Drysdale, and Dr. Horton-Smith-Hartley. Assistant Surgeons: Mr. Waring, Mr. Eccles, Mr. Bailey, Mr. Rawling, and Mr. Gask. Physician Accoucheur: Dr. Champneys. Physician Accoucheur with charge of out-patients: Dr. W. S. A. Griffith. Surgeon to Obstetric Wards: Mr. Harrison Cripps. Assistant Physician Accoucheur: Dr. Williamson. Ophthalmic Surgeons: Mr. Jessop and Mr. Holmes Spicer. Surgeon, Throat and Nose *Department*: Mr. W. D. Harmer. Assistant Surgeon, Throat and Nose Department: Mr. F. A. Rose. Aural *Surgeon*: Mr. Cumberbatch. Assistant Aural Surgeon: Mr. C. E. West. Dental Surgeons: Mr. Paterson and Mr. Ackland. Assistant Dental Surgeons: Dr. Austen and Mr. Coleman. Medical Officer in charge of Electrical Department: Dr. *Lewis* Jones. Assistant Medical Officer to Electrical Department: Dr. H. Walsham. Pathologist: Dr. Andrewes. Administrators of Anæsthetics: Mr. Gill and Mr. Cross. Assistant Administrators of Anæsthetics: Mr. Boyle and Mr. Trewby. Medical Registrars: Dr. Horder and Dr. Langdon Brown. *Surgical Registrar:* Mr. *Gordon* Watson. *Casualty Physicians*: Dr. Hudson and Dr. Pritchard.

Lectures and Demonstrations.—Medicine: Dr. Norman Moore and Dr. S. West. Clinical Medicine: Dr. Norman Moore, Dr. S. West, Dr. J. A. Ormerod, Dr. W. P. Herringham, and Dr. H. H. Tooth. Practical Medicine: Dr. J. H. Drysdale and Dr. Horton-Smith-Hartley. Surgery: Mr. W. Bruce Clarke and Mr. D'Arcy Power. Clinical Surgery: Mr. Harrison Cripps, Mr. W. Bruce Clarke, Mr. Anthony Bowlby, Mr. C. B. Lockwood, and Mr. D'Arcy Power. Practical Surgery: Mr. L. B. Rawling and Mr. G. E. Gask. Operative Surgery: Mr. R. C. Bailey, Mr. W. McAdam Eccles, and Mr. L. B. Rawling. Midwifery and the Diseases of Women and Children: Dr. F. H. Champneys and Dr. W. S. A. Griffith. Practical Midwifery: Dr. J. A. Willett. Pathology: Dr. F. W. Andrewes. Bacteriology (advanced): Dr. E. E. Klein. Chemical Pathology: Dr. A. E. Garrod. Morbid Anatomy and Post Mortems: Dr. T. J. Horder, Dr. Langdon Brown, and Mr. Watson. Practical Pathology: Dr. H. Thursfield, Mr. R. C. Elmslie, Dr. Pritchard, and Mr. W. G. Ball. Ophthalmic Medicine and Surgery: Mr. W. H. Jessop. *Diseases of the Eye*: Mr. W. H. Jessop and Mr. W. Holmes Spicer. Ophthalmic Demonstrations: Mr. W. Holmes Spicer. Diseases of the Ear: Mr. A. E. Cumberbatch and Mr. C. E. West. Diseases of the Larynx: Mr. W. D. Harmer and Mr. F. E. Rose. Orthopædic Surgery: Mr. W. McAdam Eccles. Diseases of the Skin: Dr. J. A. Ormerod. Diseases of Children: Dr. A. E. Garrod and Dr. H. Morley Fletcher. Medical Electricity and Electro-therapeutics: Dr. H. Lewis Jones. Mental Diseases and Insanity: Dr. T. Claye Shaw. Dental Surgery: Mr. W. B. Paterson and Mr. R. C. Ackland. Anæsthetics: Mr. R. Gill, Mr. W. F. Cross, Mr. H. E. G. Boyle, and Mr. F. Trewby. Forensic Medicine: Dr. W. P. Herringham. Descriptive and Surgical Anatomy: Dr. C. Addison. Practical Anatomy: Dr. C. Addison, Mr. R. B. Etherington-Smith, Mr. H. W. Wilson, and Mr. R. F. Moore. General Anatomy and Physiology: Dr. J. S. Edkins. Practical Physiology: Dr. J. S. Edkins, Dr. W. Langdon Brown, and Dr. C. M. H. Howell. Materia Medica, Pharmacology, and Therapeutics: Dr. James Calvert. Pharmacology: Dr. F. A. Bainbridge. Biology and Comparative Anatomy: Dr. T. W. Shore. Practical Biology: Dr. T. W. Shore, Mr. P. C. V. Jones, and Mr. W. Steuart. Chemistry: Dr. W. H. Hurtley. Practical Chemistry: Dr. W. H. Hurtley and Mr. K. S. Caldwell. *Physics*: Mr. F. Womack. Practical Physics: Mr. F. Womack and Mr. Lloyd Hopwood. Botany: Rev. G. Henslow. Public Health: Dr. George Newman. Sanitary Law: Dr. G. Newman. Museum Curator: Dr. F. W. *Andrewes. Junior Curator:* Dr. W. P. S. Branson. Dean of the School: Dr. T. W. Shore. Warden of College: Mr. G. E. Gask.

CHARING CROSS HOSPITAL.—This hospital and convalescent home contain 257 beds, a certain proportion of which are set aside for the diseases of children and those special to women. The number of patients treated during 1907 amounted to 23,809—viz., 2162 in-patients and 21,647 out-patients, of whom 9558 were casualties. There were 75,080 out-patient attendances. The following hospital appointments are open to students. Clinical Pathologist and Bacteriologist, salary £150 per annum. Curator and Pathologist (annual), £100. Assistant Anæsthetist, £60. Medical and Surgical and Obstetrical Registrars (annual), £40 each. Resident Medical Officer (annual), £100, with board and residence. Six House Physicians, six House Surgeons, and two Resident Obstetric Officers, appointed each year on the recommendation of the committee after competitive examinations, are provided with board and residence in the hospital. Clinical clerks and dressers are appointed in all the general and special departments of the hospital. Arrangements can be made for students who have not entered for the entire curriculum to hold these posts. In the medical school demonstratorships and assistant demonstratorships in various subjects are open to students *of the school* and carry honoraria. Total fees, including students' club:—For general students: 1. Composition fee, payable in one sum on joining, 115 guineas. 2. Sessional payment system: Entrance fee, 10 guineas. In *addition* a sum of 15 guineas must be paid at the beginning of every Winter Session and one of 10 guineas at the beginning of every Summer Session so long as the student remains in the school. For Dental students: The fees for the two years' curriculum required by dental students may be paid: (*a*) in one sum of

55 guineas on entry; (*b*) in two instalments, one of 31 guineas on entry and the second of 30 guineas at the end of the first twelve months. General students pay proportionally lower fees and are admitted without additional fee to the courses of Clinical Medicine and Surgery. They are entitled to compete for the Scholarships which are awarded annually to the value of £500, including two University Scholarships, value 50 guineas and 40 guineas respectively, Gold Medal, Huxley, and Pereira Prizes.

Classes for the Preliminary Scientific and Intermediate Examinations of the University of London and for the Primary F.R.C.S. are held at this Medical School. There are also special classes for the practical work for the Department of Public Health and for the Primary F.R.C.S.

Staff.—Consulting Physicians: Dr. Green, Dr. Bruce, and Dr. Abercrombie. Consulting Obstetric Physician: Dr. J. Watt Black. Physicians: Dr. Mott, Dr. Galloway, and Dr. Hunter. Assistant Physicians: Dr. Bosanquet, Dr. Fenton, Dr. Forsyth, and Dr. Jewesbury. Consulting Surgeons: Mr. Barwell, Mr. Bloxam, and Mr. Morgan, C.V.O. Surgeons: Mr. Boyd, Mr. Waterhouse, and Mr. Wallis. Surgeon to Out-patients: Mr. Gibbs. Assistant Surgeons: Mr. Clogg and Mr. Daniel. Obstetric Physician: Dr. Amand Routh. Obstetric Physician with care of Out-patients: Dr. T. W. Eden. Physician for Diseases of the Skin: Dr. Galloway. Assistant Physician for Diseases of the Skin: Dr. MacLeod. Physician to the Electrical Department: Dr. Ironside Bruce. Surgeon for Nose, Throat, and Ear: Mr. Waggett. Ophthalmic Surgeon: Mr. Treacher Collins. Orthopædic Surgeon: Mr. Fairbank. Surgeon Dentist: Mr. J. F. Colyer. Physician for Mental Diseases: Dr. Mercier.

Lecturers: Winter Session.—Anatomy: Dr. Alexander Macphail. Bacteriology: Mr. Leathem. Biology and Comparative Anatomy: Dr. H. W. Marett Tims. Chemistry and Physics: Dr. H. Forster Morley. Dental Surgery: Mr. J. F. Colyer. Medicine: Dr. James Galloway and Dr. F. W. Mott (Nervous Diseases). Ophthalmology: Mr. E. Treacher Collins. Physiology and Histology: Mr. C. F. Myers-Ward. Practical Anæsthetics: Mr. C. Carter Braine. Practical Anatomy: Dr. Alexander Macphail. Practical Hygiene: Mr. Leathem and Dr. H. Forster Morley. Practical Medicine: Dr. Bosanquet and Dr. Forsyth. Diseases of Women: Dr. Amand Routh and Dr. T. W. Eden. Practical Midwifery: Dr. T. W. Eden. Practical Physiology: Mr. C. F. Myers-Ward. Practical Surgery: Mr. F. C. Wallis, Mr. H. S. Clogg, Mr. Peter Daniel, and Mr. Fairbank. Operative Surgery: Mr. Charles Gibbs. Psychological Medicine: Dr. Mercier. Surgery: Mr. H. F. Waterhouse. Tropical Medicine: Sir Patrick Manson, K.C M.G.

Summer Session.—Anatomy: Dr. Alexander Macphail. Anæsthetics: Mr. C. Carter Braine. Dental Surgery: Mr. J. F. Colyer. Forensic Medicine: Dr. Jewesbury. Materia Medica and Practical Pharmacy: Dr. Fenton. Midwifery: Dr. Amand Routh. Diseases of Women: Dr. Amand Routh and Dr. T. W. Eden. Pathology: Dr. W. Hunter. Pharmacology and Therapeutics: Dr. Fenton. Practical Chemistry: Dr. H. Forster Morley. Practical Medicine: Dr. Bosanquet and Dr. Forsyth. Practical Physiology: Mr. C. F. Myers-Ward. Public Health: Dr. H. T. Bulstrode. Toxicology: Dr. H. Forster Morley. Roentgen Ray: Dr. Ironside Bruce. Dean of the Medical School: Mr. Frederick C. Wallis.

ST. GEORGE'S HOSPITAL.—This hospital contains 336 beds, of which 180 are allotted to surgical and 150 to medical cases. One ward is set apart for Diseases Peculiar to Women. Children's beds are placed in all the women's wards. Two wards are allotted to ophthalmic cases. There are also 100 beds at the Convalescent Hospital at Wimbledon.

The Winter Session commences on Oct. 1st but students can enter at any time or for any particular course. The Hospital and Medical School are situated at Hyde Park-corner and are readily accessible from all parts of London. Entrance Scholarships in Science and Arts and University Scholarships in Anatomy and Physiology are awarded at the commencement of each Winter Session. Prizes: The William Brown Exhibition of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the hospital. As the scientific and clinical parts of the medical student's curriculum are entirely separate there is no longer any object in conducting the scientific courses upon hospital premises. The entire teaching and laboratories are therefore now devoted to purely clinical subjects, as in other universities, to the great advantage of students in their fourth and fifth years of study. Arrangements have been made with the University of London for students who enter during the first, second, or third year of the curriculum as students of St. George's to carry out the necessary courses of instruction at either University College or King's College. Students therefore have the unrivalled advantages of the lectures and practical classes of these Colleges of the University during the preliminary and intermediate portions of their studies, and then complete their course, without payment of any entrance fee, in a school entirely devoted to Clinical work. Students are permitted to enter the wards of the hospital at any hour. Dresserships to the surgeons and clinical clerkships to the physicians are open without fee to all students of the hospital. Eight house physicians and eight house surgeons are appointed annually All house appointments are open without fee to every perpetual student of the hospital and are made strictly in accordance with the merits of the candidates. Special attention is directed to the following paid appointments, amongst others, which are open to students after they have held house office:—Medical Registrarship at £200 per annum; Surgical Registrarship at £200; Curatorship of the Museum at £200; Assistant Curatorship at £100; Obstetric Assistantship (Resident) at £50; the post of Resident Anæsthetist at £100; the post of Senior Anæsthetist at £50; the posts (2) of Junior Anæsthetists, each at £30. Great attention is paid by members of the staff to individual teaching. A number of special courses are given in which the requirements of university and other examinations receive careful attention. The following may be cited as examples:—(1) Elementary Bacteriology; (2) Advanced Bacteriology; (3) Clinical Pathology; (4) Systematic Pathology; (5) Histological Pathology and Morbid Anatomy; (6) Pharmacology; (7) Surgical Anatomy; (8) Advanced Anatomy and Physiology; (9) Operative Surgery; (10) Public Health; and (11) Tropical Diseases. Special classes are held by members of the staff for all examinations. The school possesses an Amalgamation Club, with well-fitted reading-, smoking-, and luncheon-rooms on the hospital premises. Students have the advantage of a complete library of medical and scientific books which is kept up-to-date. A register of accredited apartments and a list of medical men and others willing to receive St. George's men as boarders may be seen on application to the Dean. Further information may be obtained from the Dean of the Medical School.

Staff.—Consulting Physicians: Sir Henry Pitman, Dr. W. H. Dickinson, Dr. T. T. Whipham, Sir Isambard Owen, and Dr. Ewart. Consulting Surgeons: Mr. Pick, Mr. Haward, Sir W. Bennett, and Mr. Marmaduke Sheild. Consulting Ophthalmic Surgeons: Mr. Brudenell Carter and Mr. Adams Frost. Consulting Aural Surgeon: Sir William Dalby. Consulting Dental Surgeon: Mr. Winterbottom. Physicians: Dr. H. D. Rolleston, Dr. Ogle, Dr. Latham, and Dr. Collier. Obstetric Physician: Dr. W. R. Dakin. Assistant Physicians: Dr. Spriggs, Dr. Jex-Blake, and Dr. Golla. Assistant Obstetric Physician: Dr. A. F. Stabb. Physician to the Skin Department: Dr. W. S. Fox. Physician Anæsthetist: Dr. F. Hewitt. Surgeons: Mr. C. T. Dent, Mr. G. R. Turner, Mr. F. Jaffrey, and Mr. Pendlebury. Ophthalmic Surgeon: Mr. H. B. Grimsdale. Assistant Surgeons: Mr. T. Crisp English, Mr. L. Jones, and Mr. W. F. Fedden. Surgeon to the Throat Department: Mr. H. S. Barwell. Aural Surgeon: Mr W. C. Bull. Dental Surgeon: Mr. N. G. Bennett. Assistant Dental Surgeon: Mr. Morley.

Lecturers.—Baillie Lecturer in Physic: Dr. Howship Dickinson. Thomas Young Lecturer in Medicine: Professor William Osler. Clinical Medicine: the Physicians and Assistant Physicians. Clinical Surgery: the Surgeons and Assistant Surgeons. Principles and Practice of Physic: Dr. Rolleston, Dr. Ogle, Dr. Latham, and Dr. Collier. Tropical Medicine: Dr. T. S. Kerr. Principles and Practice of Surgery: Mr. Dent, Mr. Turner, Mr. Jaffrey, and Mr. Pendlebury. Midwifery and Diseases of Women and Children: Dr. Dakin. Assistant Lecturer on Midwifery and Diseases of Women and Children: Dr Stabb. Vaccination: Mr. E. Climson Greenwood. Insanity and Clinical Instructor in Insanity: Dr.

Seymour Tuke. Ophthalmic Surgery: Mr. Grimsdale. Diseases of the Skin: Dr. Fox Aural Surgery: Mr. Bull. Diseases of the Throat and Nose: Mr. Barwell. Dental Surgery: Mr. Norman Bennett. Assistant Lecturer on Dental Surgery: Mr. Morley. Practical Medicine: Dr. Jex-Blake. Practical Surgery: Mr. English. Operative Surgery: Mr. L. Jones. Surgical Anatomy: Mr. Fedden. Edward Jenner Lecturer on Public Health: Mr. C. M. Fegen. Hygiene: Dr. H. Spitta. Forensic Medicine and Toxicology: Dr. Trevor. Toxicological Chemistry: Mr. Gardner. Pathological Chemistry: Dr Spriggs. Pathology: Dr. Trevor. Bacteriology: Dr. Slater. Assistant Lecturer on Bacteriology and Lecturer on Clinical Pathology: Dr. Harold Spitta. Materia Medica and Therapeutics: Dr. Cyril Ogle. Pharmacology: Dr. Spriggs Anæsthetics: Dr. Frederic Hewitt, M.V.O. Teacher of Anæsthetics: Dr. Blumfeld. Assistant Teachers of Anæsthetics: Dr. Powell and Mr. Longhurst. Advanced Anatomy: Mr. Jaffrey. Advanced Physiology and Histology: Dr. Buckmaster. Advanced Chemistry and Pharmacological Chemistry: Mr. Gardner. Teacher of Skiagraphy: Dr. Simmons. Curator of the Museum: Dr. Trevor. Assistant Curator of the Museum and Demonstrator in Pathology: Mr J. A. Torrens. Obstetric Tutor: Dr. G. F. Darwall Smith Curator of the Peirse-Duncombe Laboratory: Dr. Harold Spitta. Demonstrator in Materia Medica: Dr. A. Manuel. Medical Tutor: Dr F. W. Higgs. Surgical Tutor: Mr Ivor Back. Dean of the Medical School: Dr. E I. Spriggs.

GUY'S HOSPITAL.—This hospital, founded by Thomas Guy in 1721 for the reception of 400 patients, and enlarged through the aid of a large bequest from the late William Hunt, contains at the present time 602 beds.

House physicians, house surgeons, out-patient officers and assistant house surgeons, obstetric residents, ophthalmic house surgeons, clinical assistants, clerks to anæsthetists, surgeons' and assistant surgeons' dressers, surgical and medical clinical clerks, post-mortem clerks, extern obstetric attendants, and dressers and clerks in the special departments are appointed from among the students upon the recommendation of the medical council according to merit. The house physicians, of whom there are four, hold office for six months each. The out-patient officers, who hold office for three months, attend in the out-patient or casualty department during the week and see all the cases not seen by the assistant physician of the day. The house physicians have the care of the patients in the medical wards and attend to all emergencies arising in the absence of the physicians. They are provided with board and lodging in the college free of expense. The house surgeons, of whom there are four, hold office for six months each and are provided with board and lodging in the college free of expense. The Surgical Casualty Department is in charge of two assistant house surgeons and there are four out-patient officers appointed each three months. The surgeons' dressers are selected from those students who have completed their third winter session and have been most diligent in the junior appointments. They hold office for three or six months. Six are attached to each surgeon and during their weeks of special duty they are provided with board and lodging in the hospital free of expense. The college stands upon a site fronting the east gate of the hospital and is connected with it by a subway. The building serves as a Residential College for Students and at the same time provides accommodation for the Students' Club.

Medical and Surgical Staff.—Consulting Physicians: Sir Samuel Wilks, Bart., Dr. F. W. Pavy, Dr. P. H. Pye-Smith, Dr. J. F. Goodhart, and Dr. F. Taylor. Consulting Surgeons: Mr. Thomas Bryant, Sir H. G. Howse, Mr. W. H. A. Jacobson, Mr. R C. Lucas, and Mr Golding Bird. Consulting Obstetric Physician: Dr. A. L. Galabin. Consulting Physician for Mental Diseases: Dr. G. H. Savage. Consulting Aural Surgeon: Mr. W. Laidlaw Purves. Consulting Anæsthetist: Mr. Tom Bird. Consulting Ophthalmic Surgeons: Mr. C. Higgens and Mr. W. A. Brailey. Consulting Dental Surgeon: Mr. Newland-Pedley. Physicians and Assistant Physicians: Dr. W. Hale White, Dr. G. Newton Pitt, Sir Cooper Perry, Dr. L. E. Shaw, Dr. J. Fawcett, Dr. A. P. Beddard, Dr. H. S French, and Dr. Hertz. Surgeons and Assistant Surgeons: Mr. Charters J. Symonds, Mr. W. Arbuthnot Lane, Mr. L. A. Dunn, Sir Alfred Fripp, C.B., K.C.V.O., Mr. F. J. Steward, Mr. Fagge, Mr. R. P. Rowlands, and Mr. Philip Turner. Obstetric Physicians: Dr. P. Horrocks and Mr. J. H. Targett. Assistant Obstetric Physician: Mr. G. Bellingham Smith. Ophthalmic Surgeons: Mr. H. L. Eason and Mr. A. W. Ormond. Physician in Charge of Skin Department: Sir Cooper Perry. Physician for Mental Diseases: Dr. M. Craig. Surgeon in Charge of Throat Department: Mr. F. J. Steward. Surgeon in Charge of Aural Department: Mr. C. H. Fagge. Dental Surgeons: Mr. W. A. Maggs, Mr. R. Wynne Rouw, Mr. H. L. Pillin, and Mr. M. F. Hopson. Anæsthetists: Mr. G. Rowell, Dr. H. F. Lancaster, Mr. C. J. Ogle, Mr. W. M. Mollison, Mr. A. R. Thompson, and Mr. R. Davies-Colley. Medical Registrars and Tutors: Mr. H. C. Cameron and Mr. C H. Rippmann. Obstetric Registrar and Tutor: Mr. R. Davies-Colley. Surgical Registrars and Tutors: Mr. A. S. Bankart and Mr. T. B. Layton. Actino-Therapeutic Department: Dr. C. E. Iredell. Radiographers: Mr. E. W. H. Shenton, Dr. A. E. Jordan, and Dr. C. J. Morton. Bacteriologist to the Hospital: Dr. W. H. Eyre. Resident Surgical Officer: Mr. S. W. Daw. Hon. Librarian, Wills Library: Dr. L. E. Shaw. Lying-in Charity: Mr. Targett and Mr. Bellingham Smith. Dean of the Medical School: Dr. H. L. Eason. Warden of the College: Mr. W. M. Mollison, M.C.

Lecturers and Demonstrators.—Clinical Medicine: the Physicians and Assistant Physicians. Clinical Surgery: the Surgeons and Assistant Surgeons. Medicine: the Physicians. Practical Medicine: Mr. H. C. Cameron and Mr. C. H. Rippmann. Surgery: Mr. Symonds, Mr. Lane, Mr. Dunn, and Sir Alfred Fripp. Operative Surgery: Mr. R P. Rowlands and Mr. P. Turner. Practical Surgery: Mr. Bankart and Mr. T. B. Layton. Midwifery and Diseases of Women: Dr. Horrocks and Mr. Targett. Practical Obstetrics: Mr. Davies-Colley. Mental Diseases: Dr. Craig. Ophthalmic Surgery: Mr. Eason. Dental Surgery: Mr. Wynne Rouw. Aural Surgery: Mr. Fagge. Diseases of the Skin: Sir Cooper Perry. Diseases of the Throat: Mr. Steward. Anæsthetics: Mr. Rowell. Hygiene and Public Health: Dr. R. King Brown. Pathology: Dr. A. E. Boycott. Gordon Lecturer on Experimental Pathology: Dr. Boycott and Dr. Hertz. Morbid Anatomy: Dr. Fawcett and Dr. French. Morbid Histology and Bacteriology: Dr. Eyre and Dr. Boycott. Medical and Surgical Pathology Classes: Dr. Fawcett and Mr. Steward. Bacteriology: Dr. Eyre. Practical Bacteriology: Dr. Eyre. Forensic Medicine: (vacant). Anatomy: Mr. Steward and Mr. Fagge. Practical Anatomy: Mr. A. R. Thompson, Mr. W. M. Mollison, and Mr. Hughes. Physiology: Dr. Pembrey. Practical Physiology: Dr. Pembrey, Mr. J. H. Ryffel, B.C., and Mr. P. P. Laidlow, B.C. Materia Medica and Therapeutics: Dr. A. P. Beddard. Practical Pharmacy: the Hospital Pharmacist. Chemistry: Dr. Wade. Practical Chemistry: Dr. Wade, Mr. Ball, and Mr. Merriman. Experimental Physics: Dr. Fison and Mr. Merriman. Biology: Mr. Assheton, Dr. Stevens, and Mr. Hughes. Psychology: Dr. Craig.

KING'S COLLEGE AND HOSPITAL.—The Faculty of Medicine at King's College is now divided into two parts; the first is concerned with Preliminary and Intermediate subjects and instruction on these is given in the College laboratories. This department is now designated Faculty of Science (Medical Division); the second deals with the Advanced or Final subjects of the curriculum, instruction on which is given at the hospital, except in subjects like Bacteriology where laboratory courses are necessary.

In the Faculty of Science (Medical Division) the following are the:—

Lecturers on Preliminary and Intermediate Subjects.—Anatomy: Dr. P. Thompson (Professor), Dr. C. J. Jenkins (Lecturer), and Mr. J. E. S. Frazer (Demonstrator). Physiology: Dr. W. D. Halliburton (Professor), Dr. H. W. Lyle (Lecturer). Dr. O. Rosenheim (Lecturer on Chemical Physiology), and Dr. C. S. Myers (Lecturer on Experimental Psychology). Zoology: Dr. A. Dendy (Professor). Botany: Dr. W. B. Bottomley (Professor) and Mr. E. J. Schwartz (Demonstrator). Chemistry: Dr. J. M. Thomson (Professor), Mr. H. Jackson (Assistant Professor). and Mr. P. H. Kirkaldy (Lecturer). Physics: Dr. Wilson. Materia Medica and Pharmacology: Dr. W. E. Dixon (Professor).

Fees.—For London University Course: for Preliminary Scientific (Part I.), 25 guineas; for Preliminary Scientific

(Part II.) and Intermediate M.B., 55 guineas, or two instalments of 30 guineas each. For Conjoint Board Course: for First examination, 20 guineas; for Second examination, 55 guineas, or two instalments of 30 guineas each. For prospectus and further information application should be made to Dr. P. Thompson, Dean of the department.

The advanced or final subjects in the curriculum are dealt with at the Medical School attached to King's College Hospital. The hospital contains 224 beds. 3000 in-patients, 16,000 new out-patient cases, 40,600 casualties, and about 350 midwifery cases are attended yearly. The hospital contains special departments for diseases of women and children, and of the eye, ear, throat and nose, skin and teeth. There are special operation theatres for diseases of women, for eye, and for throat, nose, and ear cases. There is a clinical pathologist and a laboratory in the hospital where histological, bacteriological, hæmatological, and chemical investigations are carried out. In connexion with this is a vaccine department for the treatment of patients suffering from tuberculosis and other infective diseases. The appointments open to students are those of senior clinical assistant to the special departments; senior medical, surgical, and obstetric registrar; and Sambrooke medical and surgical registrars, all of whom receive salaries, as do the medical and surgical tutors. There are 14 resident medical and surgical officers appointed yearly and the usual six senior surgical dressers, medical and obstetric clinical clerks, surgical dressers, and clerks and dressers in all the special departments for in- and out-patients, and post-mortem clerks.

Hospital Staff.—Consulting Physicians: Dr. Alfred B. Duffin, Dr. I. Burney Yeo, and Dr. D. Ferrier. Consulting Surgeons: Lord Lister and Mr. W. Rose. Physicians: Dr. Nestor Tirard, Dr. Norman Dalton, Sir Hugh Beevor, Bart., Dr. Raymond Crawfurd, and Dr. Aldren Turner. Surgeons: Sir W. Watson Cheyne, Bart., Mr. A. B. Barrow, Mr. A. Carless, Mr. F. F. Burghard, Mr. G. L. Cheatle, and Mr. P. T. B. Beale. Assistant Physicians: Dr. Tunnicliffe and Dr. J. C. Briscoe. Obstetric Physician: Dr. John Phillips. Assistant Obstetric Physician: Dr. Hugh Playfair. Physician for the Diseases of Children: Dr. George F. Still. Diseases of the Throat: Dr. StClair Thomson. Dental Surgeon: Mr. A. S. Underwood. Assistant Dental Surgeon: Mr. C. E. Wallis. Ophthalmic Surgeons: Mr. M. M. McHardy and Mr. L. V. Cargill. Aural Surgeons: Dr. Urban Pritchard and Mr. Arthur H. Cheatle. Physician for Diseases of the Skin: Dr. A. Whitfield. Pathological Registrar: Dr. Norman Dalton. Physician in charge of Electrical Department: Dr. W. Aldren Turner. Medical Officer in charge of X Ray Department: Mr. A. D. Reid. Anæsthetist and Instructor in Anæsthetics: Dr. J. F. W. Silk. Assistant Anæsthetist: Dr. G. B. Flux. Clinical Pathologist: Dr. Emery. Senior Medical Registrar and Tutor: Dr. H. W. Wiltshire. Senior Surgical Registrar and Tutor: Dr. T. Percy Legg. Obstetric Registrar and Tutor: Dr. E. L. Holland. Sambrooke Registrars: Mr. N. Hart and Mr. R. H. Gompertz.

Lecturers on Final Subjects.—Medicine (Principles and Practice of): Dr. Nestor Tirard (Professor). Neuro-Pathology: Dr. W. A. Turner (Lecturer). Psychological Medicine: Dr. Ernest W. White (Professor) and Dr. Steen (Demonstrator). Surgery (Principles and Practice of): Mr. A. Carless (Professor). Surgery (Operative): Mr. F. F. Burghard (Teacher). Surgical Pathology: Mr. G. L. Cheatle (Teacher). Obstetric Medicine and Diseases of Women and Children: Dr. John Phillips (Professor). Practical Obstetrics: Dr. Hugh Playfair (Lecturer). Diseases of Children: Dr. G. F. Still (Professor). Pathology: Dr. N. Dalton (Professor). Forensic Medicine: Dr. W. R. Smith (Professor). Hygiene: Dr. W. J. R. Simpson (Professor). State Medicine: Dr. Hewlett (Professor) and Mr. D. Somerville (Demonstrator). Bacteriology: Dr. Hewlett (Professor) and Dr. F. E. Taylor. Ophthalmic Surgery: Mr. M. M. McHardy (Professor). Aural Surgery: Dr. Urban Pritchard (Professor). Dermatology: Dr. A. Whitfield (Professor). Anæsthetics: Dr. J. F. W. Silk. Dental Surgery: Mr. A. S. Underwood (Professor). Diseases of the Skin: Dr. A. Whitfield (Professor).

Fees.—The composition fee for Hospital work and Final subjects of the curriculum is 70 guineas in one sum or in two equal instalments of 36 guineas payable on entrance and on commencement of second year of study respectively. For information and prospectus application should be made to Peyton T. B. Beale, F.R.C.S., Dean of the Hospital. For information regarding fees, curriculum, &c., in Public Health and Bacteriology application should be made to Professor Hewlett.

Athletics.—The King's College Hospital Clubs and Societies Union was formed in 1908 and consists of the Medical and Musical Societies, the Hospital Common Room, and the various athletic and sports clubs. Students become members of the Union at a small annual subscription.

LONDON HOSPITAL.—The hospital has 922 beds in constant use and no beds are closed. Being the only general hospital for East London—i.e., for a million and a half people—the practice is immense. In-patients last year, 14,288; out-patients, 222,279; accidents, 18,702; major operations, 4121. Owing to the enormous number of patients more appointments are open to students than at any other hospital. Receiving-room officers, house physicians, house surgeons, &c.: 94 of these qualified appointments are made annually and more than 150 dressers, clinical clerks, &c., appointed every three months. All are free to students of the College. Holders of resident appointments have free board. Special classes are held for the University of London and other higher examinations. Special entries for medical and surgical practice can be made. Lectures and classes are held throughout the year to suit the requirements of candidates desirous of obtaining the diploma in Public Health. The Lecturer on Public Health has his offices in the College, enabling the candidates to attend daily to work under his supervision. These courses are recognised both by the Universities of Oxford, Cambridge, London, &c., and by the Examining Board in England. A reduction of 15 guineas is made from the perpetual fee to the sons of members of the profession. The new laboratories and class-rooms for Bacteriology, Vaccino-therapy, Public Health, Operative Surgery, Chemistry, and Biology are now in full use. The new Clubs Union Rooms, Garden, and Fives Court are now open. The Clubs Union Athletic Ground is within easy reach of the hospital. The Metropolitan and other railways have stations close to the hospital and the college.

Staff.—Consulting Physicians: Dr. Hughlings Jackson and Sir Stephen Mackenzie. Consulting Surgeons: Mr. Hutchinson, Mr. Couper, Mr. McCarthy, Sir Frederick Treves, Bart., and Mr. Tay. Consulting Obstetric Physician: Dr. Herman. Physicians: Dr. Francis Warner, Dr. Percy Kidd, Dr. Frederick J. Smith, Dr. W. J. Hadley, Dr. Bertrand Dawson, Dr. Henry Head, and Dr. Robert Hutchison. Assistant Physicians: Dr. Lewis Smith, Dr. Wall, Dr. Grünbaum, and Dr. Thompson. Surgeons: Mr. C. W. Mansell-Moullin, Mr. Hurry Fenwick, Mr. F. S. Eve, Mr. J. Hutchinson, jun., Mr. T. H. Openshaw, Mr. H. P. Dean, and Mr. P. Furnivall. Assistant Surgeons: Mr. Rigby, Mr. Sherren, and Mr. Lett. Obstetric Physician: Dr. Lewers. Assistant Obstetric Physician: Dr. Andrews. Physician to the Skin Department: Dr. Sequeira. Consulting Dental Surgeon: Mr. Barrett. Consulting Anæsthetist: Dr. Hewitt. Ophthalmic Surgeons: Mr. A. B. Roxburgh and Mr. Lister. Surgeon to the Throat Department: Dr. Lambert Lack. Aural Surgeon: Mr. Hunter Tod. Medical Officer in charge of the Electrical Department: Dr. E. R. Morton. Physician in charge of the Photo-therapy Department: Dr. Sequeira. Analyst to the Hospital: Mr. Hugh Candy. Bacteriologist to the Hospital: Dr. W. Bulloch. Dental Surgeons: Mr. Farmer, Mr. Scott MacFarlane, and Mr. Watson Turner. Anæsthetists: Dr. Probyn-Williams, Mr. Hilliard, and Mr. Clapham.

Lecturers.—Medicine: Dr. Hadley. Clinical Medicine: the Physicians and Assistant Physicians. Surgery: Mr. J. Hutchinson, jun. Clinical Surgery: the Surgeons and Assistant Surgeons. Anatomy: Dr. Wright. Physiology: Dr. Leonard Hill, Mr. Greenwood, and Mr. Flack. Chemistry: Mr. Hugh Candy. Pathology—General and Surgical: Dr. W. Bulloch. Midwifery and Diseases of Women: Dr. Andrews. Clinical Obstetrics: the Obstetric Physicians. Practical Obstetrics: Dr. Andrews. Forensic Medicine—(1) Public Health: Dr. J. C. Thresh; and (2) Medical Jurisprudence and Toxicology: Dr. F. J. Smith. Public Health and Sanitary Science: Dr. W. Bulloch, Dr. John C. Thresh, and Mr. Candy. Mental Diseases: Dr. J. Kennedy Will. Materia Medica and General Therapeutics: Dr. Francis Warner and Dr. Grünbaum. Biology: Mr. G. P.

Mudge. Experimental Physics: Mr. Hugh Candy, and Mr. Griffith. Ophthalmic Surgery: Mr. A. B. Roxburgh. Diseases of the Throat: Dr. Lambert Lack. Aural Surgery: Mr. Hunter Tod. Anatomy and Pathology of the Teeth: Mr. F. M. Farmer, Mr. Scott MacFarlane, and Mr. Watson Turner. Practical Anatomy: Dr. Wright, Mr. Howard, and Mr. Patterson. Practical Physiology and Histology: Dr. Leonard Hill, Mr. Greenwood, and Mr. Flack. Foods and Dietetics: Dr. R. Hutchison. Practical Chemistry: Mr. Hugh Candy. Operative Surgery: Mr. H. P. Dean. Demonstrators of Morbid Anatomy: Dr. F. J. Smith, Dr. W. J. H. Hadley, Dr. Lewis Smith, and Dr. Wall. Bacteriology: Dr. W. Bulloch and Mr. Twort. Pathological Histology: Dr. W. Bulloch. Inoculation Department: Dr. Western. Therapeutic Electricity and Radiography: Dr. A. E. Morton. Anæsthetics: Dr. R. J. Probyn-Williams. Elementary Clinical Medicine: Dr. Lewis Smith and Dr. Grünbaum. Medical Tutor: Dr. Thompson. Elemental Clinical Surgery: Mr. J. Sherren and Mr. Lett. Surgical Tutor: Mr. Sherren. Obstetric Tutor: Dr. R. D. Maxwell. As Emeritus Professors of Surgery Mr. Hutchinson will give in the Summer Session and Sir Frederick Treves, Bart., will give in the Winter Session a course of lectures in Clinical Surgery. The special subjects and the dates will be announced in due course. Dr. Hewitt, as Emeritus Lecturer on Anæsthetics, will give a course of lectures during the first half of the Winter Session. Warden: Mr. Munro Scott.

St. Mary's Hospital.—The hospital contains 281 beds exclusive of the New Wing which, when opened, will increase the number to 341. *The number of in-patients treated* during 1907 was 3902. The number of out-patients was 23,691 with 23,902 casualty cases, a total of 47,593. The situation of the hospital and Medical School in the centre of the residential districts of Paddington, Bayswater, and North Kensington renders it exceptionally convenient for students' rooms, a register of which is kept by the authorities for the use of students.

Laboratories, &c.—The Medical School provides for the entire curriculum. Special laboratories are in use for Biology, Chemistry, and Physics, a series of lecture theatres and laboratories for anatomy and physiology, and a spacious and well-lighted dissecting-room. The Pathological Department is under the direction of Sir Almroth Wright, F.R.S., and a block of consulting-rooms and laboratories in the New Wing of the Hospital has been equipped for the department of Therapeutic Inoculation to meet the increased amount of work in that department. During the past year 550 patients have received treatment in the department. A special laboratory is provided for the study of chemical pathology.

Appointments.—All clinical appointments in the hospital are free to students of the Medical School and the resident medical officers are chosen by competitive examination. Six house physicians, six house surgeons, and four obstetric officers are appointed in each year and receive board and lodging in the hospital. Two resident anæsthetists are appointed in each year and receive a salary at the rate of £100 *per annum*, with board and lodging. *Two casualty* house surgeons are appointed in each year *upon the same* conditions. Several assistants *in* the department of Therapeutic Inoculation are appointed annually at salaries of £100 per annum and upwards. In addition to the above, the senior appointments, medical and surgical registrar, casualty physician, demonstrator of anatomy, physiology, and *biology* are made annually.

Clubs, &c.—The amalgamated clubs include all the various athletic clubs, as well as the rifle club, medical society, &c. There is a students' club on the Hospital premises, the membership of which is included in the amalgamated clubs. The athletic clubs' ground (eight acres) is situated at North Kensington and can be reached in 20 minutes from the Medical School. It consists of Rugby and Association football grounds, tennis courts, and a large cricket pitch.

Special Tuition.—In addition to systematic courses of lectures and demonstrations special tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford, Cambridge, and London, and for the Primary and Final F.R.C.S.

Preliminary Scientific Course.—Special classes, including lectures and laboratory work, are held throughout the year under recognised teachers of the University of London.

The composition fee for full students is £140 if paid in one sum, or £145 if paid in four *instalments*. University students who have completed their examinations in Anatomy and Physiology are admitted on payment of a composition fee of 60 guineas (£63) paid in one sum or by payment of two annual instalments of 35 guineas (£36 15s.) and 30 guineas (£31 10s.) respectively. University students who have not completed their examination in Anatomy and Physiology pay an annual fee of 25 guineas (£26 5s.) until they have passed these examinations, and then pay the composition fee. Separate courses of lectures, laboratory work, or hospital practice may be taken. The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

Staff.—Consulting Physicians: Dr. Cheadle and Dr. Lees. Consulting Surgeons: Mr. A. T. Norton, Mr. Edmund Owen, Mr. Herbert Page, Mr. G. P. Field (Aural), Sir G. Anderson Critchett (Ophthalmic), Sir Malcolm Morris (Skin), Mr. Morton Smale (Dental), and Dr. Scanes Spicer (Throat). Consulting Anæsthetist: Mr. Henry Davis. Physicians: Dr. Sidney Phillips, Dr. A. P. Luff, and Dr. H. A. Caley. Surgeons: Mr. A. J. Pepper, Mr. J. Ernest Lane, and Mr. H. Stansfield Collier. Physicians in charge of Out-Patients: Dr. Wilfred Harris, Sir John Broadbent, and Dr. W. H. Willcox. Surgeons in Charge of Out-Patients: Mr. V. Warren Low, Mr. W. H. Clayton-Greene, and Mr. Maynard Smith. Physician-Accoucheur: Dr. Montagu Handfield-Jones. Physician-Accoucheur in charge of Out-Patients: Dr. W. J. Gow. Physician in charge of Children's Department: Dr. Sidney Phillips. Ophthalmic Surgeon: Mr. H. E. Juler. Assistant Ophthalmic Surgeon: Mr. Leslie Paton. Physician to the Skin Department: Dr. Graham Little. Dental Surgeon: Mr. W. H. Dolamore. Surgeons to the Ear, Nose, and Throat Department: Dr. G. William Hill and Mr. C. I. Graham (assistant). Administrators of Anæsthetics: Dr. Blumfeld and Mr. Collum. Director in Medical Charge of Inoculation Department: Sir A. E. Wright. Dean: Mr. W. H. Clayton-Greene.

Lecturers.—Clinical Medicine: Dr. Sidney Phillips. Clinical Surgery: Mr. A. J. Pepper. Medicine: Dr A P. Luff and Dr. H A. Caley. Surgery: Mr. J. Ernest Lane and Mr. H. Stansfield Collier. Practical and Operative Surgery: Mr. V. W. Low and Mr. Maynard Smith. Pathology: Sir A. E. Wright and Dr. Spilsbury (assistant lecturer). Bacteriology: Sir A. E. Wright and Captain S. R. Douglas (assistant lecturer). Pathological Chemistry: Dr. W. H. Willcox. Midwifery and Gynæcology: Dr. M. Handfield-Jones. Materia Medica and Therapeutics: Dr. H. A. Caley. Forensic Medicine: Dr. Willcox. Neurology: Dr. Harris Descriptive and Surgical Anatomy: Mr. W. H. Clayton-Greene and Mr. Maynard Smith (assistant lecturer). Demonstrator: Dr. V. Z. Cope. Physiology and Histology: *Dr.* N. H. Alcock. Biology: Dr. W. G. Ridewood. Demonstrator: Mr. T. Reed. Chemistry: Dr. G. Senter. Physics: Mr. W. H. White. Hygiene and Public Health: Dr. W. H. Willcox. Mental Diseases: Dr. Theo. B. Hyslop. Diseases of the Eye: Mr. Leslie Paton. Diseases of the Ear, Nose, and Throat: Dr. G. William Hill. Diseases of the Skin: Dr. Graham Little. Dental Surgery: Mr. Dolamore. Medical Tutors: Dr. W. J. Harris, Sir John Broadbent, and Dr. Willcox. Surgical Tutors: Mr. V. Warren Low, Mr. Clayton-Greene, and Mr. Maynard Smith. Obstetric Tutor: Dr. T. G. Stevens. Medical Registrar: Dr. F. S. Langmead. Surgical Registrar: Mr. M. Fitzmaurice Kelly. Department for Nervous Diseases: Dr. W. J. Harris. Practical Pharmacy: Mr. E. A. Andrews (demonstrator). School Secretary: Mr. B. E. Matthews.

Middlesex Hospital.—The hospital contains 345 beds, which includes a special wing for patients suffering from cancer, consisting of four wards, containing 45 beds; here cancer patients are received and attended for a period limited only by the duration of their disease. The number of patients treated last year were: Out-patients, 47,880; in-patients, 3859. Cancer: Out-patients, 87; in-patients, 159.

The Hospital and Medical School are fully equipped for the theoretical and practical teaching of all the subjects included in the examinations in Medicine, and Surgery in the United Kingdom and for the diploma in Public Health; and ample laboratory and class-room accommodation is provided for the teaching of the various subjects of the curriculum and for original research in Medicine, Pathology, or Bacteriology.

Special Classes are held to prepare students for the Inter. M.B. (Lond.) Examination and for the Primary and Final Examinations for the diploma of F.R.C.S. Eng.

Attached to the Cancer Wing of the hospital is a special research laboratory and in connexion with this there are the Emden Cancer Research Scholarship and the Richard Hollins Research Scholarship.

The Bacteriological and Public Health Laboratory for Women Medical Practitioners and Women Students, situated at 27, Mortimer-street, W., is in connexion with this hospital, and is under the direction of Mr. A. G. R. Foulerton, assisted by Dr. Hilda K. Whittingham. This laboratory, for the maintenance of which a private guarantee fund has been raised by some supporters of the hospital who are anxious to provide facilities for the special training of women in Public Health work, has been added to the Middlesex Hospital Medical School for the purposes of providing instruction for women medical practitioners for the examinations for the Diploma in Public Health and for the M.D. in State Medicine of the University of London, and of affording facilities to them and other women students for carrying out research work in Public Health, Bacteriology, and General Pathology.

Hospital Appointments.—All hospital appointments are allotted to students without any extra fee. The following 18 resident appointments—six house physicians, six house surgeons, two obstetric house physicians, two casualty medical officers, and two casualty surgical officers, are annually filled from the pupils of the hospital, each appointment extending over six months.

A Residential College to accommodate a limited number of students adjoins the hospital. Breakfast, luncheon, and dinner are supplied in the College Hall at moderate charges.

The Amalgamated Students' Club includes the following: the Medical Society, the Common Room Society, the cricket club, the football clubs, the athletic clubs, the rowing club, the musical society, the chess club, the lawn tennis club, and the hockey club. The athletic ground, which is eight acres in extent, is situated within easy access at Wormwood Scrubs.

Fees.—The Composition Fee for the entire curriculum is 135 guineas, or 145 guineas if paid in three instalments. The fee for London University students is 145 guineas; for those who have passed the Preliminary Scientific 120 guineas. The fee for the Dental Curriculum is 54 guineas, or 60 guineas if paid in two instalments. Students who have completed the study of Anatomy and Physiology or passed the London Preliminary Scientific M.B. Examination are received on special terms.

Lecturers.—Winter Session: Anatomy: Dr. Cameron. Demonstrator: Dr. Gladstone. Biology and Physiology: Mr. Goodall. Demonstrator: Mr. Earle. Chemistry: Dr. Kellas. Emeritus Lecturer in Medicine: Sir R. D. Powell, Bart., M.D. Medicine: Dr. Pasteur and Dr. Wynter. Practical Medicine: Dr. Voelcker. Emeritus Lecturer in Surgery: Mr. Henry Morris. Surgery: Mr. Pearce Gould, Mr. Bland-Sutton and Mr. Murray. Practical Surgery: Mr. Kellock. Operative Surgery: Mr. Kellock. Practical Midwifery: Dr. Bonney. Pathology: Dr. Voelcker. Forensic Medicine and Toxicology: Dr. Wethered. Clinical Lectures in Medicine: The Physicians. Clinical Lectures in Surgery: The Surgeons. Clinical Lectures on Diseases of the Ear, Throat, and Nose: Mr. S. Paget. Lectures in Ophthalmology: Mr. Lang. Lectures in Dental Surgery: Mr. Nowell. Public Health and Bacteriology: Mr. Foulerton. Summer Session: Pharmacology and Therapeutics: Dr. R. A. Young. Midwifery: Dr. Comyns Berkeley. Pathological Histology: Dr. Voelcker. Practical Toxicology: Dr. Kellas. Mental Diseases: Dr. Mickle. Lectures in Dermatology: Dr. Pringle. Anatomy, Chemistry, and Physiology: as in Winter Session. Tutors—Medicine: Dr. Campbell Thomson; Surgery: Mr. Handley; Obstetrics: Dr. Victor Bonney.

Staff.—Consulting Physicians: Dr. W. Cayley, Dr. Sidney Coupland, and Sir Richard Douglas Powell. Physicians: Dr. J. K. Fowler, Dr. W. Pasteur, and Dr. W. E. Wynter. Physicians to Out-patients: Dr. A. F. Voelcker, Dr. F. J. Wethered, and Dr H. Campbell Thomson (Dean of the Medical School). Assistant Physician: Dr. R. A Young. Consulting Physician to the Skin Department: Dr. R. Liveing. Physician to the Skin Department: Dr. J. J. Pringle. Consulting Obstetric Physician: Dr. W. Duncan. Obstetric Physician: Dr. Comyns Berkeley. Assistant Obstetric Physician: Dr. Victor Bonney. Consulting Surgeons: Mr. Nunn. Mr. Morris, and Mr. Clark. Surgeons: Mr. Gould, Mr. Bland-Sutton, and Mr. Murray. Surgeon to Out-patients: Mr. Kellock. Assistant Surgeons: Mr. Handley and Mr. Gordon Taylor. Ophthalmic Surgeon: Mr. W. Lang. Aural Surgeon: Mr. S. Paget. Dental Surgeon: Mr. Nowell. Curator of the Museum and Pathologist: Dr. Lakin. Registrars: Dr. O. K. Williamson, Mr. Hastings, and Dr. Victor Bonney. Resident Medical Officer: Mr. A. E. Johnson. Anæsthetists: Mr. T. G. A. Burns and Mr. H. P. Noble. Assistant Anæsthetist: Mr. H. Charles.

St. Thomas's Hospital.—This hospital received its present charter from King Edward VI., but as a monastic institution was in existence prior to the year 1207. The building occupies a unique position by the river, opposite the Houses of Parliament, and contains 600 beds. The in-patients last year numbered 6783, whilst the number of attendances as out-patients, including the casualty and light departments, was 217,967. There are departments for the treatment of women, children, the eye, ear, nose and throat, skin, and teeth. Departments for light treatment, x rays, and physical exercises are also special features. Exceptional facilities are offered in the hospital laboratories for the study of general pathology, clinical pathology, and of treatment by serums and vaccines. Surgical operations take place in the main theatres every day except Saturdays at 2 P.M. Clinical teaching in the wards, out-patients' and special departments is available every day of the week. Clinical lectures are delivered every Wednesday and Thursday during the sessions. All appointments in the hospital are open to students without extra fee. Casualty officers and resident anæsthetists, house physicians, house surgeons, obstetric house physicians, ophthalmic house surgeons, and out-patient officers are appointed and hold office for six months. They are provided with rooms and commons in the hospital free of expense. Clinical assistants to all the special departments are appointed every three months; they are non-resident. A resident assistant physician and a resident assistant surgeon, at a salary of £100 each, are appointed biennially; also four hospital registrars (medical, surgical, obstetric, and ophthalmic), the two former receive a salary of £100 and the two latter £50. An assistant in the clinical laboratory, at a salary of £100 per annum, and an assistant pathologist, at a salary of £125, are from time to time appointed. Appointments open to students before qualification: Clinical clerks and dressers for in- and out-patients are selected from students who have completed their third year's work. The accident dressers are provided with board and lodging during their periods of special duty. Every student acts as clerk in the post-mortem room and in one of the pathological laboratories, takes his turn for three weeks on maternity duty under proper supervision, and is practically instructed in the administration of anæsthetics by one of the hospital anæsthetists. On completion of his term as clerk or dresser he is expected to fill appointments in one or more of the special departments. In their earlier years of study students are selected as assistants to the lecturers in the preliminary and intermediate subjects. The Medical School is fully equipped for the teaching of all subjects of the curriculum. A fine museum and large library are at the disposal of the students. There are three lecture theatres, an unusually large and well-ventilated dissecting-room, and special laboratories for biology, chemistry, physics, physiology, and pathology. The post-mortem room, where demonstrations are given every day, is ventilated by the electric fan and provided with cold storage. The Students' Club comprises a spacious restaurant and magnificent smoking and reading room. There is no occasion for students to leave the hospital buildings during working hours. The athletic ground of the Amalgamated Clubs at Chiswick is over nine acres in extent and is easily accessible from Waterloo Station. The curriculum is arranged to meet the requirements of all the Examining Bodies. Special classes are held for the examinations at the University of London and for the First and Final Fellowship Examinations of the Royal College of Surgeons of England. Tutorial classes in all subjects precede the various examinations. There is a special course for the Diploma in Public Health. The hospital is easily accessible from all parts. It is close to the Waterloo and Westminster Bridge Stations (L. & S.W., Bakerloo, and District Railways). Electric trams which pass the doors connect it with all parts of South London. A register of lodgings and a list of medical men and others who are willing to receive boarders is kept by the secretary, Mr. G. Q. Roberts, who will give any further information required.

Fees.—The annual composition fee is 30 guineas—in addition to a fee on entrance. Post-graduate study is afforded to qualified practitioners by a joint ticket which admits to the practice of 14 hospitals (general and special) on terms which may be ascertained from the secretary.

Staff.—Consulting Physicians: Dr. Harley and Dr. Payne. Consulting Surgeon: Mr. S. Jones. Consulting Obstetrical Physician: Dr. Gervis. Consulting Ophthalmic Surgeons: Mr. Liebreich and Mr. Nettleship. Consulting Anæsthetist: Mr. W. Tyrrell. Consulting Dentist: Mr. C. E. Truman. Physicians: Dr. Sharkey, Dr. Acland, Dr. Hawkins, Dr. Mackenzie, and Dr. Turney. Surgeons: Mr. Clutton, Mr. G. H. Makins, C.B., Mr. Battle, Mr. Ballance, M.V.O., and Mr. Robinson. Physicians to Out-patients: Dr. Perkins, Dr. Colman, Dr. Box, and Dr. Russell. Surgeons to Out-patients: Mr. C. S. Wallace, Mr. E. M. Corner, Mr. Sargent, and Mr. C. A. R. Nitch. Obstetric Physician: Dr. Tate. Obstetric Physician to Out-patients: Dr. Fairbairn. Ophthalmic Surgeon: Mr. Lawford. Ophthalmic Surgeon to Out-patients: Mr. Fisher. Physician for Diseases of Children: Dr. Box. Surgeon for Diseases of Children: Mr. C. A. R. Nitch. Surgeon for Diseases of the Throat: Mr. H. B. Robinson. Physician for Diseases of the Skin: Dr. E. Stainer. Surgeon for Diseases of the Ear: Mr. Marriage. Dental Surgeons: Mr. J. G. Turner and Mr. G. L. Bates. Resident Assistant Physician: Dr. Cassidy. Resident Assistant Surgeon: Mr. J. E. Adams. Anæsthetists: Dr. H. Low, Dr. Bevan, Dr. Mennell, and Dr. Hedley. Pharmaceutist: Mr. J. A. Jennings. Curator of Museum: Mr. S. G. Shattock. Director of Laboratories: Mr. Dudgeon. Superintendent of X Ray Department: Dr. Greg.

Lecturers and Demonstrators.—Anatomy: Mr. F. G. Parsons, with Mr. P. W. G. Sargent and Mr. C. A. R. Nitch. Chemistry: Dr. Le Sueur. Physiology: Dr. J. B. Leathes. *Biology: Mr. T. G. Hill.* Pathology and Bacteriology: Mr. Shattock and Mr. Dudgeon. Surgery: Mr. Makins and Mr. Ballance. Medicine: Dr. Sharkey and Dr. Hawkins. Practical and Operative Surgery: Mr. Battle, Mr. Robinson, and Mr. Wallace. Comparative Anatomy: Mr. Parsons. Applied Anatomy: Dr. Box. Anæsthetics: Dr. Low. Physics: Mr. Brinkworth. Clinical Medicine: The Physicians. Clinical Surgery: The Surgeons. Midwifery and Diseases of Women: Dr. Tate and Dr. Fairbairn. Diseases of the Eye: Mr. Lawford and Mr. Fisher. Pharmacology and Therapeutics: Dr. Dixon. Throat Disease: Mr. H. B. Robinson. Physiological Demonstrator: Mr. Mavrogordato Obstetrical Demonstrators: Dr. Fairbairn and Dr. Hedley. Elementary Clinical Medicine: Dr. Perkins, Dr. Colman, Dr Box, and Dr. Russell. Surgical Classes: Mr. Wallace, Mr. Corner, Mr. Fisher, and Mr. Shattock. Forensic Medicine and Toxicology: Dr. Colman and Dr. Haas. Mental Diseases: Dr. R. Percy Smith. Public Health: (vacant). Tropical Medicine: Dr. Sandwith. Instruction in Vaccination by Dr. Cope. Dean of the School: Mr. Cuthbert Wallace. Secretary: Mr. G. Q Roberts, from whom any further information may be obtained.

UNIVERSITY COLLEGE, LONDON.—University College has been constituted a University centre for the teaching of medical sciences. The College Faculty of Medical Sciences comprises the Departments of Physics, Chemistry, Botany, and Zoology (the Preliminary Medical Sciences); also the Departments of Anatomy, Physiology, and Pharmacology (the Intermediate Medical Sciences), and the Departments of Hygiene and Public Health and of Pathological Chemistry (Post-graduate Study).

Faculty of Medical Sciences.—Composition fees.—For the courses required by the University of London. 1. For the Preliminary Scientific Course, 26 guineas, entitling to one attendance and to the privileges of the Union Society (including the use of the gymnasium and the athletic ground at Perivale) for one session. 2. For the Intermediate Course, 58 guineas if paid in one sum; 63 guineas if paid in two instalments of 32 guineas and 31 guineas respectively. This fee entitles to attendance on Anatomy and Physiology during three years and to one attendance on Organic Chemistry, Pharmacology, and Materia Medica, and to the privileges of the Union Society (including the use of the gymnasium and the athletic ground at Perivale) for two sessions.

For the medical education required by the Examining Board in England and the Society of Apothecaries. First examination, Parts I., II., III., 21 guineas, entitling to one attendance and to the privileges of the Union Society (including the use of the gymnasium and the athletic ground at Perivale) for one session. First examination, Part IV., and second examination, 58 guineas if paid in one sum, and 63 guineas if paid in two instalments of 32 guineas and 31 guineas respectively. This fee entitles to attendance during three years and to the privileges of the Union Society (including the use of the gymnasium and the athletic ground at Perivale) for two sessions.

Professors and Lecturers.—1. Preliminary Scientific Course.—Chemistry:—Professor: Sir William Ramsay, F.R.S.; assistant professor: E. C. C. Baly, F.I.C.; assistants: R. W. Gray, Ph.D., N. T. M. Wilsmore, D.Sc., Samuel Smiles, D Sc.; demonstrators: (vacant). Physics:—Professor: F. T. Trouton, F.R S.; assistant professor: A. W. Porter, B.Sc.; assistants: N. Eumorfopoulos, B.Sc, A. O. Rankine, B.Sc. Botany:—Professor: F. W. Oliver, M.A., D.Sc., F.R S.; assistant professor: F. E. Fritsch, D.Sc., Ph.D. Zoology:—Professor: J. P. Hill, D.Sc.; assistants: W. Woodland, B.Sc., and H. B. Fantham, D.Sc. 2. Intermediate Course.—Anatomy:—Professor: G. D. Thane, LL.D.; assistant and curator of the museum: G. S. Hett, M.B.; demonstrators: G. E. Waugh, B.S., F.R.C.S., H. T. Mant, M.B., B.S.; assistant demonstrators: J. H. Farbstein, M.B, B.S.; W. E. Haigh. Physiology:—Professor: E H. Starling, F.R S.; assistant professors: W. M. Bayliss, F.R S, G. A. Buckmaster, M.D.; assistant: R. H. Aders-Plimmer, D.Sc.: lecturers: J. H. Parsons, F.R.C.S, W. Page May, M.D., D.Sc., S. B. Schryver, D.Sc. Pharmacology:—Professor: A. R. Cushny, F.R.S. Organic Chemistry:—Professor: J. N. Collie, F.R.S.; assistant: Samuel Smiles, D Sc.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—Dean: H. Batty Shaw, M.D., F.R.C.P. Vice-Dean: Raymond Johnson, B.S., F.R.C.S. Fees for Preliminary and Intermediate Course: See under University College. For the Final M.B., B S Course, 80 guineas if paid in one sum, 82 guineas if paid in two instalments, as follows—first year, 50 guineas; second year, 32 guineas. This fee entitles to attendance on Lectures and Hospital Practice during three years and to one attendance on Practical Pathology and Practical Surgery. Vaccination and attendance at a Fever Hospital are not included. Students who obtain a medical qualification within three years of the time of commencing this course are not required to pay an additional fee for further attendance. This course of instruction is also suitable for the corresponding examinations at the Universities of Oxford, Cambridge, and Durham, and for the medical education required by the Examining Board in England and the Society of Apothecaries.

There are 279 beds in the hospital and 54,594 patients were treated last year.

Special Departments, Clinical or Laboratory Facilities.—Those who are desirous of carrying out original research in Pathology, including Morbid Anatomy, Bacteriology, Experimental Pathology, and Chemical Pathology are admitted to work in the laboratories of the school by the Professor. A special course of instruction is given for preparation for the examinations for Diplomas in Public Health of the various universities and examining bodies; also special courses of Lectures and Demonstrations in Anæsthetics, Diseases of the Eye, Ear, Nose, and Throat, Skin, and Diseases of the Teeth, in Electrical and Radioscopic Diagnosis and Treatment, and in Clinical and Tropical Pathology. These courses are designed for senior students and graduates.

Appointments tenable by Students.—Clerkships and dresserships to the physicians, surgeons, anæsthetist, and pathologist are allotted amongst the students of the hospital. Maternity students are appointed each month and reside in the Students' House connected with the Medical School and Hospital. Eight house physicians and house surgeons, four senior and four junior obstetric assistants are selected annually by examination from among the senior students who have a medical qualification. The house physicians and house surgeons reside free in the hospital for six months, and the senior obstetric assistants for three months. In addition to these posts there are certain special appointments which are vacant from time to time and are filled by senior students of the hospital: 1. The Resident Medical Officer. This officer is appointed for a period of two years and is chosen from amongst the more senior recent residents of the hospital. 2. The Surgical Registrar is also chosen from among the more senior recent residents of the hospital. 3. The Obstetric Registrar. 4. A Casualty Medical Officer and a Casualty Surgical Officer are appointed, each for a period of six months. 5. Deputy Anæsthetists. During the absence of one or another of the Anæsthetists in the summer months a senior qualified student is appointed as a substitute and is granted a special certificate.

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There is laboratory accommodation for practical work in Chemistry, Physics, Biology, Anatomy, Physiology, Histology, Pathology, and Bacteriology, and a new Clinical Laboratory has recently been erected. Facilities for research are afforded in all the laboratories.

For out-door recreation the following clubs exist: the Athletic Sports Club, the Cricket, Lawn Tennis, and Swimming Clubs, and the Rugby and Association Football Clubs. For in-door recreation there are the Students' Club and the Guthrie Society, the latter being a debating club. These clubs and societies together constitute the Clubs Union, for membership of which students are not required to pay, the expense being covered by the entrance fee to the school.

Staff.—Consulting Medical Staff: Dr. H. B. Donkin and Sir William H. Allchin. Consulting Surgical Staff: Mr. Richard Davy, Mr. G. Cowell, and Mr. N. C. Macnamara. Medical In-patient Staff: Dr. de Havilland Hall, Dr. W. Murrell, and Dr. R. G. Hebb. Obstetric Physician: Dr. W. Rivers Pollock. Surgical In-patient Staff: Mr. C. Stonham, Mr. W. G. Spencer, and Mr. A. H. Tubby. Medical Out-patient Staff: Dr. A. M. Gossage, Dr. Purves Stewart, and Dr. Eric Macnamara. *Physician for Diseases of the Skin*: Dr. T. Colcott Fox. Assistant Obstetric Physician: Dr. G. H. Drummond Robinson. Surgical Out-patient Staff: Mr. W. Turner, Mr. E. P. Paton, Mr. Arthur Evans, and Mr. Rock Carling. Surgeon in Charge of the Throat Department: Mr. P. R. W. De Santi. Ophthalmic Surgeon: Mr. G. Hartridge. Surgeon in charge of the Orthopædic Department: Mr. A. H. Tubby. Surgeon in charge of the Ear Department: Mr. P. R. W. De Santi. Dental Surgeons: Mr. C. W. Glassington and Mr. E. Gardner. Administrators of Anæsthetics: Dr. N. W. Bourns and Dr. V. B. Orr. Assistant Anæsthetist: Dr. Cecil Hughes. Physician Pathologist: Dr. R. G. Hebb. Assistant Pathologist and Curator of Museum: Dr. J. M. Bernstein. Medical Registrar: Dr. Price. Surgical Registrar: Mr. J. M. G. Swainson. Pharmacist: Mr. A. E. Tanner. Secretary: Mr. S. M. Quennell.

Lecturers.—Clinical Medicine: Dr. Hall, Dr. Murrell, and Dr. Hebb. Clinical Surgery: Mr. Stonham, Mr. Spencer, and Mr. Tubby. Clinical Gynæcology: Dr. Pollock (treasurer of the school). Medicine: Sir William H. Allchin, Dr. Murrell, Dr. Hebb, Dr. Gossage, Dr. Purves Stewart, Dr. Macnamara, and Dr. Duncan. Diseases of the Skin: Dr. Colcott Fox. Insanity: Dr. Robert Jones. Surgery: Mr. Spencer. Ophthalmic Surgery: Mr. Hartridge. Surgery of the Throat and Nose: Mr. De Santi. Orthopædic Surgery: Mr. Tubby. Aural Surgery: Mr. De Santi. *Dental Surgery*: Mr. Glassington. Anæsthetics: Dr. Bourns. Operative Surgery: Mr. Stonham. Surgical Anatomy: Mr. Arthur Evans. Practical Surgery: Mr. Turner and Mr. Rock Carling. Surgical Pathology: Mr. Paton (*Dean of the school*). Midwifery and Diseases of Women: Dr. Pollock. *General Pathology* and Morbid Anatomy: Dr. Hebb. Post-mortem Demonstrations: Dr. Hebb. Materia Medica, Therapeutics, and Pharmacology: Dr. *Dixon*. *Demonstrator of Practical* Pharmacy: Mr. A. E. Tanner. Forensic Medicine: Mr. Henslowe Wellington. Toxicology: *Dr. H. Wilson Hake*. Public Health: Dr. S. Monckton *Copeman*. *Bacteriology*: Dr. Bernstein. Anatomy: Dr. Thompson and Mr. Jenkins. Demonstrator of *Practical Anatomy*: Mr. Jenkins. Physiology: Dr. Halliburton. Practical Physiology *and Histology*: Dr. Halliburton, Dr. Lyle, Dr. Myers, *and* Dr. Rosenheim. Biology: Dr. Bottomley and Dr. Dendy. *Chemistry* and Practical Chemistry: Dr. Thomson, Mr. Jackson, and Mr. Kirkaldy. Physics: Dr. Harold A. Wilson, Mr. Allen, Mr. Nicol, and Dr. W. Wilson. Secretary and Librarian: Mr. W. Fryer.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, *Brunswick*-square, W.C.—The fee for the medical course for the *University* of London, after the completion of the *Preliminary* Scientific year, is £135 in one *sum, or* £145 in four *instalments. The* fee for the Preliminary Science classes is £25. The fee for the course for the University of Durham, *the Society* of Apothecaries, and the Conjoint Colleges of Scotland, including Elementary Science, is £140 in one sum, or £150 in four *instalments.*

The hospital contains 165 beds, of which 78 are reserved for surgical, 64 for medical, 13 for gynæcological, six for ophthalmic, and four for isolation *cases*. The number of in-patients treated during the past year was 2474. There is also a department for attending women *in their* confinements at their own homes. Students can *also* attend the in-patient and out-patient practice of the New Hospital for Women.

Special classes for the Preliminary Scientific examination of the University of London are held and special courses of instruction in Anatomy, Physiology, and Practical Pharmacology are provided for students preparing for the Intermediate M.B. Examination of the University of London.

In addition to the list of Scholarships tabulated in another column three Evans Prizes of £3 3*s*., £2 2*s*., and £1 1*s*. are given in alternate years on the results of the class examination in midwifery, and two Durham Prizes, value £5 and £3, are given in alternate years on the results of the class examination in gynæcology, and a prize of £5 is awarded in alternate years on the results of the class examination in Midwifery and Gynæcology respectively. The Evans Prize for Operative Midwifery, value £5 5*s*., is *awarded yearly. Prizes of* £10 *each* are awarded yearly in Anatomy and Physiology. There is also a small fund from which assistance can occasionally be given to students and to graduates who specially require pecuniary help. Prizes and Certificates of Honour are awarded in each class at the end of the session.

Students after qualification can hold at the Royal Free Hospital the posts of house physician, house *surgeon*, clinical assistants, anæsthetist and assistant anæsthetists, medical and surgical registrars, medical electrician, and museum curator; and at the Medical School the posts of demonstrators in the departments of Anatomy, Physiology, Chemistry, and museum curator. They *can also* hold *posts* at the New Hospital for Women, which is officered entirely by medical *women*.

The School buildings have been entirely rebuilt in recent years and there are spacious, well-equipped laboratories, which afford every facility for efficiency of teaching and practical work in all departments.

There are residential chambers at 8, Hunter-street, with accommodation for 17 students, and the Secretary can be consulted on the subject of other residences for students. There is a Tennis Club with *a gravel court at the School, and* also hockey, *boating, and other clubs.*

Staff.—Consulting Physicians: Dr. S. West and Dr. T. Crawfurd Hayes. Physicians: Dr. Harrington Sainsbury, *Dr.* J. W. *Carr*, and *Dr.* A. G. Phear. Assistant Physicians: Dr. Farquhar Buzzard and Dr. W. P. S. Branson. Consulting Surgeons: Mr. W. Rose and Mr. A. B. Barrow. Surgeons: Mr. J. Berry, Mr. E. W. Roughton, *and* Mr. W. H. Evans. Assistant Surgeons: Mr. T. Percy Legg and Mr. Cunning. Physicians for Diseases of Women: Mrs. Scharlieb, M.S., M.D., and Mrs. Vaughan-Sawyer, M.S., M.D. Assistant Physician *for* Diseases of Women: Mrs. Willey, M.S., M.D. *Ophthalmic* Surgeon: Mr. H. Work Dodd. Surgeon for Diseases *of* Throat, Nose, and Ear: Mr. E. W. Roughton. Surgeon for Diseases of Skin: Mr. W. H. Evans. *Senior Resident* Medical Officer: Mr. A. D. Griffiths. Registrars: Miss Robert
M.D., B.S., and Miss Turnbull, M.D., B.S. Dentist: M
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Thies.

Lecturers.—At the School: Anatomy and Pr
Anatomy: Mr. Parsons. Physiology and Practical
logy: Dr. Brodie and Miss Cullis. Chemistry: M
B. Evans, D.Sc. Practical Chemistry: Miss Widd
Physics: Miss E. Stoney. Biology: Mr. Mudg
Medica: Dr. R. H. P. Crawfurd. Practice of Me
Cock, M.D., and Dr. J. W. Carr. Mid
Scharlieb, M.S. *Gynæcology*: Mrs. Stanley B
Medicine: Dr. Hawthorne. Toxicology: Dr
Practice of Surgery: Mr. Berry and
Operative Surgery: Mr. Roughton.
gery: Miss Ellaby. Pathology: vacan
logy: Dr. Hyslop. Tropical Dise
Manson. Operative Midwifery: Miss
Mrs. Vaughan Sawyer, M.D. Demo
Gynæcology, Mrs. Vaughan Sawyer,
Miss Bolton, M.B., B.S.; of Chemist
of Practical *Pharmacology, Miss*
the Royal Free Hospital: Clinical
and Dr. Carr. Clinical Surge
Roughton. Clinical Obstetrics:
logy: Dr. Buzzard. Bacteriolog
Surgical Tutors: Mr. W. Eva
Medical Tutor: Dr. A. G Ph
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There is laboratory accommodation for practical work in Chemistry, Physics, Biology, Anatomy, Physiology, Histology, Pathology, and Bacteriology, and a new Clinical Laboratory has recently been erected. Facilities for research are afforded in all the laboratories.

S. Wallace or to W. M. Wilcox, the Secretary, at the hospital. Physicians: Dr. Eustace Smith, Dr. J. A. Coutts, Dr. Morley Fletcher, Dr. E. Graham Little, and Dr. A. M. Gossage. Surgeons: Mr. *Cathbert S. Wallace and* Mr. W. Trotter. Assistant Physicians: Dr. Clive Riviere, Dr. W. P. S. Branson, and Dr. T. Fisher. Assistant Surgeons: Mr. W. H. Bowen and Mr. R. Warren. Ophthalmic Surgeon: Mr. W. I. Hancock. Dental Surgeon: Mr. E. S. Pierrepont. *Medical Officer* for the Electrical Department: Dr. H. Manders. Medical Officer for the Casualty Department: Dr. W. Wells. Resident Medical Officer: Dr. W. N. May. House Physician: Mr. H. Moyle. House Surgeon: M. D. L. Morrison. Secretary: W. M. Wilcox.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C., contains 222 beds, divided into 95 medical, 105 surgical, and 22 for special and infections cases, besides 38 beds at the convalescent branch, Highgate. The hospital having been recognised by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need and is open to students who have completed four years of medical study and also to qualified medical men. The medical staff are recognised by the University of London as teachers in Diseases of Children. Appointments are made every three months to six medical clerkships, which are open to students of the hospital. Lectures or demonstrations are given once every week during both winter and summer sessions, which qualified practitioners are invited to attend free of charge. There is a museum in connexion with the hospital. The sessions are of ten weeks' *duration, and begin* in October, January, and March. Fees for hospital practice, three months, 3 guineas; perpetual ticket, 5 guineas. Clinical Clerks, £1 1*s*. for three months. Consulting Physicians: Dr. W. H. Dickinson, Dr. W. B. Cheadle, Sir Thomas Barlow, Bart., Dr. D. B. Lees, *and Dr. F. G.* Penrose. Physicians: Dr. A. E. Garrod, Dr. A. F. Voelcker, Dr. W. S. Colman, and Dr. F. E. *Batten. Physicians to* Out-patients: Dr. G. F. Still, Dr. F. J. Poynton, Dr. Robert Hutchison, Dr. H. Thursfield, and Dr. T. Thompson. Consulting Surgeons: Sir Thomas Smith, Bart., Mr. Howard Marsh, Mr. Edmund Owen, Mr. John H. Morgan, C.V.O., and Mr. Bernard Pitts. Surgeons: Mr. W. Arbuthnot Lane, Mr. Thomas H. Kellock, and Mr. H. Stansfield Collier, Surgeons to Out-patients: Mr. Edred M. Corner, Mr. G. E. Waugh, Mr. H. A. T. Fairbank, and *Mr. O. L. Addison.* Ophthalmic Surgeon: Mr. J. Herbert Parsons. Aural Surgeon: Mr. G. E. Waugh. Dental Surgeon: Mr. W. Warwick James. Honorary Anæsthetist: Dr. R. W. Collum. Radiographer: Dr. Ironside Bruce. Local Medical Officer for Cromwell House: Dr. A. M. Henderson. Medical Registrar: Dr. Miller. Clinical Pathologist and Bacteriologist: Mr. Graham Forbes. Anæsthetists: Mr. Graham Scott, Mr. E. E. Argles, and Mr. H. S. Sington. Resident Medical Superintendent: Mr. H. T. Gray. Secretary: Mr. Stewart Johnston.

EVELINA HOSPITAL FOR *SICK CHILDREN*, Southwark-bridge-road, S.E.—This hospital contains 76 cots and a very extensive Out-patient *Department. About* ten clinical assistants, to work with the Honorary Medical Staff for Out-patients, are appointed quarterly for a period of *three months; there is* no salary attached to these posts; but, on the other hand, no fees are charged. Consulting Physicians: Dr. J. F. *Goodhart, Dr.* Frederick Taylor, and Dr. Nestor Tirard. Physicians: Dr. J. Charlton Briscoe and Dr. T. R. Whipham. Physicians in charge of Out-patients: Dr. D. Forsyth and Dr. H. C. Mann. Physician in charge of Skin Department: Dr. S. Ernest Dore. Consulting Surgeons: Sir H. G. Howse, Mr. R. Clement Lucas, Mr. G. H. Makins, Mr. F. S. Eve, Mr. F. C. Abbott, Mr. A. H. Tubby, and Mr. C. H. Fagge. Surgeons: Mr. H. S. Clogg and Mr. W. M. Mollison. Surgeons in charge of Out-Patients: Mr. C. A. R. Nitch and Mr. P. Maynard Heath. Dental Surgeon: Mr. Denison Pedley. Ophthalmic Surgeon: Mr. Sydney Stephenson. Aural Surgeon: Mr. S. R. Scott. House *Physician*: Mr. E. Parry Evans. House Surgeon: Mr. A. W. Hayward. House-Physician: (No. 2) (vacant). Pathologist: Dr. A. N. Leathem. Anæsthetist: Mr. F. D. S. Jackson. Radiographer: Mr. R. H. Cooper. Secretary: H. C. Stanilard Smith.

VICTORIA HOSPITAL FOR CHILDREN, Chelsea, S.W.—The hospital contains 104 beds and has a large out-patient department (over 1200 weekly); the home at Broadstairs has 50 beds. Consulting Physicians: Sir Francis Laking, Sir Wm. Henry Allchin, and Dr. Ridge Jones. Consulting Surgeons: Mr. Cowell, Mr. Pickering Pick, and Mr. D'Arcy *Power. Physicians: Dr. Walter Carr, Dr. Humphry D.* Rolleston, Dr. Edmund Ivens Spriggs, Dr. A. J. Jex-Blake, Dr. Charles Miller, and Dr. Reginald Jewesbury. Physician to Skin Department: Dr. J. M. H. MacLeod. Surgeons: Mr. H. F. Waterhouse, Mr. Joseph Cunning, and Mr. Fedde Fedden. Surgeons to the Out-patients: Mr. S. Maynard Smith, Mr. Ralph Thompson, and Mr. Harold W. Wilson. Ophthalmic Surgeon: Mr. C. Devereux Marshall. Dental Surgeon: Mr. C. E. Wallis. Anæsthetists: Dr. Randolph Grosvenor, Dr. F. E. Shipway, and Dr. C. G. H. Gunning. Resident Medical Officer: Mr. Eric Harries. House Surgeon: Mr. W. O. Pitt. House Physician: Mr. Robert Lakin. Secretary: Mr. H. G. Evered. Out-patients are seen as under:—Diseases of the Eye: Wednesday, 2 P.M. Diseases of the Skin: Wednesday, 2 P.M. Whooping-cough Cases: Fridays, 9.30 A.M. Medical and Surgical Cases: Monday and Thursday mornings at 9 A.M.; any afternoon except Wednesday and Saturday at 12.30 P.M. Dental Cases: Wednesday mornings at 9.30 A.M. Accidents and urgent cases are admitted at any time.

THE QUEEN'S HOSPITAL FOR CHILDREN (*late North-Eastern Hospital for Children*), Hackney-road, Bethnal Green, E. (Telephone 305 Dalston). For the sick children of the poor under 12 years of age. Established 1867.—130 beds. During the past year 1482 in-patients and 26,525 out-patients (representing 70,924 attendances and including 11,583 casualty cases) were relieved, 536 of the in-patients being under two *years of age. Consulting Physicians*: Dr. W. Cayley, Dr. W. Pasteur, and Dr. W. A. Wills. Consulting Surgeons: Mr. Jonathan Hutchinson, Mr. *Waren Tay, Mr. R.* J. Godlee, Mr. Bilton Pollard, and Mr. H. Percy Dean. Physicians: Dr. James Taylor, Dr. J. Porter Parkinson, and Dr. George Carpenter. Assistant Physicians: Dr. Charles Bolton, Dr. Sheffield Neave, and Dr. R. A. Chisolm. *Surgeons:* Mr. Douglas Drew and Mr. Ewen C. Stabb. *Assistant* Surgeons: Mr. P. Lockhart Mummery and Mr. J. M. G. Swainson. Ophthalmic Surgeon: Mr. Sydney Stephenson (Thursday, 2.30 P.M.). Physician in charge of Skin Department: Dr. J. L. Bunch. Dental Surgeon: Mr. S. F. Rose (Tuesday, 9.30 A.M., and Friday, 2.30 P.M.). Medical Radiographer: Mr. Percival Dingle. Pathologist and Bacteriologist: (vacant). Resident Medical Officer: Dr. E. Bellingham Smith. Three other resident medical men (appointed half-yearly)—viz., House *Physician and two* House Surgeons. Matron: Miss Bushby. Secretary: Mr. T. Glenton-Kerr. The surgeons attend *on* Wednesdays at 2 P.M. and Fridays and Saturdays at 9.30 A.M.; the *physicians daily at* 2 P.M., except Saturday, 9.30 A.M. Applications for permission to attend the practice of the hospital should be *addressed to the secretary.*

ROYAL LONDON OPHTHALMIC HOSPITAL (*Moorfields*, 1804–1899), City-road, E.C.—138 beds. This hospital, *known as Moorfields Eye Hospital*, was moved in *1899 to* larger buildings in City-road. In 1907 there were 2218 in-patients, the new out-patients were 49,776, *and the attendances* were 124,304. Operations are performed daily from 10 A.M. to 1 P.M. and four surgeons attend on each day. *Students are admitted* to the practice of the hospital. Fee for six months, £3 3*s*.; perpetual, £5 5*s*. Courses of instruction on the *following subjects are* given at the hospital periodically: (1) examination of the eye; (2) the use of the ophthalmoscope; (3) *errors* of refraction; (4) external diseases of the eye; (5) surgical anatomy of *the eye*; (6) motor anomalies; (7) pathology of the eye; (8) practical pathology; (9) bacteriology; (10) operative surgery; (11) x ray work; and (12) clinical lectures. A composition fee of £10 10*s*. will entitle students of the hospital to a perpetual ticket and will admit them once to all the above lectures and demonstrations except the classes on practical pathology, bacteriology, operative surgery, and x ray work. Students of the hospital are eligible for the offices of house surgeon or clinical and junior assistants. Junior assistants are appointed every three
further information will be furnis
Secretary. Consulting Physici
Consulting Surgeons: Mr. J.
Mr. E. Nettleship, Sir John
Physician: Dr. J. Taylor. Surg
W. Lang, Mr. J. B. Lawford,
Collins, Mr. W. T. H. Spicer
J. H. Fisher, Mr. A. Lawson,

Douglas Powell, Dr. F. T. Roberts, Dr. C. T. Williams, Dr. J. M. Bruce, Dr. T. H. Green, Dr. J. K. Fowler, Dr. T. D. Acland, and Dr. P. Kidd. Physicians: Dr. R. Maguire, Dr. H. W. G. Mackenzie, Dr. S. H. Habershon, Dr. F. J. Wethered, Dr. P. Horton-Smith Hartley, and Dr. J. J. Perkins. Assistant Physicians: Dr. A. Latham, Dr. H. Batty Shaw, Dr. W. C. Bosanquet, Dr. R. A. Young, Dr. C. Wall, and Dr. W. J. Fenton. Consulting Surgeons: Lord Lister and Mr. R. J. Godlee. Surgeon: Mr. S. Boyd. *Dental Surgeon: Mr. G. L. Bates. Surgeon to Throat* and Ear Department: Dr. Dundas Grant. Superintendent of Laboratories: Dr. A. C. Inman; X-ray Department: Dr. *A. H. Greg.* Resident Medical Officer: Dr. F. C. Shrubsall.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—*During the past year 1212 in-patients* have been treated in the wards, and the large number of 40,137 cases since the opening of the wards in 1855. The number of out-patients treated during 1907 was 15,948 and 737,978 since the commencement of the institution in 1848. *Information as to medical instruction can be obtained on* application to the Secretary of the Clinical Sub-committee at the hospital. Consulting Physicians: Dr. J. C. Thorowgood, Dr. Eustace Smith, Dr. Vincent D. Harris, Sir William S. Church, Dr. E. Clifford Beale, and Dr. Harrington Sainsbury. Consulting Surgeon: Lord Lister. Physicians: Dr. G. A. Heron, Dr. T. Glover Lyon, Sir Hugh Beevor, Bart., Dr. W. J. Hadley, Dr. E. H. Colbeck, and Dr. Arnold Chaplin. Surgeon: Mr. G. Lenthal Cheatle. Physicians to Out-patients: Dr. Hugh Walsham, Dr. Oliver K. Williamson, Dr. Clive Riviere, Dr. O. F. F. Grünbaum, Dr. T. Lewis, and Dr. Eric Pritchard. Surgeon Dentist: Mr. Evelyn C. Sprawson. Secretary: H. Dudley Ryder. Secretary *of the Medical Committee:* Dr. O. F. F. Grünbaum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road. (80 beds.)—This hospital provides accommodation for 80 in-patients. Expenditure for 1907 £6296; income (including legacies, £3075) £7655. The attendance of out-patients averages 27,000 annually. Consulting Physicians: Dr. Horace Dobell, Dr. P. J. Hensley, and Professor D. W. Finlay. *Physicians: Dr. W. H. White, Dr. A. Davies, Dr.* J. Calvert, Dr. M. Leslie, Dr. J. H. Drysdale, and Dr. A. G. Phear. Assistant Physicians: Dr. H. E. Symes Thompson, Dr. J. Graham Forbes, and Dr. Bernard Hudson. Consulting Surgeons: Mr. J. Hutchinson and Mr. Pearce Gould. Surgeon: Mr. W. Turner. Radiographer: Dr. A. C. Jordan. Resident Medical Officer: Dr. A. S. Hosford. House Physician: vacant. Secretary: Mr. A. T. Mays.

THE MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, HAMPSTEAD AND NORTHWOOD, CENTRAL OUT-PATIENT DEPARTMENT, Fitzroy-square, W.—The Hospitals contain 220 beds. Number of in-patients, 1424; out-patients, 3002. *Resident Medical Staff. Lectures* and Clinical Demonstrations are given by the Visiting Medical Staff at the Hospital at Hampstead and the Out-patient department. The next course begins in October, at the out-patient department. Clinical assistants are appointed to physicians in the wards, and in the out-patient department. Consulting Physicians: Sir Hermann Weber and Sir T. Clifford Allbutt, K.C.B. Consulting Surgeon: Sir W. Watson Cheyne, Bart. Physicians: Dr. J. Edward Squire, C.B., Dr. F. W. Tunnicliffe, Dr. George Johnston, Dr. F. Parkes Weber, Dr. T. N. Kelynack, and Dr. T. D. Lister. Assistant Physicians: Dr. F. W. Price and Dr. A. J. Whiting. Pathologist: Dr. F. W. Price. Surgeon: Mr. James Berry. Laryngologist: Mr. Harold Barwell. Anæsthetist: Dr. Herbert Scharlieb, C.M.G., Dental Surgeon: Mr. H. C. Colyer.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL AND MIDWIFERY TRAINING SCHOOL, Marylebone-road, N.W.—This hospital, which has been recently again enlarged and in which many important improvements have been carried out, receives over 1700 patients annually, besides having a large out-patient department. Medical pupils are received at all times of the year. Pupils have unusual opportunities of seeing obstetric complications and operative midwifery, on account of the very large number of primiparous cases—nearly three-fourths of the total admissions. Clinical instruction is given on the more important cases which present themselves. Certificates of attendance at this hospital are recognised by all the Universities, Colleges, and licensing bodies. Pupil midwives and monthly nurses are received and specially trained. Fees: Medical Students, £8 8s. for four weeks; Qualified Medical Practitioners, *£8 8s. for four weeks. Pupil Midwives* (including board and lodging), £35 for five months; Pupil Nurses (including board and lodging), £24 for sixteen weeks. The new Residential College provides accommodation for 16 men at a time, students and qualified practitioners, and is opposite the hospital, with which *it is in telephonic* communication. Terms for residence and full board 35s. per week. For further particulars application should be made to Mr. *Arthur Watts*, Secretary, at the hospital. Students join preferably on the first Monday in each month. Arrangements have been made whereby 14 Medical Students can now be admitted per month (168 per annum) to the practice of the hospital in order to receive[2] preliminary *instruction in Practical. Midwifery* in accordance with the *recommendations of the General Medical Council.* This instruction will include: (1) Practical instruction in the methods of examination of pregnant women; (2) delivery of women in labour under the *direct supervision* of a Medical Officer of the hospital; *(3) practical instruction* in the treatment of the mother and child during the puerperium, including clinics held four times weekly by the Visiting Medical Staff; and (4) instruction in the Clinical Laboratory of the hospital. Students will be accommodated at the Residential College adjoining the hospital. The inclusive fee for hospital practice and board and lodging will be £12 12s. per calendar month. *Medical students and qualified practitioners will still be* admitted under the old regulations for a month's course. During this time they will be able to attend the number of cases of labour required by the various examining bodies. The inclusive fee for this course and for board and lodging will be £15 8s. Consulting Physicians: Dr. George B. Brodie and Dr. W. S. A. Griffith. Consulting Surgeon: Mr. *Alfred* Willett. *Physicians to In-patients: Dr.* W. Rivers Pollock, Dr. W. J. Gow, Dr. T. W. Eden, and Dr. A. F. Stabb. Physicians to Out-patients: Dr. C. Hubert Roberts and Dr. Thomas G. Stevens.

THE HOSPITAL FOR WOMEN, Soho-square, W.—In connexion with the out-patient department there has been for some years a well-organised Clinical Department. Gentlemen are appointed to act as clinical assistants to the gynæcologists to out-patients. The appointments are open to qualified medical men and women. They are entitled to receive notice of all operations performed within the hospital, and every facility is afforded them by the gynæcologists in the out-patient department of obtaining experience in diagnosis and treatment and the practical use of instruments. Fee for one month £2 2s.; for each subsequent month the same. The *hospital contains 60 beds. In the out-patient* department there were over *4000 new cases during the past* year, the total number of out-patient attendances being 16,338. This large number affords *exceptional* opportunities for examining and studying most of the varieties of the diseases of women. Applications should be made to the Dean. Consulting Physicians: Dr. C. H. Carter and Dr. E. Holland. Consulting Surgeon: Mr. H. A. Reeves. Consulting Surgeon Dentist: Mr. Cauton. Gynæcologists: Dr. Richard Smith, *Dr. J. A. Mansell-Moullin, Dr. Bedford Fenwick (in charge of out-patients), Dr. James Oliver, Dr. J. H.* Dauber, and Dr. A. E Stevens. Assistant Gynæcologist: Dr. H. J. F. Simson. Surgeon: Mr. D. Drew. Assistant Surgeon: Mr. L. H. McGavin. Surgeon Dentist: Mr. C. G. May. Anæsthetists: Mr. C. J. Ogle and Dr. M. Horne. Pathologist: Dr. S. J. Aarons. Registrar, Dr. W. A. Milligan. House Physician: Dr. Mackenzie.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—The hospital maintains 120 cots, and on an average 259 *out-patients are seen daily. Clinical instruction is given* by the physicians and surgeons to the hospital, which is recognised by the Conjoint Board for England as a school of medical teaching for students in the fifth year of the curriculum. All particulars may be obtained on application to the Secretary. Two clinical clerkships for qualified or unqualified students are open every three months, subject to reappointment if desired. Clinical assistants (qualified men only) are from time to time appointed in the out-patient department. Any additional *information may be obtained* on applying to Mr. Cuthbert

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[2] The preliminary instruction which is now required by the General Medical Council is preparatory to the attendance on 20 cases of labour which is still *required in addition to* the above course.

Leicester-square. The opening lecture on Cataphoresis in General and Special Medicine will be given by Dr. Morgan Dockrell on Oct. 8th. At the end of the course the Chesterfield silver medal may be competed for by those who have attended three-fourths of the lectures. Physicians: Dr. Morgan Dockrell, Dr. M. K. Hargreaves, Dr. Thomas D. Savill, Dr. Alfred Eddowes, and Dr. G. W. Dawson. Assistant Physicians: Dr. Agnes F. Savill, Dr. V. H. Rutherford, and Dr. Louis F. Knuthsen. Medical Officer to X-ray Department: Mr. Chisholm Williams.

LONDON LOCK HOSPITAL AND RESCUE HOME.—This institution consists of a hospital for females in the Harrow-road and a hospital for males in Dean-street, Soho. At the latter branch an out-patient department is attached and both sexes receive treatment. In the female branch there are 120 beds and 461 patients were admitted in 1907. In the male branch there are 27 beds which during 1907 accommodated 235 patients. Over 34,000 out-patients were treated. Patients are seen at Dean-street on Mondays from 1 to 2 P.M. and from 6 to 8 P.M.; on Tuesdays and Wednesdays from 6 to 8 P.M.; on Fridays from 2 to 3 P.M. (female patients); and on Saturdays from 2 to 4 P.M. Consulting Surgeons: Mr. Buxton Shillitoe and Mr. J. A. Bloxam. Consulting Ophthalmic Surgeon: Mr. Henry Edward Juler. Physician: Dr. Sidney Phillips. Surgeons: Mr. J. Ernest Lane, Mr. Arthur Shillitoe, and Mr. Charles Gibbs. Surgeons to Out-patients: Mr. Charles Ryall, Mr. Herbert J. Paterson and Mr. Ernest C. Hughes. House Surgeon at the Female Hospital: Mr. J. Johnston Abraham. House Surgeon at the Male Hospital and Out-patients' Department: Mr. H. S. Pinker.

3RD COUNTY OF LONDON FIELD AMBULANCE, 1ST LONDON DIVISION, 51, Calthorpe-street, Gray's Inn-road, W.C.—Officer Commanding: Lieutenant-Colonel J. Harper. The 3rd County of London Field Ambulance, 1st London Division bears the same relation to the Territorial Army as the Royal Army Medical Corps bears to the regular Army. The course of training has the great advantage of affording, in addition to a knowledge of ordinary military duties, special ambulance instruction useful in all ranks of life. All students who are thinking of entering either of the public services are strongly recommended to join. The instruction received will be found of the greatest advantage to such as intend joining either the Royal Army Medical Corps or the Indian Medical Service on the completion of their hospital course, the work taught in this Field Ambulance being practically the same as that taught at the Depôt, Royal Army Medical Corps, Aldershot, and in which an examination is held at the end of the four months' course there before the young officers are drafted to their different stations. A sound knowledge of the work which can be obtained in the Field Ambulance must necessarily be of great benefit to those going through the depôt and give a decided advantage over those who have had no previous military training. In addition to the drills of an ordinary infantry corps, the special training includes stretcher and wagon and cacolet drill; the use of improvised seats and stretchers; the use and application of bandages, splints, &c.; the duties of the *personnel* of a field ambulance; lectures by the officers on first aid to the injured, and on the elements of anatomy, physiology, hygiene, and nursing, which are so arranged as not to interfere with the lectures, &c., carried on at the various hospitals in London. The Ambulance goes into camp for eight to 15 days in the summer each year for field training with its brigade or division. There is also a Shooting Club in the corps, in which instruction in, and facilities for, the practice of rifle shooting are given. There is a Transport Section in connexion with the corps, the members of which go through a course of instruction in riding and driving and transport work with the regular troops. There are also sections of Cyclists and Signallers. A Gymnastic and Boxing Class meets once a week at headquarters, under a professional instructor. Lectures are delivered during the winter session. The Sergeant Major will give any information respecting the above on application to the headquarters, 51, Calthorpe-street, Gray's Inn-road, W.C.

COOKE'S SCHOOL OF ANATOMY, PHYSIOLOGY, AND OPERATIVE SURGERY, *London.*—The school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half-a-dozen students in the course of the year; these have special advantages both as regards Anatomy and Physiology. Charges are but slightly in excess of current charges and particulars are forwarded on application. By the decision of various examining bodies gentlemen rejected at their Anatomical and Physiological Examinations can get signed up for the supplementary work they are required to put in before re-examination. The operations of surgery are performed on the dead body and the courses are recognised for army promotion. The school possesses a good collection of physiological and chemical apparatus and candidates for the higher examinations receive special instruction in the more difficult subjects.

PROVINCIAL MEDICAL SCHOOLS AND HOSPITALS HAVING SPECIAL CLASSES AND FACILITIES FOR CLINICAL STUDY.[1]

THE number of important provincial medical schools has much grown of late in England mainly owing to the foundation of the new provincial universities. The faculty of medicine of these universities is able to arrange a full medical curriculum for students with access to the different hospitals, large and small, of the university city, and the students at these schools will receive at the end of their medical course a degree in medicine. We have already described the academic procedure to obtain the degrees; we now enumerate the hospitals at which the students of the medical schools of the universities can complete their medical education.

UNIVERSITY OF OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Courses of instruction are given in connexion with the Oxford University Medical School. These include (1) a course in Practical Medicine by the Regius Professor of Medicine; (2) Clinical lectures by the Litchfield Lecturers in Medicine and Surgery; and (3) tutorial instruction and demonstrations in special Regional Anatomy (medical and surgical), methods of Medical and Surgical Diagnosis, and Surgical Manipulation. Pathological demonstrations are given in the post-mortem room at the Pathological Laboratory by the Professor of Pathology. Practical Pharmacy is taught in the Radcliffe Dispensary. Opportunities are offered to students who wish to act as surgical dressers and clinical clerks in the out patient departments and in the wards. The Infirmary contains 150 beds. Honorary Physician: Dr. E. B. Gray. Honorary Surgeons: Mr. J. Briscoe and Mr. A. Winkfield. Active Consulting Physician: Professor William Osler. Acting Staff:—Honorary Physicians: Dr. W. Tyrrell Brooks, Dr. W. Collier, and Dr. E. Marlam. Honorary Assistant Physician and Medical Registrar: Dr. A. Waters. Honorary Surgeons: Mr. Horatio P. Symonds, Mr. R. H. A. Whitelocke, and Mr. A. P. Parker. Honorary Assistant Surgeon and Surgical Registrar: Mr. E. C. Bevers. Consulting Ophthalmic Surgeon: Mr. R. W. Doyne. Pathologist: Professor Georges Dreyer. Consulting Dental Surgeon: Mr. E. A. Bevers. Honorary Radiographer: Dr. R. H. Sankey. House Physician: Dr. W. Hal Barnett. House Surgeon: Mr. H. R. Ramsbotham. Junior House Surgeon: Mr. G. Moore Johnson.

UNIVERSITY OF CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Clinical Lectures in Medicine and Surgery, in connexion with Cambridge University Medical School, are delivered at this hospital twice a week during the academical year; and practical instruction in Medicine and Surgery in the wards and out-patients' rooms is given by the physicians and surgeons daily, during the vacations as well as term time. Instruction is also given in the special methods of medical and surgical investigation. Clinical Clerks and Dressers are selected from students according to merit. The composition fee for pupilship is 8 guineas. Consulting Physician: Dr. P. W. Latham and Dr. D. MacAlister. Consulting Surgeon: Mr. G. Wallis. Physicians: Sir T. C. Allbutt, Dr. J. B. Bradbury, and Dr. L. Humphry. Assistant Physicians: Dr E. Lloyd-Jones and Dr J. A. Wright. Surgeons: Mr. G. Wallis, Mr. G. E. Wherry, Mr. F. Deighton, Mr. J. Griffiths, and Mr. F. H. Marsh. Assistant Surgeon: Mr. Cooke. Consulting Dental Surgeon: Mr. W. A. Rhodes.

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[1] For Scholarships see p. 664 et seq.

Assistant Surgeons: Mr. J. H. Parsons and Mr. C. Worth. Medical Officer to the X Ray Department: Mr. J. M. Davidson. Curator and Librarian: Mr. G. Coats. Bacteriologist: Dr. B. H. Wedd. Senior House Surgeon: Mr. A. C. Hudson. *Second House Surgeon: Mr. Norman E. Gibbs.* Third House Surgeon: Mr. J. Stevenson Wilson. Refraction Assistants: Mr. T. Phillips, Mrs. Warner, Mr. G. T. Mould, and Miss S. Seekings.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand.—The hospital *contains 40 free* beds. Patients, who number over 11,000 annually, are seen at 1 P.M., and operations performed daily at 2 P.M. The following are the days of attendance of the surgeons: Mr. Hartridge and Mr. Grimsdale, Mondays and Thursdays; Mr. Roll and Mr. McMullen, Tuesdays and Fridays; and Mr. Dodd and Mr. Brewerton, Wednesdays and Saturdays. The practice of the hospital is open to practitioners and *students. Fees for six months, £3 3s.*; perpetual, £5 5s. Students of the hospital are eligible for the posts of house surgeon and clinical assistants. Special demonstrations and lectures will be given during the session, commencing early in October; for details see weekly journals. Clinical Assistants *(who must be duly qualified) to the Surgeons are* appointed for periods of six months. Secretary: Mr. John Hy. Johnson.

ROYAL EYE HOSPITAL, St. George's-circus, Southwark, S.E.—There are 40 beds and 2 cots. There were 84,108 attendances in the Out-patient Department last year and the new patients numbered 28,144. Operations are performed and out-patients are seen daily at 9 A.M. and 2 P.M. *The following are the days of attendance*:—Afternoons: Mr. M. M. McHardy, Tuesdays and Thursdays; Sir William J. Collins, Mondays and Wednesdays; Mr. L. V. Cargill, Tuesdays and Fridays; and Mr. J. Strond Hosford, Mondays, Thursdays, and Saturdays. *Mornings: Mr. E. Brooksbank James, Mondays* and Thursdays; Mr. A. W. Ormond, Wednesdays and Saturdays; Mr. H. Willoughby Lyle, Tuesdays and Fridays. Qualified practitioners and students are admitted to the practice of the hospital upon the recommendation of the medical staff. Courses of instruction in Ophthalmology will be given during October, November, and December, 1908. Lectures will be delivered on Monday, Wednesday, and Friday *evenings at 8 P.M. In addition special lectures* or clinical demonstrations will be given by the hospital staff on dates to be announced. Fee for the course, £2 2s.; including three months' hospital practice, £3 3s. Tutorial or coaching classes for the various examinations arranged as far as possible to suit candidates. Further particulars may be obtained from the honorary secretary, Mr. H. Willoughby Lyle.

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CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—In addition to *the new In-patient* Department and operation theatre the hospital has a very extensive out-patient department, which is open to all medical practitioners and students for the purpose of clinical demonstration and instruction during the hours of the surgeons' visits. During the past *year 9993* out-patients (involving 46,859 attendances) and 564 in-patients were treated. The fee *for three* months' attendance, 5 guineas; for six months, 8 guineas. The post-graduate *teaching* consists of successive series of practical demonstrations by the members of the staff *delivered* twice weekly during the winter and summer sessions. They are so arranged *that practitioners* joining at any part of the course are enabled to complete the group of subjects. *The fee for* each course is three guineas, with daily attendance at the out-patient department during *the* period *of* the course. Details of subjects, &c., will be afforded by the Dean. Considerable *attention* is given to scientific work, particularly with regard to Bacteriology of the ear and respiratory passages. *Operation days: in-patients,* Tuesday, Wednesday, Thursday, and Friday, at 2 P.M.; out-patients, daily at 9 A.M. Consulting Physician: Dr. *Arthur Orwin.* Consulting Surgeon: Mr. Thomas Nunn. Surgeons: Dr. Dundas Grant, Dr. Percy Jakins, Mr. Chichele Nourse, and Dr. Abercrombie. Assistant Surgeons: Mr. Stuart Low, Dr. Andrew Wylie, Dr. Atkinson, and Dr. McKenzie. Pathologist: Dr. Wyatt Wingrave. Dental *Surgeon: Mr. Whishaw Wallis. Assistant Dental* Surgeon: Mr. Henning James. Anæsthetist: Mr. W. Hotten George. Assistant Anæsthetists: Dr. Beresford Kingsford, Dr. Mortimer, and Dr. Crampton In addition the following appointments are open to qualified members of the profession:—Three Registrars, tenable for *twelve months; and twelve* Clinical Assistants, tenable for three or six months. Secretary: Mr. Richard Kershaw. Dean: Dr. Wyatt Wingrave.

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THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.—*The hospital was founded in 1838 and is situated in* Grafton-street, Tottenham-court-road. The out-patient department is opened daily at 2.30 P.M. to all medical practitioners and senior students for acquiring clinical instruction and technical knowledge. Operations upon in-patients *are performed on Tuesdays, Wednesdays, and Thursdays at* 9.30 A.M. Fee for one month's attendance at the hospital £1 1s., and for three months £2 2s. During the forthcoming session practical demonstrations *will be given by members* of the staff on the diagnosis and treatment of diseases of the ear and respiratory passages. Each course may commence at any time. Consulting Surgeons: Mr. G. *Saunders* and Mr. J. Pickett. Surgeons: Mr. H. Pegler, Mr. F. Spicer, and Mr. W. J. *Horne. Assistant* Surgeons: Mr. C. Fox, Mr. B. Jones, and Mr. J. C. Potter. Anæsthetists: Mr. J. Brunton and Mr. C. N. Barton. Dentist: Mr. E. Davis.

ROYAL EAR HOSPITAL, *Dean-street, Soho. (Founded* 1816.)—Courses of instruction of a practical character in Diseases of the Ear and Nose are given by the members of the staff throughout the year. Clinical assistants are also appointed. The new hospital is now in full working order. *Students may join at any time.* For information address the Honorary Secretary of the Medical Board, Royal Ear Hospital, Dean-street, Soho. Surgeons: Mr. M. Yearsley and Mr. Richard *Lake.* Assistant Surgeons: Mr. W. H. Bowen, Mr. E. A. Peters, Mr. R. S. Cocke, and Mr. A. Evans. Anæsthetists: Mr. F. D. Bennett, Mr. J. H. Chaldecott, and Dr. F. E. Shipway. Dental Surgeon: Mr. F. W. Barrett. Ophthalmic Surgeon: Mr. H. W. Lyle.

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ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN *Leicester-square, W.C. Rebuilt 1905.*—The *in-patient department*, 40 beds, is at 262, Uxbridge-road, W. The out-patient practice is open to the medical profession at the following times: Every day, from *2 to 4 P.M., and every* evening (except Saturday) 6 to 8. At the afternoon clinics specially selected Clinical Demonstrations, also demonstrations on the different diseases presenting themselves in the out-patient department, followed by Lectures, will be given. The x ray department is in operation every afternoon except Saturday. The Chesterfield Lectures are given on Thursdays at 6 P.M. October to March in the lecture room at 49.

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LONDON LOCK HOSPITAL AND RESCUE HOME.—This institution consists of a hospital for females in the Harrow-road and a hospital for males in Dean-street, Soho. At the latter branch an out-patient department is attached and both sexes receive treatment. In the female branch there are 120 beds and 461 patients were admitted in 1907. In the male branch there are 27 beds which during 1907 accommodated 235 patients. Over 34,000 out-patients were treated. Patients are seen at Dean-street on Mondays from 1 to 2 P.M. and from 6 to 8 P.M.; on Tuesdays and Wednesdays from 6 to 8 P.M.; on Fridays from 2 to 3 P.M. (female patients); and on Saturdays from 2 to 4 P.M. Consulting Surgeons: Mr. Buxton Shillitoe and Mr. J. A. Bloxam. Consulting Ophthalmic Surgeon: Mr. Henry Edward Juler. Physician: Dr. Sidney Phillips. Surgeons: Mr. J. Ernest Lane, Mr. Arthur Shillitoe, and Mr. Charles Gibbs. Surgeons to Out-patients: Mr. Charles Ryall, Mr. Herbert J Paterson and Mr. Ernest C. Hughes. House Surgeon at the Female Hospital: Mr. J. Johnston Abraham. House Surgeon at the Male Hospital and Out-patients' Department: Mr. H. S. Pinker.

3RD COUNTY OF LONDON FIELD AMBULANCE, 1ST LONDON DIVISION, 51, Calthorpe-street, Gray's Inn-road, W.C.—Officer Commanding: Lieutenant-Colonel J. Harper. The 3rd County of London Field Ambulance, 1st London Division bears the same relation to the Territorial Army as the Royal Army Medical Corps bears to the regular Army. The course of training has the great advantage of affording, in addition to a knowledge of ordinary military duties, special ambulance instruction useful in all ranks of life. All students who are thinking of entering either of the public services are strongly recommended to join. The instruction received will be found of the greatest advantage to such as intend joining either the Royal Army Medical Corps or the Indian Medical Service on the completion of their hospital course, the work taught in this Field Ambulance being practically the same as that taught at the Depôt, Royal Army Medical Corps, Aldershot, and in which an examination is held at the end of the four months' course there before the young officers are drafted to their different stations. A sound knowledge of the work which can be obtained in the Field Ambulance must necessarily be of great benefit to those going through the depôt and give a decided advantage over those who have had no previous military training. In addition to the *drills* of an ordinary infantry corps, the special training includes stretcher and wagon and cacolet drill; the use of improvised seats and stretchers; the use and application of bandages, splints, &c.; the duties of the *personnel* of a field ambulance; lectures by the officers on first aid to the injured, and on the elements of anatomy, physiology, hygiene, and nursing, which are so arranged as *not* to interfere with the lectures, &c., carried on at the various hospitals in London. The Ambulance goes into camp for eight to 15 days in the summer each year for field training with its brigade or division. There is also a Shooting Club in the corps, in which instruction in, and facilities for, the practice of rifle shooting are given. There is a Transport Section in connexion with the corps, the members of which go through a course of instruction in riding and driving and transport work with the regular troops. There are also sections of Cyclists and Signallers. A Gymnastic and Boxing Class meets once a week at headquarters, under a professional instructor. Lectures are delivered during the winter session. The Sergeant Major will give any information respecting the above on application to the headquarters, 51, Calthorpe-street, Gray's Inn-road, W.C.

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PROVINCIAL MEDICAL SCHOOLS AND HOSPITALS HAVING SPECIAL CLASSES AND FACILITIES FOR CLINICAL STUDY.[1]

THE number of important provincial medical schools has much grown of late in England mainly owing to the foundation of the new provincial universities. The faculty of medicine of these universities is able to arrange a full medical curriculum for students with access to the different hospitals, large and small, of the university city, and the students at these schools will receive at the end of their medical course a degree in medicine. We have already described the academic procedure to obtain the degrees; we now enumerate the hospitals at which the students of the medical schools of the universities can complete their medical *education*.

UNIVERSITY OF OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Courses of instruction are given in connexion with the Oxford University Medical School. These include (1) a course in Practical Medicine by the Regius Professor of Medicine; (2) Clinical lectures by the Litchfield Lecturers in Medicine and Surgery; and (3) tutorial instruction and demonstrations in special Regional Anatomy (medical and surgical), methods of Medical and Surgical Diagnosis, and Surgical Manipulation. Pathological demonstrations are given in the post-mortem room at the Pathological Laboratory by the Professor of Pathology. Practical Pharmacy is taught in the Radcliffe Dispensary. Opportunities are offered to students who wish to act as surgical dressers and clinical clerks in the out patient departments and in the wards. The Infirmary contains 150 beds. Honorary Physician: Dr. E. B. Gray. Honorary Surgeons: Mr. J. Briscoe and Mr. A. Winkfield Active Consulting Physician: Professor William Osler. Acting Staff:—Honorary Physicians: Dr. W Tyrrell Brooks, Dr. W. Collier, and Dr. E. Marlam. Honorary Assistant Physician and Medical Registrar: Dr. A. Waters. Honorary Surgeons: Mr. Horatio P. Symonds, Mr. R. H. A. Whitelocke, and Mr. A. P. Parker. Honorary Assistant Surgeon and Surgical Registrar: Mr. E. C. Bevers. Consulting Ophthalmic Surgeon: Mr. R. W. Doyne. Pathologist: Professor Georges Dreyer. Consulting Dental Surgeon: Mr. E. A. Bevers. Honorary Radiographer: Dr. R H Sankey. House Physician: Dr. W. Hal Barnett. House Surgeon: Mr. H. R. Ramsbotham. Junior House Surgeon: Mr. G. Moore Johnson.

UNIVERSITY OF CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Clinical Lectures in Medicine and Surgery, in connexion with Cambridge University Medical School, are delivered at this hospital twice a week during the academical year; and practical instruction in Medicine and Surgery in the wards and out-patients' rooms is given by the physicians and surgeons daily, during the vacations as well as term time. Instruction is also given in the special methods of medical and surgical investigation. Clinical Clerks and Dressers are selected from students according to merit. The composition fee for pupilship is 8 guineas. Consulting Physician: Dr. P. W. Latham and Dr. D. MacAlister. Consulting Surgeon: Mr. G. Wallis. Physicians: Sir T. C. Allbutt, Dr. J. B Bradbury, and Dr. L. Humphry. Assistant Physicians: Dr E. Lloyd-Jones and Dr J. A. Wright. Surgeons: Mr. G. Wallis, Mr. G. E. Wherry, Mr. F. Deighton, Mr. J. Griffiths, and Mr. F. H Marsh Assistant Surgeon: Mr. Cooke Consulting Dental Surgeon: Mr. W. A. Rhodes.

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[1] For Scholarships see p. 664 et seq.

Assistant Surgeons: Mr. J. H. Parsons and Mr. C. Worth. Medical Officer to the X Ray Department: Mr. J. M. Davidson. Curator and Librarian: Mr. G. Coats. Bacteriologist: Dr. B. H. Wedd. Senior House Surgeon: Mr. A. C. Hudson. Second House Surgeon: Mr. Norman E. Gibbs. Third House Surgeon: Mr. J. Stevenson Wilson. Refraction Assistants: Mr. T. Phillips, Mrs. Warner, Mr. G. T. Mould, and Miss S. Seekings.

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ST. PETER'S HOSPITAL FOR STONE AND URINARY DISEASES, Henrietta-street, Covent-garden. Established 1860. New Hospital opened, 1882.—Honorary Surgeons: Mr. F. Swinford Edwards and Mr. P. J. Freyer. Assistant Surgeons: Mr. John Pardoe and Mr. J. W. Thomson Walker. The hospital contains 30 beds for men and 2 beds for women and children. Consultations are held and operations are performed each Wednesday and Friday at 2 P.M. Medical practitioners and students are invited to the clinical instructions which are given in the wards and out-patient department daily, and to the operations in the theatre on Wednesdays and Fridays at 2 P.M. Average beds occupied daily, 30; average out-patients seen daily, 100.

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3RD COUNTY OF LONDON FIELD AMBULANCE, 1ST LONDON DIVISION, 51. Calthorpe-street, Gray's Inn-road, W.C.—Officer Commanding: Lieutenant-Colonel J. Harper. The 3rd County of London Field Ambulance, 1st London Division. bears the same relation to the Territorial Army as the Royal Army Medical Corps bears to the regular Army. The course of training has the great advantage of affording, in addition to a knowledge of ordinary military duties, special ambulance instruction useful in all ranks of life. All students who are thinking of entering either of the public services are strongly recommended to join. The instruction received will be found of the greatest advantage to such as intend joining either the Royal Army Medical Corps or the Indian Medical Service on the completion of their hospital course, the work taught in this Field Ambulance being practically the same as that taught at the Depôt, Royal Army Medical Corps, Aldershot, and in which an examination is held at the end of the four months' course there before the young officers are drafted to their different stations. A sound knowledge of the work which can be obtained in the Field Ambulance must necessarily be of great benefit to those going through the depôt and give a decided advantage over those who have had no previous military training. In addition to the drills of an ordinary infantry corps, the special training includes stretcher and wagon and cacolet drill; the use of improvised seats and stretchers; the use and application of bandages, splints, &c.; the duties of the *personnel* of a field ambulance; lectures by the officers on first aid to the injured, and on the elements of anatomy, physiology, hygiene, and nursing, which are so arranged as not to interfere with the lectures, &c., carried on at the various hospitals in London. The Ambulance goes into camp for eight to 15 days in the summer each year for field training with its brigade or division. There is also a Shooting Club in the corps, in which instruction in, and facilities for, the practice of rifle shooting are given. There is a Transport Section in connexion with the corps, the members of which go through a course of instruction in riding and driving and transport work with the regular troops. There are also sections of Cyclists and Signallers. A Gymnastic and Boxing Class meets once a week at headquarters, under a professional instructor. Lectures are delivered during the winter session. The Sergeant Major will give any information respecting the above on application to the headquarters, 51, Calthorpe-street, Gray's Inn-road, W.C.

COOKE'S SCHOOL OF ANATOMY, PHYSIOLOGY, AND OPERATIVE SURGERY, London.—The school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half-a-dozen students in the course of the year; these have special advantages both as regards Anatomy and Physiology. Charges are but slightly in excess of current charges and particulars are forwarded on application. By the decision of various examining bodies gentlemen rejected at their Anatomical and Physiological Examinations can get signed up for the supplementary work they are required to put in before re-examination. The operations of surgery are performed on the dead body and the courses are recognised for army promotion. The school possesses a good collection of physiological and chemical apparatus and candidates for the higher examinations receive special instruction in the more difficult subjects.

PROVINCIAL MEDICAL SCHOOLS AND HOSPITALS HAVING SPECIAL CLASSES AND FACILITIES FOR CLINICAL STUDY.[1]

THE number of important provincial medical schools has much grown of late in England mainly owing to the foundation of the new provincial universities. The faculty of medicine of these universities is able to arrange a full medical curriculum for students with access to the different hospitals, large and small, of the university city, and the students at these schools will receive at the end of their medical course a degree in medicine. We have already described the academic procedure to obtain the degrees; we now enumerate the hospitals at which the students of the medical schools of the universities can complete their medical education.

UNIVERSITY OF OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Courses of instruction are given in connexion with the Oxford University Medical School. These include (1) a course in Practical Medicine by the Regius Professor of Medicine; (2) Clinical lectures by the Litchfield Lecturers in Medicine and Surgery; and (3) tutorial instruction and demonstrations in special Regional Anatomy (medical and surgical), methods of Medical and Surgical Diagnosis, and Surgical Manipulation. Pathological demonstrations are given in the post-mortem room at the Pathological Laboratory by the Professor of Pathology. Practical Pharmacy is taught in the Radcliffe Dispensary. Opportunities are offered to students who wish to act as surgical dressers and clinical clerks in the out patient departments and in the wards. The Infirmary contains 150 beds. Honorary Physician: Dr. E. B. Gray. Honorary Surgeons: Mr. J. Briscoe and Mr. A. Winkfield Active Consulting Physician: Professor William Osler. Acting Staff:—Honorary Physicians: Dr. W Tyrrell Brooks, Dr. W. Collier, and Dr. E. Marlam. Honorary Assistant Physician and Medical Registrar: Dr. A. Waters. Honorary Surgeons: Mr. Horatio P. Symonds, Mr. R. H. A. Whitelocke, and Mr. A. P. Parker. Honorary Assistant Surgeon and Surgical Registrar: Mr. E. C. Bevers. Consulting Ophthalmic Surgeon: Mr. R. W. Doyne. Pathologist: Professor Georges Dreyer. Consulting Dental Surgeon: Mr. E. A. Bevers. Honorary Radiographer: Dr. R H Sankey. House Physician: Dr. W. Hal Barnett. House Surgeon: Mr. H. R. Ramsbotham. Junior House Surgeon: Mr. G. Moore Johnson.

UNIVERSITY OF CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Clinical Lectures in Medicine and Surgery, in connexion with Cambridge University Medical School, are delivered at this hospital twice a week during the academical year; and practical instruction in Medicine and Surgery in the wards and out-patients' rooms is given by the physicians and surgeons daily, during the vacations as well as term time. Instruction is also given in the special methods of medical and surgical investigation. Clinical Clerks and Dressers are selected from students according to merit. The composition fee for pupilship is 8 guineas. Consulting Physician: Dr. P. W. Latham and Dr. D. MacAlister. Consulting Surgeon: Mr. G. Wallis. Physicians: Sir T. C. Allbutt, Dr. J. B Bradbury, and Dr. L. Humphry. Assistant Physicians: Dr E. Lloyd-Jones and Dr J. A. Wright. Surgeons: Mr. G. Wallis, Mr. G. E. Wherry, Mr. F. Deighton, Mr. J. Griffiths, and Mr. F. H Marsh Assistant Surgeon: Mr. Cooke Consulting Dental Surgeon: Mr. W. A. Rhodes.

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[1] For Scholarships see p. 664 et seq.

Assistant Surgeons: Mr. J. H. Parsons and Mr. C. Worth. Medical Officer to the X Ray Department: Mr. J. M. Davidson. Curator and Librarian: Mr. G. Coats. Bacteriologist: Dr. B. H. Wedd. Senior House Surgeon: Mr. A. C. Hudson. Second House Surgeon: Mr. Norman E. Gibbs. Third House Surgeon: Mr. J. Stevenson Wilson. Refraction Assistants: Mr. T. Phillips, Mrs. Warner, Mr. G. T. Mould, and Miss S. Seckings.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand.—The hospital contains 40 free beds. Patients, who number over 11,000 annually, are seen at 1 P.M., and operations performed daily at 2 P.M. The following are the days of attendance of the surgeons: Mr. Hartridge and Mr. Grimsdale, Mondays and Thursdays; Mr. Roll and Mr. McMullen, Tuesdays and Fridays; and Mr. Dodd and Mr. Brewerton, Wednesdays and Saturdays. The practice of the hospital is open to practitioners and students. Fees for six months, £3 3s.; perpetual, £5 5s. Students of the hospital are eligible for the posts of house surgeon and clinical assistants. Special demonstrations and lectures will be given during the session, commencing early in October; for details see weekly journals. Clinical Assistants (who must be duly qualified) to the Surgeons are appointed for periods of six months. Secretary: Mr. John Hy. Johnson.

ROYAL EYE HOSPITAL, St. George's-circus, Southwark, S.E.—There are 40 beds and 2 cots. There were 84,108 attendances in the Out-patient Department last year and the new patients numbered 28,144. Operations are performed and out-patients are seen daily at 9 A.M. and 2 P.M. The following are the days of attendance:—Afternoons: Mr. M. M. McHardy, Tuesdays and Thursdays; Sir William J. Collins, Mondays and Wednesdays; Mr. L. V. Cargill, Tuesdays and Fridays; and Mr. J. Stroud Hosford, Mondays, Thursdays, and Saturdays. Mornings: Mr. E. Brooksbank James, Mondays and Thursdays; Mr. A. W. Ormond, Wednesdays and Saturdays; Mr. H. Willoughby Lyle, Tuesdays and Fridays. Qualified practitioners and students are admitted to the practice of the hospital upon the recommendation of the medical staff. Courses of instruction in Ophthalmology will be given during October, November, and December, 1908. Lectures will be delivered on Monday, Wednesday, and Friday evenings at 8 P.M. In addition special lectures or clinical demonstrations will be given by the hospital staff on dates to be announced. Fee for the course, £2 2s.; including three months' hospital practice, £3 3s. Tutorial or coaching classes for the various examinations arranged as far as possible to suit candidates. Further particulars may be obtained from the honorary secretary, Mr. H. Willoughby Lyle.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—This hospital has 26 beds and possesses facilities for clinical teaching daily. Last year there were 409 in- and 12,809 out-patients (entailing 29,345 attendances). Classes of instruction in the various branches of Ophthalmology will be held during the winter session, commencing in October. The out-patient work begins at 1 o'clock and operations are performed daily between 1 and 4. Consulting Physician: Sir Dyce Duckworth. Surgeons: Mr. T. Brittin Archer, Mr. Ernest Clarke, Mr. A. P. L. Wells, and Mr. H. Parker. Assistant Surgeons: Mr. Ilbert Hancock and Mr. Stephen Mayou. Physician: Mr. Charles O. Hawthorne. Pathologist: Mr. Stephen Mayou. House Surgeon: Mr. E. L. Marchant. Dentist: Mr. E. P. May. Secretary: Mr. H. R. S. Druce.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—In addition to the new In-patient Department and operation theatre the hospital has a very extensive out-patient department, which is open to all medical practitioners and students for the purpose of clinical demonstration and instruction during the hours of the surgeons' visits. During the past year 9993 out-patients (involving 46,859 attendances) and 564 in-patients were treated. The fee for three months' attendance, 5 guineas; for six months, 8 guineas. The post-graduate teaching consists of successive series of practical demonstrations by the members of the staff delivered twice weekly during the winter and summer sessions. They are so arranged that practitioners joining at any part of the course are enabled to complete the group of subjects. The fee for each course is three guineas, with daily attendance at the out-patient department during the period of the course. Details of subjects, &c., will be afforded by the Dean. Considerable attention is given to scientific work, particularly with regard to Bacteriology of the ear and respiratory passages. Operation days: in-patients, Tuesday, Wednesday, Thursday, and Friday, at 2 P.M.; out-patients, daily at 9 A.M. Consulting Physician: Dr. Arthur Orwin. Consulting Surgeon: Mr. Thomas Nunn. Surgeons: Dr. Dundas Grant, Dr. Percy Jakins, Mr. Chichele Nourse, and Dr. Abercrombie. Assistant Surgeons: Mr. Stuart Low, Dr. Andrew Wylie, Dr. Atkinson, and Dr. McKenzie. Pathologist: Dr. Wyatt Wingrave. Dental Surgeon: Mr. Whishaw Wallis. Assistant Dental Surgeon: Mr. Henning James. Anæsthetist: Mr. W. Hotten George. Assistant Anæsthetists: Dr. Beresford Kingsford, Dr. Mortimer, and Dr. Crampton In addition the following appointments are open to qualified members of the profession: —Three Registrars, tenable for twelve months; and twelve Clinical Assistants, tenable for three or six months. Secretary: Mr. Richard Kershaw. Dean: Dr. Wyatt Wingrave.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Clinical Demonstrations on the Diseases of the Throat, Nose, and Ear are given daily at 2 P.M. and on Tuesday and Friday evenings at 6 P.M. Operations are performed daily at 9.30 A.M. Individual instruction is given in the examination of cases to students attending the hospital. Fees: one month's attendance, £1 1s.; three months, £2 2s.; perpetual, £5 5s. Detailed information may be obtained from the Hon. Secretary of the Medical Committee. Surgeons: Mr. Claud Woakes, Dr. Furniss Potter, Dr. G. Cathcart, Mr. W. H. Kelson, and Mr. Atwood Thorne. Assistant Surgeons: Mr. Sommerville Hastings and Mr. Seccombe Hett.

THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.—The hospital was founded in 1838 and is situated in Grafton-street, Tottenham-court-road. The out-patient department is opened daily at 2.30 P.M. to all medical practitioners and senior students for acquiring clinical instruction and technical knowledge. Operations upon in-patients are performed on Tuesdays, Wednesdays, and Thursdays at 9.30 A.M. Fee for one month's attendance at the hospital £1 1s., and for three months £2 2s. During the forthcoming session practical demonstrations will be given by members of the staff on the diagnosis and treatment of diseases of the ear and respiratory passages. Each course may commence at any time. Consulting Surgeons: Mr. G. Saunders and Mr. J. Pickett. Surgeons: Mr. H. Pegler, Mr. F. Spicer, and Mr. W. J. Horne. Assistant Surgeons: Mr. C. Fox, Mr. B. Jones, and Mr. J. C. Potter. Anæsthetists: Mr. J. Brunton and Mr. C. N. Barton. Dentist: Mr. E. Davis.

ROYAL EAR HOSPITAL, Dean-street, Soho. (Founded 1816.)—Courses of instruction of a practical character in Diseases of the Ear and Nose are given by the members of the staff throughout the year. Clinical assistants are also appointed. The new hospital is now in full working order. Students may join at any time. For information address the Honorary Secretary of the Medical Board, Royal Ear Hospital, Dean-street, Soho. Surgeons: Mr. M. Yearsley and Mr. Richard Lake. Assistant Surgeons: Mr. W. H. Bowen, Mr. E. A. Peters, Mr. R. S. Cocke, and Mr. A. Evans. Anæsthetists: Mr. F. D. Bennett, Mr. J. H. Chaldecott, and Dr. F. E. Shipway. Dental Surgeon: Mr. F. W. Barrett. Ophthalmic Surgeon: Mr. H. W. Lyle.

ST. PETER'S HOSPITAL FOR STONE AND URINARY DISEASES, Henrietta-street, Covent-garden. Established 1860. New Hospital opened, 1882.—Honorary Surgeons: Mr. F. Swinford Edwards and Mr. P. J. Freyer. Assistant Surgeons: Mr. John Pardoe and Mr. J. W. Thomson Walker. The hospital contains 30 beds for men and 2 beds for women and children. Consultations are held and operations are performed each Wednesday and Friday at 2 P.M. Medical practitioners and students are invited to the clinical instructions which are given in the wards and out-patient department daily, and to the operations in the theatre on Wednesdays and Fridays at 2 P.M. Average beds occupied daily, 30; average out-patients seen daily, 100.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN Leicester-square, W.C. Rebuilt 1905.—The in-patient department, 40 beds, is at 262, Uxbridge-road, W. The out-patient practice is open to the medical profession at the following times: Every day, from 2 to 4 P.M., and every evening (except Saturday) 6 to 8. At the afternoon clinics specially selected Clinical Demonstrations, also demonstrations on the different diseases presenting themselves in the out-patient department, followed by Lectures, will be given. The x ray department is in operation every afternoon except Saturday. The Chesterfield Lectures are given on Thursdays at 6 P.M. October to March in the lecture room at 49, Medical School and partly in the Royal Infirmary, as well as in a fever hospital a lunatic asylum, and a convalescent home. Medical and Surgical Clinical Classes are conducted in the Infirmary, which in the new buildings together with the associated hospitals at Cheadle will contain 1158 beds, and separate instruction is afforded in the elements of Medical and Surgical Physical Diagnosis, in Obstetric Medicine, Ophthalmic Surgery, and Pathological Anatomy by the different members of the staff of the Medical School and Infirmary. The following entrance scholarships are offered for award to persons of either sex proposing to enter a medical course of study at the University:—Seaton—One of £40, tenable for two years. Subjects: Greek and Latin Translation at sight, and Prose Composition. Credit given for knowledge of Mathematics (Geometry and Algebra); Elements of English Language, Literature, and History; French and German. Rogers.—One of £50, tenable for two years. Subjects as in Seaton. Dalton.—Two of £40, tenable for two years. Subjects: Geometry (Euclid I.—IV., and VI., or the subjects thereof); Algebra (as far as the Binomial Theorem, inclusive), Plane Trigonometry (to Solution of Triangles); Elementary Analytical Geometry; Conic Sections. Credit given for knowledge of Classics, Elements of English Language, Literature, and History; French and German. Cartwright.—£35 per annum, tenable for three years. Subjects as in Dalton. Dreschfeld Memorial—£30, tenable for one year. Subjects: those of July Matriculation Examination. Hulme.—£35, tenable for three years. Subjects: English Language (Grammatical Structure and Outlines of its History); English Literature (an essay on some subject of English literature); and Modern History (Outlines of English History and Geography); with at least two of the following: Latin (Translation at sight, Grammar, and Easy Composition); Greek (ditto); French (ditto); German (ditto). Credit given for knowledge of Mathematics (Geometry and Algebra). Dora Muir.—£25 per annum, tenable for three years (open to women only). Candidates may select such of the subjects as they desire from amongst those set for the other Entrance Scholarships. James Gaskill.—£35, tenable for two years. Subjects: Mathematics, Geometry (the substance of Euclid I.—IV. and VI.), Algebra (as far as the Binomial Theorem, inclusive), Plane Trigonometry (to Solution of Triangles), Elementary Mechanics, Chemistry. Credit given for knowledge of Classics, Elements of English Language, Literature, and History, and French and German. Manchester Grammar School.—£25 per annum, tenable for three years. The examinations for all these scholarships are held in the month of May. Kay-Shuttleworth (Sir James Phillips).—£30 per annum, tenable for three years. Subjects: Mathematics, Elementary Mechanics, Chemistry. Entrance Scholarships in Medicine.—One Scholarship in each year will be offered for proficiency in Arts and one for proficiency in Science. The Scholarships are of the value of £100 each, which will be set off against their fees as follows: £60 against the fees and £40 against the Infirmary fees. Platt Biological Scholarship.—£50 for one year, awarded to the candidate who shows the most promise and ability for prosecuting original research in Zoology and Botany. Dauntesey Medical Scholarships.—Two Scholarships of £35 each are open to all students preparing for a medical course who shall not have attended lectures or Laboratory courses on human anatomy or physiology, or a purely medical or surgical course in the University or any other Medical School in the United Kingdom. Candidates will be examined in Zoology, Botany, and Chemistry. Medals are awarded on the results of the various class examinations at the end of each session. A Platt Physiological Scholarship of £50 a year for two years is offered annually to the competition of persons whether previously students of the University or not. Two Platt Exhibitions, of the value of £15 each, to be competed for by first and second year students in the class of Physiology, and a Sidney Renshaw Exhibition in Physiology of the value of £15 to be competed for by second year students in Physiology. A Professor Tom Jones Memorial Exhibition of the value of £25, a Dumville Surgical Prize of £15, a Turner Medical Scholarship of £20, and a John Henry Agnew Scholarship in Diseases of Children of £30 are offered annually for competition. A Professor Tom Jones' Memorial Scholarship of £100 is awarded triennially, a Bradley Memorial Scholarship in Clinical Surgery of the value of £20 and Medical and Surgical Clinical Prizes, each of the value of 6 guineas, are open to competition each year for the best reports (with comments) of cases which have occurred in the wards of the infirmary.

THE MANCHESTER ROYAL INFIRMARY.—The medical students of the Victoria University of Manchester receive their clinical instruction at this hospital. This Infirmary, which may safely be said to be one of the finest hospitals in the kingdom, has been built on the pavilion system, near the University, and will be open for the work of the Winter Session, commencing Oct. 1st, 1908. The Infirmary will contain 592 beds. Of these 52 are allotted to the Special and Emergency Departments; the 540 remaining beds are allocated as follows: 240 for medical practice and 300 for surgical practice (180 for men and 120 for women and children). The medical side consists of five units, each unit having a testing room for the scientific investigation of morbid products and a class-room. The surgical beds are also arranged in five units, each unit having its own operation theatre, with anæsthetising, recovery, sterilising, testing, and apparatus rooms, and its own class-room attached. Of these units four on each side will be open in October. The fine educational block provides very handsomely for the wants and comforts of the students, there being separate suites of rooms for the men and the women, and also a large common reading room, a lecture theatre, and a museum. The present annual average number of in-patients is 5000, of out- and home-patients 27,000, and the list of casualties in the accident room exceeds 18,000 per annum. About 3300 operations are performed annually in the operation theatres. Associated with the Infirmary are: the Convalescent Hospital at Cheadle, containing 136 beds; and the Royal Lunatic Hospital at Cheadle, accommodating with its branches 430 patients. The Associated Hospitals thus contain 1158 beds and are under the same management. Women students will be admitted to the practice of the Infirmary on the same terms as men. A valuable Medical Library is accessible to students for the purpose of reference. In addition to the list of scholarships tabulated in another column, two Entrance Scholarships in Medicine of the value of £100 each are offered annually by the Council of the Manchester University and the Medical Board of the Manchester Royal Infirmary for proficiency in Arts and Science subjects respectively. The Bradley Memorial Scholarship in Clinical Surgery, value £20, is offered annually in the Summer Session. Gentlemen are eligible who are in their fifth or sixth year of study, have completed their dresserships, and have spent two years in clinical work at the Manchester Royal Infirmary. One Medical and one Surgical Clinical Prize of the value of 6 guineas are offered annually. (The other scholarships and prizes are in the College Syllabus.) Annual appointments may be held by those who have attended the practice of the infirmary: a Surgical Registrar (£80); a Pathological Registrar (£100); a Medical Registrar (£70); a Surgical Tutor (£30); a Director of the Clinical Laboratory (£200); Assistant Director of the Clinical Laboratory (£40); an Assistant Medical Officer (£105); Three Assistant Surgical Officers (£35 each); an Anæsthetist (£50); an Assistant Anæsthetist (£50); a Medical Officer for home patients (£150). A Third Anæsthetist is appointed for six months (30 guineas) and an Accident House Surgeon is appointed for three months (20 guineas). The following resident appointments are also made annually: Resident Medical Officer (£150); Resident Surgical Officer (£150); Resident Medical Officer at the Convalescent Hospital at Cheadle (£150). An Assistant Medical Officer at this hospital is appointed every six months at a salary of £80 per annum. The following unpaid appointments are open to those who have attended the practice of the Infirmary:—House Surgeons: Two House Surgeons are appointed every three months for a term of six months. House Physicians: Two House Physicians are appointed every three months for a term of six months. The House Surgeons and House Physicians and Resident Assistant at Cheadle must possess registrable qualifications. Consulting Physician: Dr. Henry Simpson. Consulting Surgeons: Mr. Walter Whitehead and Mr. James Hardie. Physicians: Dr. Graham Steell, Dr. J. S. Bury, Dr. A. T. Wilkinson, Dr. E. S. Reynolds, and Dr. G. R. Murray. Assistant Physicians: Dr. R. T. Williamson, Dr. E. M. Brockbank, and Dr. E. N. Cunliffe. Pathologist: Dr. J. Lorrain Smith. Consulting Obstetric Physician: Dr. Lloyd Roberts. Gynæcological Surgeon: Dr. Archibald Donald. Assistant Gynæcological Surgeon: Dr. W. E.

Dental Surgeons: Mr. A. Jones and Mr. E. Rhodes. Honorary Anæsthetists: Mr. G. S. Haynes and Mr. G. F. Rogers.

UNIVERSITY OF DURHAM: THE COLLEGE OF MEDICINE, Newcastle-upon-Tyne.—A new wing has been added to accommodate the departments of physiology and bacteriology. It also contains a students' gymnasium and a set of Students' Union rooms. The new Royal Victoria Infirmary, containing upwards of 400 beds, was opened by His Majesty King Edward VII. in 1906. In the new infirmary adequate accommodation will be provided for the study of the various special subjects, in addition to the ordinary clinical work. The following Scholarships and Prizes are awarded annually:—Four University of Durham Scholarships, value £25, tenable for four years, for proficiency in Arts, awarded to full students in their first year. The Pears Scholarship, value £50 a year, tenable for three years (when vacant). The Masonic Scholarship, value £15 a year, tenable for three years (when vacant). The Dickinson Scholarship, value interest of £400, and a Gold Medal, for Medicine, Surgery, Midwifery, and Pathology. The Tulloch Scholarship, value the interest of £400, for Anatomy, Physiology, and Chemistry. The Charlton Scholarship, value the interest of £700, for Medicine. The Gibb Scholarship, value the interest of £500, for Pathology. The Goyder Memorial Scholarship (at the Infirmary), value the interest of £325, for Clinical Medicine and Clinical Surgery. The Luke Armstrong Memorial Scholarship, value the interest of £680, for Comparative Pathology. The Stephen Scott Scholarship in Surgery, value the interest of £1000. Heath Scholarship: The late Dr. George Yeoman Heath, President of the University of Durham College of Medicine, bequeathed the sum of £4000 to found a Scholarship in Surgery, the interest to be awarded every second year; the next award will be in 1910. The Gibson Prize, interest on £225, in the department of Midwifery and Diseases of Women and Children. The Turnbull Prize and Medal for Surface Anatomy. At the end of each session Prizes of Books are awarded in each of the regular classes. Assistant Demonstrators of Anatomy, Prosectors, and Assistant Demonstrators of Physiology and Pathology are elected yearly. Pathological Assistants, Assistants to the Dental Surgeon, Assistants in the Eye Department, Throat and Ear Department, and Skin Department, Clinical Clerks, and Dressers are appointed every three months.

NEWCASTLE-UPON-TYNE ROYAL VICTORIA INFIRMARY.—This Infirmary was founded in 1751 but has been recently rebuilt, the new hospital being opened in 1906. The number of beds is 410. The number of in-patients annually is 6500 and of out-patients 90,000. The medical students of the University of Durham attend the practice of this hospital. Clinical Lectures are delivered by the Physicians and Surgeons weekly and ward demonstrations are given daily. Tutorial classes are held by the Assistant Physicians and Assistant Surgeons weekly, and demonstrations are given in the several out-patient departments daily. Pathological demonstrations are given by the Pathologist daily or as opportunity occurs, and in the new buildings nothing has been spared in perfecting scientific equipment. In addition to medical and surgical in-patient and out-patient departments the following special departments are fully equipped for teaching students: Ophthalmic, Throat and Ear, Skin, Orthopædic, Gynæcological, Electrical, and Bacteriological. The hospital building contains the following laboratories: 1. Special Pathological Laboratory, attached to the post-mortem rooms. 2. Bacteriological Laboratory, in which all clinical bacteriological investigations are carried out—opsonic indices estimated with a view to treatment by vaccines and serums, &c. 3. There is in addition a Clinical Laboratory attached to each ward and to the out-patient department. There are five operating theatres in use in the hospital, three large theatres, a smaller one for emergencies, and an out-patient theatre. The surgical practice is especially good; more than 4000 surgical operations were performed in the last 12 months. Every facility is given to students to take out the full or any part of the hospital curriculum, and clerkships or assistantships in any of the several special departments are open to undergraduates or graduates for periods of from one to three months. There are 11 resident medical and surgical officers, two of whom are paid, and preference for these appointments is given to students who have fulfilled their curriculum in the hospital. The sessions open on May 1st and Oct. 1st of each year. Applications for detailed information should be made to the Dean, Mr. H. B. Angus, at the hospital. The following is the staff of the hospital:—Physicians: Dr. David Drummond, Dr. Thomas Oliver, Dr. G. R. Murray, and Dr. T. Beattie. Assistant Physicians: Dr. W. E. Hume, Dr. Horsley Drummond, Mr. Alfred Parkin, and Dr. George Hall. Surgeons: Mr. J. Rutherford Morison, Mr. A. M. Martin, Mr. H. B. Angus, and Mr. J. V. W. Rutherford. Assistant Surgeons: Mr. W. G. Richardson, Mr. J. W. Leech, Mr. John Clay, and Mr. G. G. Turner. Ophthalmic Surgeon: Mr. J. D. Wardale. Throat and Ear Department: Surgeon: Mr. G. W. Ridley; Assistant Surgeon: Mr. S. H. Whillis. Gynæcological Department: Dr. R. P. R. Lyle. Skin Department: Physician: Dr. Robert A. Bolam; Assistant Physician: Dr. D. W. Patterson. Orthopædic Department: Mr. A. M. Martin. Electrical Department: Dr. W. D. Arnison. Pathologist: Dr. George Hall. Bacteriologist: Dr. H. J. Slade. Pathological and Analytical Chemist: Mr. P. P. Bedson, D.Sc. Anæsthetists: Dr. R. Younger, Dr. F. G. Armstrong, Dr. W. J. Phillips, and Dr. H. H. Markham. Medical Registrars: Dr. W. E. Moore-Ede and Dr. W. Simpson. Surgical Registrars: Mr. J. W. Heslop and Mr. J. O. Stewart.

There are other institutions at which the student of medicine of the University of Durham can receive clinical instruction. Practical Midwifery can be studied at the Newcastle Lying-in Hospital. Instruction is given in Psychological Medicine at the Northumberland County Asylum, Morpeth. A special course of instruction is given in the City Hospital for Infectious Diseases by the Superintendent, the City Officer of Health, Mr. H. E. Armstrong.

NORTHUMBERLAND, DURHAM, AND NEWCASTLE INFIRMARY FOR DISEASES OF THE EYE, St. Mary's-place, Newcastle-on-Tyne.—Consulting Surgeon: Mr. F. Page. Staff Surgeons: Mr. A. S. Percival and Mr. H. P. Bennett. Assistant Surgeons: Mr. J. B. Hartley and Mr. Stanley Robson. Honorary Anæsthetists: Dr. O. W. Ogden and Mr. T. H. Livingstone. Matron: Miss C. Crump. Secretary: Mr. Richard Smith, 61, Westgate-road, Newcastle-on-Tyne. Out-patients for 1907, 7067; in-patients, 330.

THE VICTORIA UNIVERSITY OF MANCHESTER: MEDICAL FACULTY.—This medical school is located in a large building, which forms a part of the University. It is provided with large dissecting-rooms, physiological laboratories, private laboratories, and work-rooms, besides lecture-rooms, a museum, and a library. In order to give the fullest possible opportunities for teaching and investigation in the departments of Anatomy, Physiology, Pathology, and Materia Medica, a large extension of the school buildings was made in 1895. The greater part of the new buildings is devoted to the departments of physiology, pathology, toxicology, anatomy, and public health. The physiological department occupies more than half of the new buildings, and includes a large lecture theatre, accommodating 350 students, with preparation and diagram rooms adjacent to it, and a research laboratory fitted with the necessary apparatus for the use of advanced students, research scholars, or practitioners of medicine undertaking the investigation of some special subject. In the new pathological laboratories ample provision is made for the teaching of pathology and bacteriology and for the prosecution of original research. In the toxicological department there is a large laboratory, capable of accommodating 50 students, lighted from both sides and also from the roof, completely equipped with all that is necessary for the practical teaching of toxicology; also a small laboratory for private research, containing the apparatus and fittings necessary for investigations in toxicological chemistry. In the public health department suitable laboratory accommodation is provided for the study of sanitary chemistry, physics, and practical bacteriology in the departments of chemistry and physics and in that of pathology. A large room is provided in the new buildings for a museum of apparatus, models, plans, and other sanitary appliances for the practical instruction of the students, together with a special library of works on State medicine, hygiene, vital statistics, and sanitary engineering. In addition, a large lecture theatre for general purposes, accommodating 250 students, has been provided, and the existing accommodation for students is supplemented by the provision of a larger common room. The more strictly practical departments of medical study are taught partly in the

Tropical Medicine and Sanitation delivered by the Professor of Tropical Medicine at the University; (2) of additional lectures on Cytology, Special African Diseases, and Special Indian Diseases, delivered at the University; (3) of systematic lectures and demonstrations on Tropical Pathology, Parasitology, and Bacteriology by the Walter Myers Lecturer at the University; (4) of similar instruction on Medical Entomology by the Lecturer on Economic Entomology at the University; and (5) of clinical lectures and demonstrations delivered at the Royal Southern Hospital by the Physician in charge of the Tropical Ward, the Professor, and the Walter Myers Lecturer. The instruction given occupies six hours a day for five days a week during the course. Teaching under headings 3 and 4 above is delivered in the laboratory of the school at the University, which contains accommodation for 30 students, with all necessary appurtenances, including a well equipped museum, a class library, and access to the general departmental library. Teaching under heading 5 is given in the tropical ward and the attached clinical laboratories of the Royal Southern Hospital on two or three afternoons a week. At the end of each course an examination is held by the University for its diploma of Tropical Medicine (D.T.M.), which is open only to those who have been through the course of instruction of the school. The examination lasts three days and consists (1) of three papers on Tropical Medicine, Tropical Pathology, and Tropical Sanitation and Entomology respectively; (2) of a clinical examination; and (3) of an oral examination. The results are declared as soon as possible afterwards. Those who do not wish to undertake the examination are given a certificate of attendance if their attendance has been satisfactory. Accommodation for a limited number of students may be had at the Hall of Residence (for terms apply to the Warden, 44, Upper Parliament-street). The fee for the full course of instruction is 10 guineas, with an extra charge of 10*s.* for the use of a microscope if required. The fee for the examination is 5 guineas. Applications should be made to the Dean of the Medical Faculty, University of Liverpool, from whom prospectuses may be obtained. Two University Fellowships of £100 a year each are open to students of the school, amongst others. Accommodation for research work is to be had both at the University Laboratory of the school and at its Research Laboratories at Runcorn (16 miles distant from Liverpool). Since it was instituted nine years ago the school has employed 25 different investigators paid out of its funds and has despatched to the tropics 17 scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in 21 special memoirs with many plates and figures, besides text-books and numerous articles in the scientific press. From the beginning of this year, however, the memoirs have been succeeded by the "Annals of Tropical Medicine and Parasitology," published by the Committee and open to outside contributors (apply to the Secretary, B 10, Exchange-buildings, Liverpool). The Mary Kingsley Medal is awarded by the school for distinguished work in connexion with Tropical Medicine, and has been given to Sir David Bruce, Professor Koch, Dr. Laveran, and Sir Patrick Manson.

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THE MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park place, Cheetham-hill-road, Manchester.—The hospital contains 70 beds. Out-patients are seen daily from 8.30 to 10 A.M. Honorary Consulting Physicians: Dr. W. N. Maccall Dr. S. Holgate Owen, and Dr. T. C. Railton. Honorary Consulting Surgeons: Mr. James Hardie and Mr. Frederick A. Southam. Honorary Physicians for Women: Dr. Samuel Buckley and Dr. T. Arthur Helme. Honorary Surgeon for Women: Mr. Arnold W. W. Lea. Honorary Physician: Dr. J. J. Cox. Honorary Assistant Physicians for Children: Dr. C. H. Melland and Dr. C. C. Heywood. Honorary Surgeon for Children: Mr. Philip Roscoe Wrigley Anæsthetists: Mr. G. A. Barrow and Dr. H. R Clarke. Pathologist: Dr. J. Garvie McNaughton. Assistant Medical Officers: Dr. A. W. Lilley and Mr. R. W. Walsh. Honorary Dentist: Mr. W. A. Hooton. House Surgeon: Mr. Robert E Collins.

THE UNIVERSITY OF LIVERPOOL: FACULTY OF MEDICINE:—

Medical School Buildings.—Spacious and well-equipped class-rooms and laboratories have been erected for the practical study of all the important scientific subjects which form the basis of medicine. Medical research has also been endowed with several new laboratories in which students can pursue research work after graduation. All the laboratories and class-rooms are situated close together, communicating with one another, and are made up of four large blocks of buildings which form one side of the College quadrangle. The most recent additions are the Johnston Laboratories for Experimental Medicine, Bio-chemistry, and Comparative Pathology and the new building for Anatomy, Surgery, Toxicology, Ophthalmology and Dental subjects. The departments of Physiology and Pathology are accommodated in the large block provided by the generosity of the late Rev. S. A. Thompson Yates in 1898. The Anatomical department is situated in a separate block and has a complete suite of rooms, including a large and well-stocked museum and a well-lighted dissecting room on the upper floor measuring 70 by 40 feet.

Hospitals.—The Clinical School of the University now consists of four general hospitals—the Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital, and the Stanley Hospital; and of five special hospitals—the Eye and Ear Infirmary, the Hospital for Women, the Infirmary for Children, St. Paul's Eye and Ear Hospital, and St. George's Hospital for Skin Diseases. These hospitals contain in all a total of 1127 beds. The organisation of these hospitals to form one teaching institution provides the medical student and the medical practitioner with a field for clinical education and study which is unrivalled in extent in the United Kingdom. All the hospitals are within easy access from the University; those which are situated at any distance are readily reached by the tramway service of the city. The period of hospital practice extends over the last three years of medical study. During the first two years of this period no student will be permitted to change his attendance from one general hospital to another except at the commencement of an academic term. It is a regulation of the school that not more than five of the six terms of these two years shall be spent at any single general hospital During the final year of hospital practice a student is permitted to attend the practice of all the general hospitals without restriction. The regulations demand only that his attendance shall be regular and to the satisfaction of the hospital's board. There are a large number of appointments to house physicianships and surgeonships both at the general and special hospitals which are open to qualified students of the school. These appointments (20) in most cases carry salaries ranging from £60 to £100 per annum. Applications for further information regarding the Medical Curriculum should be addressed to the Dean of the Faculty of Medicine.

Fellowships and Scholarships.—Fellowships, scholarships, and prizes of over £1000 are awarded annually. A Holt Fellowship in Pathology and Surgery of the value of £100 for one year is awarded annually by the Medical Faculty to a senior student possessing a medical qualification. The successful candidate is required to devote a year to tutorial work and investigation in the pathological department. A Holt Fellowship in Physiology, awarded under similar conditions of the value of £100 for one year. A Robert Gee Fellowship in Anatomy, awarded under similar conditions, also of the value of £100 for one year. An Alexander Fellowship for Research in Pathology of the annual value of £100, renewable. A Johnston Colonial Fellowship in Pathology and Bacteriology (£100 a year, renewable). A John W. Garrett International Fellowship in Physiology and Pathology (£100 a year, renewable). An Ethel Boyce Fellowship in Gynæcological Pathology (£100 a year, renewable). A Stopford Taylor Fellowship (£100 a year, renewable) in Dermatology. A Thelwall Thomas Fellowship (£100 a year, renewable) in Surgical Pathology. A further scholarship in Surgical Pathology (£50 per annum, renewable). Two Lyon Jones Scholarships of the value of £21 each for two years are awarded annually—a Junior Scholarship, open at the end of the first year of study to Liverpool University students, on the subjects of the First M.B. Examinations, and a Senior Scholarship, open to all students in the school at the end of the second or third year of study, on the subjects of Anatomy, Physiology, and Therapeutics. A University Scholarship of £25 awarded on the results of the second examination for the degree The Derby Exhibition of £15 for one year is awarded in Clinical Medicine and Surgery in alternate years. Students may compete in their fourth and fifth years. The Torr Gold Medal in Anatomy, the George Holt medal in Physiology, the Kanthack Medal in Pathology, the Robert Gee Book Prize, of the value of £5, for Children's Diseases, and numerous Class Prizes are awarded annually.

Entrance Scholarships.—Two Robert Gee Entrance Scholarships of the value each of £25 per annum for two years are offered annually for competition. The holder is required to take out the Course for the University Degrees in Medicine. Communications should be addressed to the Dean, Mr. K W. Monsarrat, The University, Liverpool.

School of Tropical Medicine.—The school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Two complete courses of instruction are given every year, commencing in January and October and lasting for about 13 weeks. Each course consists (1) of a systematic series of lectures on

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There are other institutions at which the student of medicine of the University of Manchester can receive clinical instruction.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury and Gartside-street, Manchester.—The hospital contains 168 beds and 24 in the Convalescent Home, St. Anne's-on-Sea. The medical staff visit the hospital daily at 10 A.M. Clinical instruction is given by the medical staff at the Hospital and Dispensary. Out-patients are seen daily at 9 A.M. at the new Out-patient Department, Gartside-street, Manchester. Physicians: Dr. Hutton and Dr. Heywood. Surgeons: Mr. J. Howson Ray, Mr. E. D. Telford, and Mr. C. Roberts. Honorary Consulting Surgeon: Mr. G. A. Wright. Honorary Consulting Pathologist: Professor R. Lorrain Smith. Anæsthetist: Mr. Harold Snape. Honorary Surgeon for Throat, Nose, and Ear Diseases: Mr. F. H. Westmacott. Pathologist: Dr. W. Mair. Honorary Dental Surgeon: Mr. Barron J. Rodway. Resident Medical Officers: Mr. H. Gibbons Ward and Mr. F. Hartley. Medical Officers at the Dispensary: Dr. A. H. Norris and Mr. H. Gibbons Ward. During 1907 there were 2007 in-patients and 27,879 new out-patients were under treatment at the Dispensary, and there were 93,153 attendances made by outpatients. Secretary: Mr. H. J. Eason.

THE MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park place, Cheetham-hill-road, Manchester.—The hospital contains 70 beds. Out-patients are seen daily from 8.30 to 10 A.M. Honorary Consulting Physicians: Dr. W. N. Maccall, Dr. S. Holgate Owen, and Dr. T. C. Railton. Honorary Consulting Surgeons: Mr. James Hardie and Mr. Frederick A. Southam. Honorary Physicians for Women: Dr. Samuel Buckley and Dr. T. Arthur Helme. Honorary Surgeon for Women: Mr. Arnold W. W. Lea. Honorary Physician: Dr. J. J. Cox. Honorary Assistant Physicians for Children: Dr. C. H. Melland and Dr. C. C. Heywood. Honorary Surgeon for Children: Mr. Philip Roscoe Wrigley Anæsthetists: Mr. G. A. Barrow and Dr. H. R Clarke. Pathologist: Dr. J. Garvie McNaughton. Assistant Medical Officers: Dr. A. W. Lilley and Mr. R. W. Walsh. Honorary Dentist: Mr. W. A. Hooton. House Surgeon: Mr. Robert E Collins.

THE UNIVERSITY OF LIVERPOOL: FACULTY OF MEDICINE:—

Medical School Buildings.—Spacious and well-equipped class-rooms and laboratories have been erected for the practical study of all the important scientific subjects which form the basis of medicine. Medical research has also been endowed with several new laboratories in which students can pursue research work after graduation. All the laboratories and class-rooms are situated close together, communicating with one another, and are made up of four large blocks of buildings which form one side of the College quadrangle. The most recent additions are the Johnston Laboratories for Experimental Medicine, Bio-chemistry, and Comparative Pathology and the new building for Anatomy, Surgery, Toxicology, Ophthalmology and Dental subjects, The departments of Physiology and Pathology are accommodated in the large block provided by the generosity of the late Rev. S. A. Thompson Yates in 1898. The Anatomical department is situated in a separate block and has a complete suite of rooms, including a large and well-stocked museum and a well-lighted dissecting room on the upper floor measuring 70 by 40 feet.

Hospitals.—The Clinical School of the University now consists of four general hospitals—the Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital, and the Stanley Hospital; and of five special hospitals—the Eye and Ear Infirmary, the Hospital for Women, the Infirmary for Children, St. Paul's Eye and Ear Hospital, and St. George's Hospital for Skin Diseases. These hospitals contain in all a total of 1127 beds. The organisation of these hospitals to form one teaching institution provides the medical student and the medical practitioner with a field for clinical education and study which is unrivalled in extent in the United Kingdom. All the hospitals are within easy access from the University; those which are situated at any distance are readily reached by the tramway service of the city. The period of hospital practice extends over the last three years of medical study. During the first two years of this period no student will be permitted to change his attendance from one general hospital to another except at the commencement of an academic term. It is a regulation of the school that not more than five of the six terms of these two years shall be spent at any single general hospital During the final year of hospital practice a student is permitted to attend the practice of all the general hospitals without restriction. The regulations demand only that his attendance shall be regular and to the satisfaction of the hospital's board. There are a large number of appointments to house physicianships and surgeonships both at the general and special hospitals which are open to qualified students of the school. These appointments (20) in most cases carry salaries ranging from £60 to £100 per annum. Applications for further information regarding the Medical Curriculum should be addressed to the Dean of the Faculty of Medicine.

Fellowships and Scholarships.—Fellowships, scholarships, and prizes of over £1000 are awarded annually. A Holt Fellowship in Pathology and Surgery of the value of £100 for one year is awarded annually by the Medical Faculty to a senior student possessing a medical qualification. The successful candidate is required to devote a year to tutorial work and investigation in the pathological department. A Holt Fellowship in Physiology, awarded under similar conditions of the value of £100 for one year. A Robert Gee Fellowship in Anatomy, awarded under similar conditions, also of the value of £100 for one year. An Alexander Fellowship for Research in Pathology of the annual value of £100, renewable. A Johnston Colonial Fellowship in Pathology and Bacteriology (£100 a year, renewable). A John W. Garrett International Fellowship in Physiology and Pathology (£100 a year, renewable). An Ethel Boyce Fellowship in Gynæcological Pathology (£100 a year, renewable). A Stopford Taylor Fellowship (£100 a year, renewable) in Dermatology. A Thelwall Thomas Fellowship (£100 a year, renewable) in Surgical Pathology. A further scholarship in Surgical Pathology (£50 per annum, renewable). Two Lyon Jones Scholarships of the value of £21 each for two years are awarded annually—a Junior Scholarship, open at the end of the first year of study to Liverpool University students, on the subjects of the First M.B. Examinations, and a Senior Scholarship, open to all students in the school at the end of the second or third year of study, on the subjects of Anatomy, Physiology, and Therapeutics. A University Scholarship of £25 awarded on the results of the second examination for the degree The Derby Exhibition of £15 for one year is awarded in Clinical Medicine and Surgery in alternate years. Students may compete in their fourth and fifth years. The Torr Gold Medal in Anatomy, the George Holt medal in Physiology, the Kanthack Medal in Pathology, the Robert Gee Book Prize, of the value of £5, for Children's Diseases, and numerous Class Prizes are awarded annually.

Entrance Scholarships.—Two Robert Gee Entrance Scholarships of the value each of £25 per annum for two years are offered annually for competition. The holder is required to take out the Course for the University Degrees in Medicine. Communications should be addressed to the Dean, Mr. K W. Monsarrat, The University, Liverpool.

School of Tropical Medicine.—The school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Two complete courses of instruction are given every year, commencing in January and October and lasting for about 13 weeks. Each course consists (1) of a systematic series of lectures on and Dr. W. H. M. Telling. Consulting Obstetric Physician: Dr. J. Braithwaite. Obstetric Physician: Dr. J. B. Hellier. Consulting Surgeon: Mr. C. G. Wheelhouse, Mr. T. P. Teale, Mr. T. R. Jessop, and Mr. A. W. M. Robson. Surgeons: Mr. E. Ward, Mr. H. Littlewood, Mr. R. L. Knaggs, and Mr. B. G. A. Moynihan. Assistant Surgeons: Mr. W. Thompson and Mr. J. F. Dobson. Consulting Surgeon to the Eye and Ear Department: Mr. J. A. Nunneley. Surgeons: Mr. H. S. Walker and Mr. A. L. Whitehead. Assistant Surgeon: Mr. G. C. Hayes. Consulting Dental Surgeon: Mr. T. S. Carter. Dental Surgeon: Mr. J. B. Horden. Anæsthetists: Mr. D. Seaton, Mr. W. C. Mayo, Mr. J. Nicholson, Mr. T. B. Rowling, Mr. F. J. Birks, and Mr. St.Clair Stockwell.

UNIVERSITY OF SHEFFIELD: FACULTY OF MEDICINE.—The new buildings of the University opened in 1905 are situated at the west end of the city, adjoining Weston Park, and the Medical department occupies the entire north wing of the University quadrangle. The University is within easy reach of the various hospitals with which it is connected for clinical purposes. These are as follows: The Royal Infirmary, containing 255 beds, with an annual average number of over 3800 in-patients, over 8000 out-patients, and over 21,000 casualties; the Royal Hospital, with 172 beds, and an annual number of 2500 in-patients, over 7000 out-patients, and over 14,000 casualties; and the Jessop Hospital for Diseases of Women, with 80 beds, nearly 500 in-patients, and over 2000 out-patients; also a Maternity department, with over 250 in-patients per annum and over 700 out-patient cases attended. Special courses on Fevers are held at the City Fever Hospitals (547 beds) and on Mental Diseases at the South Yorkshire Asylum (1610 beds). For purposes of clinical practice the practices of the Royal Infirmary and Royal Hospital are amalgamated, giving a total of 427 beds for the treatment of medical, surgical, and special cases. There are special departments for the treatment of Diseases of the Eye at such institution, with wards assigned to them. In addition to these the Royal Infirmary has special departments for the treatment of Diseases of the Skin and Ear, with beds assigned to them, whilst at the Royal Hospital there are special out-patient departments for Diseases of the Throat, Ear, Skin, Orthopædics, and Mental Diseases. During the last year over 6000 patients passed through the wards of the two institutions, while those attending as out-patients numbered over 45,000. The medical and surgical staffs attend daily and give clinical instruction in the wards and out-patient rooms at stated times. Clinical lectures in Medicine and Surgery are given weekly at stated times. Instruction in the practical administration of anæsthetics is given at either institution by the Anæsthetists. The laboratories and lecture rooms connected with the subjects of the first and second examinations—namely, chemistry, physics, biology, anatomy, and physiology—which are in the University buildings are, both as regards structural arrangements and scientific equipment, on the most modern and complete lines. No expense has been spared in the matter of apparatus for teaching or research work and the facilities for practical study in these subjects are second to none. The department of Pathology and Bacteriology in the University is replete with every requirement for the most advanced work in these subjects. There is a large Pathological Museum in the department open daily to students. The post-mortem rooms of the Royal Infirmary and Royal Hospital are under the charge of the Professor of Pathology and afford ample material for demonstrations. In connexion with the University there is a complete dental department, fully recognised by the various examining bodies, at the Sheffield Royal Hospital. A list of the various Scholarships and Fellowships will be found in another column.

Students who have passed their examination in anatomy and physiology can hold the usual dresserships and clerkships, the appointments being for a period of three months except in the case of casualty dresserships, which last two months. All students beginning hospital practice in Sheffield will be required to hold the post of casualty dresser before being eligible for any other of the above appointments. In addition to the laboratories above mentioned the Medical department of the University contains lecture rooms for the various subjects of the curriculum, a complete materia medica museum, and the large library and reading-room of the Medico-Chirurgical Society which is open daily to students for purposes of study.

Fees.—Composition fee of £80, payable in three instalments—viz., £24 at commencement of first year of study, £28 at commencement of second year of study, and £28 at commencement of third year of study. A composition fee of £80 entitles the student to attendance on all the courses of lectures and practical classes except pharmacy, vaccination, and instruction in anæsthetics required for a degree course in the University or for the ordinary qualifications in medicine and surgery of the Examining Boards. The composition fee does not include medical and surgical hospital practice, clinical lectures, practical instruction in mental diseases, diseases of women, and infectious diseases, the fee for the full period of both medical and surgical hospital practice required by the Examining Boards being £36 15*s.* if paid in one sum at commencement of hospital practice; or £37 16*s.* if paid in two sums of £18 18*s.*, one on beginning hospital practice the other twelve months later.

The various athletic and other students' societies are under the management of a students' representative council, elected annually. There are large and comfortable common rooms both for men and women students. A refectory is open daily at the University where students may obtain refreshments, lunch, dinner, &c., at extremely moderate prices. The University journal *Floreamus*, edited by a committee of staff and students, is published each term. The University Hostel, Ashgate-road, is recognised by the Senate as a residence for women students, full particulars of which may be obtained of the Lady Tutor. Other societies of interest to the medical student are the Biological, Chemical, and Clinical and Pathological Societies.

Staff of the Sheffield Royal Infirmary.—Physicians: Dr. W. Dyson, B.A., Dr. W. S. Porter, and Dr. W. Tusting Cocking. Surgeons: Mr. Sinclair White, Mr. Arthur Connell, and Mr. Archibald Cuff. Ophthalmic Surgeon: Mr. Simeon Snell. Medical Officer to the Skin Department: Dr. W. Tusting Cocking. Medical Officer to the Ear and Throat Department: Mr. W. S. Kerr. Pathologist: Professor J. M. Beattie. Medical Officer in Charge of Electrical Department: Dr. A. Rupert Hallam. Anæsthetists: Mr. H. T. Wightman, Mr. J. Wilfred Stokes, and Dr. A. Rupert Hallam. Honorary Secretary to the Medical and Surgical Staff: Mr. Arthur Connell.

Staff of the Sheffield Royal Hospital.—Physicians: Dr. Duncan Burgess and Dr. Arthur Hall. Surgeons: Mr. Mr. H. Lockwood and Mr. G. Wilkinson. Ophthalmic Surgeon: Dr. S. Riseley. Physician for Mental Diseases: Mr. G. E. Mould. Assistant Surgeons: Mr. G. Simpson and Mr. A. Garrick Wilson. Assistant Physicians for Out-patients: Dr A. E. Naish and Dr. A. Young. Anæsthetists: Mr. H. Hallam, Mr. N. Milner, and Dr. G. Murray. Medical Officer to the Electrical and X Ray Department: Dr. W. H. Nutt. Pathologist: Professor J. M. Beattie. Honorary Secretary to the Medical and Surgical Staff: Dr. S. Riseley. Dental Surgeons: Mr. F. G. Mordaunt, Mr. F. Harrison, Mr. D. Dathl Davies, Mr. H. J. Morris, and Mr. C. C. Drabble. Assistant Dental Surgeons: Mr. H. J. Stoner, Mr. P. Southwell Stokes, and Mr. W. J. Law.

There are other institutions at which the students of the University of Sheffield can receive clinical instruction. These are the City Fever Hospitals (Medical Superintendent, Dr. Egerton H. Williams), the South Yorkshire Asylum (Medical Superintendent, Dr. W. S. Kay), and the Jessop Hospital for Women, Gell-street, Sheffield. The hospital contains 54 beds for gynæcological cases and 18 for obstetric cases. A staff of midwives connected with the hospital attend lying-in women at their own homes, and, in case of need, are assisted by the members of the medical staff. A 12 weeks' course of instruction (theoretical and practical) is also provided for resident pupil midwives, the institution being approved by the Central Midwives Board as a training centre. Medical Officers: Mr. Richard Favell, Dr. J. W. Martin, and Mr. Percival E. Barber. Assistant Medical Officer: Mr. M. H. Phillips. Honorary Secretary to the Staff: Mr. Percival E. Barber.

OTHER PROVINCIAL MEDICAL SCHOOLS.

THE institutions which follow provide facilities for different forms of clinical instruction for the medical student or medical graduate. For the most part they are the general hospitals of large towns which are not, at any rate, yet the seat of a university. There are university colleges at Bristol and at Cardiff, and at both cities the Schools of officers, elected annually and eligible for re-election (£50); three house physicians and four house surgeons hold office for six months, receiving board, residence, and salaries at the rate of £50 a year; one house surgeon to the gynæcological, ophthalmic, and aural departments is elected every six months, receiving board, residence, and a salary of £50 a year; two assistant house surgeons are elected every three months, receiving board, residence, and salaries at the rate of £40 a year; a resident medical officer at the Jaffray Hospital, who is elected annually but is eligible for re-election, and who receives £150 a year; and a resident medical assistant at this hospital, who is not necessarily qualified, is provided with board and residence, and holds office for three months. At the Queen's Hospital there are open to the student the following appointments: Three house physicians, three house surgeons, and one obstetric and ophthalmic house surgeon, who hold office for six months and have salaries at the rate of £50 a year. Thirty-five other appointments of varying value are at the City Workhouse and Workhouse Infirmary, at the Birmingham General and Branch Dispensaries, at the Birmingham Lunatic Asylums, at the City Fever Hospitals, at the Children's Hospital, at the Birmingham and Midland Eye Hospital, at the Orthopædic and Spinal Hospital, and at the Ear and Throat Hospital.

The General Hospital contains 342 beds, and of these 327 are in daily use, upwards of 5000 in-patients passing through the wards in the course of a year. There are special wards for children, for gynæcological cases, and for septic and infectious cases, and in addition special beds reserved for eye and ear cases. Some 60,000 out-patients are treated there annually. The post-mortem department is in a separate building. It consists of a mortuary with a small chapel, a post-mortem room proper, and laboratories for bacteriology and morbid histology. In addition there are separate rooms in the main building, adjoining the various medical and surgical wards, for clinical pathology and these are under the direction of special officers. There are four operating theatres, all designed and fitted on the most modern lines. In connexion with the hospital is the Jaffray Suburban Hospital of 52 beds at Gravelly Hill. The arrangements for clinical teaching at this hospital are very thorough. In addition to the clinical teaching given in the wards and out-patient department by the honorary staff medical and tutorial classes are held for senior and junior students, while clinical instruction is given in all the special departments by the gentlemen in charge of them.

Staff of General Hospital.—Consulting Physician: Sir Walter Foster. Consulting Obstetric Officer: Dr. Edward Malins. Physicians: Dr. Robert Saundby, Dr. Robert M. Simon, Dr. T. Stacey Wilson, and Dr. T. Sydney Short. Surgeons: Sir Thomas F. Chavasse, Mr. Gilbert Barling, Mr. William F. Haslam, and Mr. George Heaton. Obstetric Physician: Dr. Thomas Wilson. Ophthalmic Surgeon: Dr. D. C. Lloyd-Owen. Aural Surgeon and Laryngologist: Dr. F. W. Foxcroft. Physician in Charge of Skin Department: Dr. A. Douglas Heath. Assistant Physicians: Dr. James W. Russell and Dr. A Stanley Barnes. Assistant Surgeons: Mr. Albert Lucas, Mr. Leonard P. Gamgee, Mr. F. Victor Milward, and Mr. Frank Barnes. Assistant Obstetric Officer: Dr. John T. Hewetson. Junior Assistant Physicians: Dr. William H. Wynn and Dr. J. E. H. Sawyer. Visiting Pathologist: Dr. James Miller. Anæsthetists: Dr. Sydney Haynes and Dr. W. J. McCardie. Surgical Photographer and Radiographer: Mr. J. Hall Edwards. Dental Surgeon: Mr. A. T. Hilder.

At the Queen's Hospital similar arrangements for clinical teaching are made, and the material here also is excellent, though the institution is, of course, much smaller. Ward and tutorial classes are regularly conducted by the staff, there are daily clinics in the out-patient department, while teaching duties are definitely assigned to the house physicians and house surgeons.

Staff of Queen's Hospital.—Consulting Physicians: Sir James Sawyer, Dr. C. W. Suckling, and Dr. A. H. Carter. Consulting Surgeons: Mr. Furneaux Jordan, Mr. Frank Marsh, Mr. J. St. S. Wilders, and Mr. Bennett May. Consulting Ophthalmic Surgeon: Mr. Priestley Smith. Physicians: Dr. Arthur Foxwell, Dr. O. J. Kauffmann, and Dr. J. Douglas Stanley. Surgeons: Mr. Jordan Lloyd, Mr. J. T. J. Morrison, and Mr. C. A. Leedham-Green. Ophthalmic Surgeon: Mr. Wilfrid Allport. Obstetric Physician: Dr. C. E. Purslow. Physicians for Out-patients: Dr. Joseph George Emanuel and Dr. L. G. J. Mackey. Surgeons for Out-patients: Mr. W. Billington Mr. A. W. Nuthall, and Mr. B. J. Ward. Pathologist: Dr. L. G. J. Mackey.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street, Birmingham.—Honorary Consulting Physician: Dr. R. Saundby. Honorary Consulting Surgeon: Mr. D. C. Lloyd-Owen. Surgeons: Mr. H. Eales, Mr. E. W. Wood-White, and Mr. J. Jameson Evans. Dental Surgeon: W. T. Madin, L.D.S. Anæsthetist: Dr. S. W. Haynes. This hospital possesses 105 beds, and there is an average daily attendance of out-patients of 217. This institution is recognised by Universities and the Royal College of Surgeons, England, and Royal College of Physicians, London, as an ophthalmic hospital at which clinical instruction in ophthalmology may be received. Students attending for a period of three months will be granted certificates which will qualify for the University and Conjoint Board examinations.

UNIVERSITY OF LEEDS: FACULTY OF MEDICINE.—The Leeds General Infirmary, in connexion with this medical faculty, has accommodation for 524 in-patients, including 96 beds at "semi-convalescent" homes in the country. During the last year 7086 in-patients and 40,418 out-patients were treated. Clinical teaching takes place daily in the wards, and Clinical lectures are given in Medicine and Surgery by the Physicians and Surgeons. There are Medical, Surgical, Ophthalmic, Aural, Electrical, Finsen Light, and X-ray Departments, in each of which special instruction is imparted to students. A Gynæcological and Extern Obstetric Department, in which there were 502 confinements, together with Laryngeal and Skin Clinics, are in operation. The Public Dispensary, the Hospital for Women and Children, the Fever Hospital, the Maternity Home, and the West Riding Lunatic Asylum are other medical institutions which are made use of by the Leeds students. The buildings of the Medical School are placed closed to the Infirmary and contain complete accommodation for the training of medical students upon the most approved modern methods. A very fine dissecting-room, extensive laboratories for Physiology and Pathology, with the most recent improvements in fittings and apparatus, ample lecture-room accommodation, a large Library, and separate Museums for Pathology and Anatomy are some of the most striking features of the buildings. Provision for the convenience of students, in the shape of a common room, a refectory, &c., are made. The classes in Systematic and Practical Chemistry, Physics, Botany, and Zoology, are held in the Science and Arts Department of the University, in College-road. Two Entrance Scholarships are offered: one, of the value of £73 2*s.* 6*d.*, covering admission to all requisite lectures; and the other, of the value of 40 guineas, covering the cost of admission to the medical and surgical practice of the infirmary. Several valuable prizes are given at the end of each session. The following appointments at the Infirmary are annually open to students (for some of them, however, a registered legal qualification is required): Non-resident: clinical pathologist, £200; senior anæsthetist, £50; 5 anæsthetists, £25. Resident: medical officer, £150; surgical officer, £150; casualty officer, £125; ophthalmic, £100. These appointments are made annually and holders are eligible for re-election. Resident medical officer to the Ida Hospital, for six months; honorarium £30. Six house physicians, for six months; 7 house surgeons, for six and 12 months; 24 physicians' clerks, for six months; 24 surgeons' dressers, for six months; 16 ophthalmic and aural surgeons' dressers, for three months; 12 gynæcological ward clerks, for three months; 16 gynæcological out-patient clerks, for three months; 24 maternity clerks, for one month; 24 assistant physicians' clerks, for three months; 8 dermatological clerks, for three months; 8 laryngological clerks, for three months; 24 assistant surgeons' dressers, for three months; 8 assistant ophthalmic surgeons' dressers, for three months; 24 dressers in the casualty-room, for three months; 24 post-mortem room clerks, for three months; 8 laboratory assistants, for three months. There are appointments open to students in other medical institutions in the town and also in the West Riding (Lunatic) Asylum.

Staff of Leeds General Infirmary.—Consulting Physicians: Dr. T. C. Allbutt, Dr. J. E. Eddison, and Dr. C. M. Chadwick. Physicians: Dr. T. Churton, Dr. A. G. Barrs, and Dr. T. W. Griffith. Assistant Physicians: Dr. E. F. Trevelyan, months, 3 guineas; three months, 4 guineas; and six months, 7 guineas.

Further information may be obtained on application to the Dean of the Faculty.

UNIVERSITY OF WALES: MEDICAL FACULTY.—Under the heading of the University of Wales we have already mentioned that that University now possesses the privilege of granting degrees in medicine. Welsh medical students can attend the practice of the Cardiff Infirmary. This infirmary contains 178 beds. Consulting Physicians: Dr. W. T. Edwards, Dr. William Taylor, and Dr. C. T. Vachell. Consulting Surgeon: Dr. T. Wallace. Consulting Dental Surgeon: Mr. John C. Oliver. Physicians: Dr. H. R. Vachell and Dr. A. E. Taylor. Surgeons: Mr. P. Rhys Griffiths, Mr. William Sheen, and Mr. J. Lynn Thomas, C.B. Assistant Physicians: Dr. W. Mitchell Stevens, Dr. Cyril Lewis, and Dr. Alfred Howell. Assistant Surgeons: Mr. H. G. Cook, Mr. Cornelius A. Griffiths, and Mr. William Martin. Ear, Throat, and Nose Surgeon: Dr. D. R. Paterson. Consulting Ophthalmic Surgeon: Mr. J. T. Thompson. Ophthalmic Surgeon: Mr. H. C. Ensor. Assistant Ophthalmic Surgeons: Mr. F. P. S. Cresswell and Mr. R. Russell Thomas. Gynæcologists: Dr. Ewen J. Maclean and Dr. E. Tenison Collins. Pathologist: Dr. W. Mitchell Stevens. Bacteriologist and Assistant Pathologist: Dr. H. A. Schölberg. Sanitary Adviser: Dr. E. Walford. Anæsthetists: Dr. Fredk. W. S. Davies, Dr. W. G. Williams, and Dr. Alex. Brownlee. Dental Surgeons: Mr. T. W. Kittow and Mr. Thomas Quinlan. Resident Medical Officer: Dr. John Wallace.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—There are 200 beds. It is recognised by the University of London, the Royal Colleges of Physicians and Surgeons, and other examining boards. The in-patients number 2490; the out-patients 19,838. Special departments for Children, Gynæcology, Ear, Throat, and Nose Diseases, Electro-therapeutic and X Ray departments. There is an excellent library. The resident officers are a resident surgical officer, a resident medical officer, and two house surgeons. Pupils are allowed to witness the whole of the practice of the hospital and to be present at operations and have every opportunity of acquiring a practical knowledge of their profession. Fees: £3 3*s.* a quarter, £10 10*s.* the first year, and £5 5*s.* subsequent years. A course of Practical Pharmacy is given by the dispenser. Fee £3 3*s.* for three months. Applications should be made to the Secretary of the Medical Committee.

Staff.—Consulting Physician: Dr. W. Millington. Consulting Surgeon. Physicians: Dr. H. Malet, Dr. C. A. MacMunn, and Dr. J. A. Codd. Surgeons: Mr. J. O'B. Kough, Mr. W. H. T. Winter, Mr. E. Deanesly, and Mr. A. H. Hunt. Assistant Physicians: Dr. A. H. Carter and Dr. E. H. Coleman. Assistant Surgeons: Mr. W. F. Cholmeley and Mr. H. Dent.

NORFOLK AND NORWICH HOSPITAL (220 beds).—Non-resident pupils admitted. Fees: For three months, £3 3*s.*; for six months, £5 5*s.*; as permanent pupil, £8 8*s.* Consulting Physician: Sir P. Eade. Consulting Surgeons: Dr. Beverley and Mr. H. S. Robinson. Physicians: Dr. Barton, Dr. Burton-Fanning, and Dr. Long. Surgeons: Mr. S. H. Burton, Mr. D. D. Day, and Mr. H. A. Ballance. Assistant Physician: Dr. A. J. Cleveland. Assistant Surgeons: Mr. T. H. Morse and Mr. E. W. Everett. Dental Surgeon: Mr. H. F. White. Electro-Therapeutist: Dr. A. J. Cleveland. Secretary: Mr. F. G. Hazell.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Medical and Surgical Staff: Consulting Physician: Dr. Drake. Physicians: Dr. H. Davy and Dr. William Gordon. Surgeons: Mr. J. D. Harris, Mr. E. J. Domville, Mr. Charles E. Bell, and Mr. A. C. Roper. Medical Registrar and Pathologist: Mr. Reginald V. Solly. Surgeon Dentist: Mr. J. M. Ackland. Anæsthetists: Mr. Henry Andrew and Mr. Brennan Dyball. The hospital contains 200 beds (including special children's wards) and has a good library, museum, dissecting room, and post-mortem room. Attendance on the practice of this hospital qualifies for all the examining boards. Arrangements can be made by which students can attend Midwifery on application to the House Surgeon. There is also a Private Nursing Staff attached to the hospital. For particulars as to fees, &c., apply to the Matron. A new wing was added in 1897. Arrangements may be made by which gentlemen in practice desiring to increase their qualifications may have the use of the museum and library and other facilities and by which students may attend midwifery. A new Operating Theatre was opened in 1906 (the gift of Mrs. Nosworthy of Newlands, Dawlish, Devon). An Electrical Treatment Department (the gift of Mrs. M. A. Sanders) was opened in 1907 by Lady Duckworth-King.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-on-Trent.—The New Infirmary, opened in 1869, is built on the pavilion plan, has accommodation for over 200 patients, including Children's wards, special Ovarian wards, and a special department for the treatment of Diseases of the Eye. In-patients last year, 2281; out-patients, 13,937. The attendance of pupils at this infirmary is duly recognised by all the examining boards; and there are unusual facilities for acquiring a practical knowledge of the profession. Physicians: Dr. H. Nicholls and Dr. S. King Alcock. Surgeons: Dr. G. Stokes Hatton and Dr. Wheelton Hind. Assistant Physicians: Mr. John Russell and Dr. W. E. L. Horner. Assistant Surgeons: Mr. Reginald Alcock and Dr. W. C. Allardice. Ophthalmic Surgeon: Mr. Herbert H. Folker. Assistant Ophthalmic Surgeon: Mr. R. H. Dickson. Medical Officer in Charge of the Electrical Department: Dr. G. H. List. Dental Surgeon: Mr. A. Baines. Secretary and House Governor: Mr. Albert E. Boyce, F.C.I.S., F.L.A.A.

SUSSEX COUNTY HOSPITAL (196 beds).—During the year 1907, 2260 in-patients have been treated. The total number of out-patient attendances on the books during 1907 was 36,132. This hospital affords ample facilities for students, possessing a large out-patient department, a library, and a well-appointed clinical research and bacteriological department. The hospital does not take resident pupils, but out-pupils may attend the practice of the hospital for any period not exceeding two years on payment in advance of such a fee, not exceeding 20 guineas, as the Committee of Management shall direct. Consulting Physicians: Dr. Rutter, Dr. Hollis, and Dr. Branfoot. Physicians: Dr. J. F. G. Dill, Dr. Hobhouse, and Dr. Maynard. Assistant Physicians: Dr. W. Broadbent, Dr. Hall, and Dr. Bailey. Consulting Surgeons: Mr. H. P. Blaker and Mr. W. Furner. Surgeons: Mr. T. J. Verrall, Mr. R. F. Jowers, and Mr. F. J. Paley. Assistant Surgeons: Mr. A. Buck, Mr. T. H. Ionides, and Mr. W. A. Bowring.

NORTHAMPTON GENERAL HOSPITAL (established 1743; rebuilt 1793).—Two new wings were opened in 1904 and the old buildings entirely renovated and re-arranged. The number of beds is 166. Non-resident pupils are received and have every opportunity of acquiring a practical knowledge of their profession. The fee is £10 10*s.* Pupils can be received at any time. Physicians: Dr. Frank Buszard and Dr. Peverell S. Hichens. Surgeons: Mr. George H. Percival and Mr. R. A. Milligan. Ophthalmic Surgeon: Mr. E. Harries Jones. Assistant Physician: Dr. W. M. Robson. Assistant Surgeon: Mr. N. Blake Odgers. Dental Surgeon: Mr. E. Rogers Bull.

LEICESTER INFIRMARY.—Instruction in the infirmary for first-year students is duly recognised by the various examining bodies. At the General Infirmary there are 198 beds and at the Children's Hospital in connexion 42; total 240. There are upwards of 3000 in-patients annually and 30,000 out-patients and casualties. A new wing containing 100 beds has recently been opened by H.R.H. the Duchess of Argyll. A new Nurses' Home containing separate accommodation for 110 nurses and servants is in course of erection. There are eight resident medical officers. House Governor and Secretary, Harry Johnson.

THE ROYAL HOSPITAL, PORTSMOUTH (founded 1847).—The number of beds is 132. During the year 1907 there were 1537 in-patients and 13,421 out-patients. Honorary Physicians: Dr. John Phillips and Dr. C. C. Claremont. Surgeons: Mr. C. P. Childe, F.R.C.S., Mr. T. A. M. Forde, M.R.C.S., and Mr. A. B. Wright, M.R.C S. Honorary Anæsthetist: Dr. W. J. Essery. Honorary Assistant Physicians: Dr. W. P. McEldowney, Dr. J. T. Leon, and Dr. E. J. Davis Taylor. Honorary Assistant Surgeons: Mr. L. Cole Baker, Mr. C. A. Scott Ridout, and Mr. H. Burrows. The hospital is

Medicine are able to supply a complete curriculum. The students, however, must go elsewhere for degrees or diplomas.

UNIVERSITY COLLEGE, BRISTOL: FACULTY OF MEDICINE.—Extensive additions have been made to the Anatomical, Bacteriological, and Pathological Departments. Students of the College are admitted to the Clinical Practice of the Bristol Royal Infirmary and the Bristol General Hospital conjointly, and consequently both these institutions are open to all students, men and women alike. The Infirmary and the Hospital comprise between them a total of 470 beds; and both have very extensive out-patient departments, special departments for the Diseases of Women and Children, and of the Eye, Ear, and Throat, besides large outdoor Maternity Departments and Dental Departments. Students may also attend the practice of the Bristol Royal Hospital for Sick Children and Women, containing 104 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is 614. Very exceptional facilities are thus offered to students for obtaining a wide and thorough acquaintance with all branches of Medical and Surgical work. Each student has the opportunity of personally studying a large number of cases and of acquiring practical skill in diagnosis and treatment. The annual prize distribution will take place on Oct. 1st

Courses of Lectures.—Medicine: Professor F. H. Edgeworth and Professor J. Michell Clarke. Surgery: Professor C. A. Morton and Professor James Swain. *Anatomy: Professor Edward Fawcett. Practical Anatomy:* Demonstrators, Mr. E. W. Hey Groves, Mr. W. S. Vernon Stock, Mr. C. B. Goulden, and Mr. J H. E. Elliot. Physiology and Histology: Professor A. F. Stanley Kent. Demonstrator: (vacant) Chemistry: Professor Francis Francis. Public Health: Dr. D. S. Davies. Midwifery: Professor W. C. Swayne. Medical Jurisprudence: Dr. R. Eager and Dr. G. Parker. Pathology and *Morbid Anatomy: Professor* I. Walker Hall. Demonstrator: Dr. Carey F. Coombs. Operative Surgery: Mr. J. Paul Bush. Practical Medicine: Professor Edgeworth and Professor Michell Clarke. *Practical Surgery:* Dr. R. G. Poole Lansdown. Practical Midwifery: Mr. D. C. Rayner. Materia Medica and Practical Pharmacy: Mr. C. C. M. Davis. Pharmacology and Therapeutics: Dr. Newman Neild. Biology: Professor S. H. Reynolds. Practical Chemistry: Professor Francis Francis. Practical Bacteriology: Professor I. Walker Hall. Comparative Anatomy: Professor C. Lloyd Morgan. Dental Anatomy and Physiology and Dental Histology: Mr. E. A. G. Dowling. Dental Bacteriology: *Professor* I. Walker Hall. Dental Surgery and Practical Dental Surgery: Mr. W. R. Ackland. Dental Mechanics and Dental Metallurgy and Practical Dental Metallurgy: Dr. C. A. *Hayman. Composition fee for lectures and hospital* practice, 133 guineas. Composition fee for Dental lectures and surgical practice, 75 guineas; for two years' instruction in *Mechanical Dentistry, 75 guineas; if whole curriculum* be taken the composition fee is 140 guineas. Special six months' course for Diploma in Public Health. 1. Lectures on Public Health: *Dr. D. S. Davies.* 2. *Bacteriology: Professor* A. F. Stanley Kent. 3. Laboratory Course of Hygienic Chemistry: Mr. F. W. Stoddart. 4. Demonstrations on the Various Acts, Orders, By-laws, &c.: Mr. J. C. Heaven. 5. Practical Outdoor Sanitary Work: Dr. D. S. Davies. Fee for the entire course 25 guineas. The prizes and scholarships in connexion with the Bristol Medical School will be found on p. 667. Full information can be obtained on application to the Dean, Professor Edward Fawcett, University College, Bristol.

Professors—Chemistry: F. Francis, D.Sc. Experimental Physics: A. P. Chattock. Zoology: S. H. Reynolds, M.A. Psychology: C. Lloyd Morgan, LL.D., F.R.S. Medicine: F. H. Edgeworth, M.D., and J. Michell Clarke, M.D. Surgery: C. A. Morton, F.R.C.S., and J. Swain, F.R.C.S. Anatomy: E. Fawcett, M.D. Physiology and Histology: A. F Stanley Kent, M.A. Midwifery: W. C. Swayne, M.D. Pathology: I. Walker Hall.

THE ROYAL INFIRMARY, Bristol, has 270 beds, the number of in-patients is 4000, and the number of out-patients 45,000 annually. There are separate wards for diseases of children, eye cases, diseases of women, and diseases of throat and nose. The Pathological and Bacteriological Departments have been newly equipped and are under the direction of the pathologist. In clinical pathology a special room is set apart for the exclusive use of students and research workers, and post-graduate courses may be taken over by arrangement with the pathologist. In the Pharmaceutical Department special classes are held by the pharmacist. Clinical appointments: All students must undergo before holding Clinical appointments preliminary instruction for three months in pathological, medical, surgical, and dental methods of diagnosis, &c. Pathological Clerkship for three months. Surgical Dresser for six months: the dressers reside in the Infirmary free of expense in rotation a week at a time, taking a part in the whole daily routine of surgical work. Medical Clerk for six months; Obstetric Clerk for three months; Ophthalmic Clerk for three months. In other special departments *attendance is made during the fifth year of study.* A convenient students' room is provided. Resident appointments: The posts of House Surgeon, House Physician, Resident Obstetric Officer, Junior House Surgeon, and Casualty Officer are all salaried. The two senior posts are usually held for one, two, or more years, the obstetric post is held for 12 months, and the two junior posts are tenable for six months each. Honorary and Consulting Physicians: Dr. W. H. Spencer, Dr. R. Shingleton Smith, Dr. H. Waldo, and Dr. J. E Shaw. Honorary and Consulting Surgeons: Mr. E C. Board, Mr. W. H. Harsant, and Mr. A. W. Prichard. Honorary and Consulting Ophthalmic Surgeon: Mr. F. Richardson Cross. Honorary Physicians: Dr. A. B. Prowse and Dr. F. H. Edgeworth. Honorary Surgeons: Mr. J. Paul Bush, Mr. G. Munro Smith, Dr. J Swain, and Mr. T. Carwardine. Honorary Ophthalmic Surgeon: Dr. Ogilvy. Honorary Obstetric Physician: Dr. Walter Swayne. Honorary Dental Surgeon: Mr. W. R. Ackland. Honorary Physician to the Throat and Nose Department: Dr. P. Watson Williams Honorary Assistant Dental Surgeon: Dr. Charles A. Hayman. *Honorary Assistant Physicians:* Dr. J. R Charles and Dr. J. A. Nixon. Honorary Assistant Surgeons: Mr. H. F. Mole and Mr. E. H. E. Stack. Pathologist: Dr. I. Walker Hall. *Honorary Demonstrator of Morbid Anatomy:* Dr. J. J. S. Lucas. Honorary Anæsthetist: Mr. A. L. Fleming. Honorary Assistant Anæsthetist: Mr. S V Stock. Honorary Skiagraphist: Mr. James *Taylor. House* Surgeon and Senior Resident Medical Officer: Mr. A. L. Sheppard.

BRISTOL GENERAL HOSPITAL.—Number of beds 200; number of in-patients over 2000; number of out-patients about 40,000 annually. The arrangements are practically similar to those at the Royal Infirmary. Honorary and Consulting Physician: Dr. A. J. Harrison. Honorary and Consulting Surgeons: Mr. Robert W. Coe, Dr. George F. Atchley, Mr. Nelson C. Dobson, Mr. F. Poole Lansdown, and Mr. Chas. F. Pickering. Physicians: Dr. J. Michell Clarke, Dr. George Parker, and Dr. J. O. Symes. Surgeons: Mr. C. A. Morton, Dr. R. G. Poole Lansdown, Dr. J. Lacy Firth, and Dr. H. Greville Kyle. Physician Accoucheur: Dr. W. H. C. Newnham. Physician to Department for Diseases of the Skin: Dr. W. Kenneth Wills. Surgeon to the Throat and Nose: Dr. J. Lacy Firth. Ophthalmic Surgeon: Mr. Cyril H. Walker. Assistant Physicians: Dr. Newman Neild and Dr. Carey F. Coombs. Assistant Surgeon: Mr. E. W. H. Groves. Assistant Physician Accoucheur: Mr. D. C. Rayner. Anæsthetists: Dr. J. Freeman and Dr. Hedley Hill. Dental Surgeon: Mr. E A. G. Dowling. Pathologists: Mr. E. V. Dunkley. Curator of Museum: Dr. Coombs. Skiagraphist: Mr. J. Ellington Jones.

Resident Appointments.—There are five resident appointments in the Hospital, and the Dressers reside in rotation, free of *expense. The Maternity students also have* rooms provided in the institutions.

Fees.—Medical Practice: three months, 4 guineas; six months, 7 guineas; one year, 12 guineas; perpetual, 20 guineas. Surgical Practice: three months, 4 guineas; six months, 7 guineas; one year, 12 guineas; perpetual, 20 guineas. Medical and Surgical Practice together in one payment: six months, 12 guineas; one year, 20 guineas; perpetual, 35 guineas. Dental Surgical Practice: one year, 7 guineas; perpetual, 12 guineas. The above fees include Clinical Lectures. Clinical Clerkship: 5 guineas for six months. Dressership: 5 guineas for six months. Museum fee: 3 guineas (composition on entrance), or 1 guinea annually. Dispensing Fee: 2 guineas. *Students from other schools or* qualified medical men wishing to attend Clinical Practice for short periods and not requiring certificates for such attendance *may do so for the* following fees:—Medical and Surgical Practice conjointly: one month, 2 guineas; two

Dr. W. G. A. Robertson (£1 1s.); Practical Gynæcology, Dr. Brewis (£2 2s.); Diseases of the Eye, Dr. W. G. Sym; Bacteriology, Dr. J. Taylor Grant: *Tropical Diseases, Major D. G.* Marshall; Fevers, City Hospital. Summer Session: Practical Anatomy, Dr. Ryland Whitaker (£2 2s.); Practical Chemistry, Dr. T. W. Drinkwater (£3 3s.); Materia Medica, &c., Dr. Craig and Dr. F. D. Boyd (£3 3s.); Operative Surgery and Surgical Anatomy, Mr. H. Wade (£3 3s.); Materia Medica and Therapeutics, Dr. Wm. Craig (£3 3s.); *Practical Materia Medica, Dr. Wm. Craig and Dr. Boyd:* Medical Jurisprudence and Public Health, Dr. Aitchison Robertson (£3 5s.); Public Health, Dr. W. Robertson; Clinical Medicine, Dr. W. Russell; Clinical Surgery, Mr. Wallace, Royal Infirmary (£3 5s.); Practical Physiology and Histology, Dr. Goodall (£3 3s.); Practical Pathology, Dr. S. McDonald (£3 3s.); Biology, Miss Newbigin (£3 3s.); Physics, Dr. Dawson Turner (£3 3s.): Ophthalmology, Dr. A. H. H. Sinclair (£2 2s.); Insanity, Sir J. Batty Tuke and Dr. G.* M. Robertson (£2 2s.); Practical Gynæcology, Dr. J. W. Ballantyne (£2 2s.); Practical Medicine, Dr. Philip and Dr. G. Lovell Gulland; Practical Medicine, Clinical Methods, Dr. W. Russell; Vaccination, Dr. W. G. A. Robertson; Tropical Diseases, Major Marshall; Medical Electricity, Dr. Dawson Turner.

The minimum cost of the education in this School of Medicine for the Triple Qualification of Physician and Surgeon from the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, including the fees for the Joint Examinations, is about £115, payment of which is distributed over the period of study. There is no composition fee.

Further particulars regarding the school, also its calendar, may be had on application to Mr. R. N. *Ramsay*, the Secretary and Registrar, 27, Forrest-road, Edinburgh.

* Lectures, £3 5s.; Practical, £3 3s.; Analytical, £2 a month, or £5 for three months. † Also in Summer Session. ‡ Also in Winter Session. § Practical, £3 3s.; Analytical, £2 a month, or £5 for three months.

N.B.—Where two or more lecturers appear as teaching the same subjects their lectures are not conjoined, but each gives an independent course.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.—The Edinburgh School of Medicine for Women provides all the classes required for a complete curriculum. The classes qualify for the University Degree in *Medicine, for the* Diploma of the Royal Colleges, and for the *triple qualification*. The lecturers of the school are *specially recognised* by the Court of Edinburgh University for the *education of* women who propose taking the degree in medicine of the University of Edinburgh. Most of the classes are held in Surgeons' Hall. The office of the school and a sitting-room and other conveniences are provided in the same building for the use *of the* women students. The clinical instruction of the students is *conducted in the* wards of the Royal Infirmary, specially set apart for the purpose; in the Royal Hospital for Sick Children; in the *City Hospital for Infectious* Diseases; at one of the lunatic *asylums near the city*: and at the various public *dispensaries*. The fees and the regulations as to the course of study are the *same* as for the male students. Further *particulars* can be obtained from the Dean of the School of Medicine for *Women*, Surgeons' Hall, Edinburgh.

ANDERSON'S COLLEGE MEDICAL SCHOOL, Dumbarton-road, Glasgow, W.—This medical school was founded in the year 1800. It has given 13 professors to the University of Glasgow. The following courses are given, which qualify for all the licensing boards and for the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions):—In winter: *Anatomy*, Professor A. M. Buchanan; Physics, Professor Peter Bennett; Chemistry, Professor J. Robertson Watson; Botany, Professor B. G. Cormack; Zoology, Professor Geo. Bell Todd; Physiology: Professor R. Speirs Fullarton; Materia Medica, Professor John P. Duncan; Midwifery, Professor John Edgar; Surgery, Professor J. H. Nicoll; Practice of Medicine, Professor John Cowan; Ophthalmic Medicine and Surgery, Dr. T. Spence Meighan; Aural Surgery, Dr. J. Galbraith Connal; Diseases of Throat and Nose, Dr. John Macintyre; Public Health (Laboratory Course), Dr. Carstairs C. Douglas. In summer: Anatomy, Practical Anatomy, and Osteology; Practical Chemistry; Botany and Practical Botany; Zoology and Practical Zoology; Practical Physiology; Practical Materia Medica and Pharmacy; Diseases of Women and Children (Professor *John Edgar); Operative Surgery*; Ophthalmic Medicine and Surgery; Aural Surgery; Mental Diseases (Dr. John Carswell); and Public Health (Lecture Course and Laboratory *Course*). The Chemical Laboratory is open daily from 10 to 6. The Dissecting-room is open in winter from 9 A.M. *to* 6 P.M., and *in* summer from 6 A.M. to 6 P.M. The students are assisted in their dissections by the Professor *and Demonstrators, by* whom frequent examinations and demonstrations on the *parts dissected are* conducted. The supply *of subjects for dissection is* ample, and students are consequently provided *with* parts *as* soon as they may be ready for them. The *Dissecting-room is* provided with a *complete series of dissected specimens*, mounted in plaster of Paris, illustrating the anatomy of the human body. *Candidates for the Licence in Dental* Surgery can obtain the full medical curriculum in Anatomy, Chemistry, *Physiology*, Surgery, *Practice of Medicine, and* Materia Medica. The courses special to Dentistry are conducted at the Glasgow Dental Hospital and School.

The new buildings are situated in Dumbarton-road, immediately to the west of the entrance to the Western Infirmary, within two minutes' walk of it, and four minutes' walk of the University. Extensive accommodation is provided for Practical Anatomy, Practical Chemistry, Practical Botany, Practical Zoology, Practical Physiology, Practical Pharmacy, and Operative Surgery. Ample provision has also been made for the comfort of students.

Class Fees.—For each course of Lectures (Anatomy, Ophthalmic Medicine and Surgery, Aural Surgery, Diseases of Throat and Nose, Mental Diseases, and Public Health excepted), first session, £2 2s.; second session (in Anderson's College), £1 1s.; afterwards free. For Practical Classes (except Anatomy, Chemistry, and Public Health)—namely, Botany, Zoology, Physiology, Pharmacy, and Operative Surgery—first session, £2 2s.; second session, £2 2s. Anatomy Class Fees: Winter, first session, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. *Second session*, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. Third session, Practical Anatomy, £1 1s. Summer, Lectures and Practical Anatomy, £2 12s. 6d.; Lectures alone, £1 11s. 6d.; Practical Anatomy alone, £1 11s. 6d.; *Osteology* and Practical Anatomy, £2 12s. 6d.; Osteology *alone, £1 11s. 6d.*; *Practical* Anatomy alone, £1 11s. 6d. Chemistry: Lectures, £2 2s.; Practical Chemistry, £3 3s. Botany and Zoology: *Reduced* fees for Lectures with Laboratory work in Botany or in Zoology, during same summer session, £3 3s.; for Lecture Class or Practical Class separately, in Botany or in Zoology, £2 2s. Ophthalmic Medicine and Surgery (including Hospital Practice), Aural Surgery, Diseases of Throat and Nose, and Mental Diseases, fee for each course, £1 1s. Public Health Laboratory, fee for six months' course, £11 11s.; including Course of Lectures, £12 12s. Matriculation Fees: For the year, 10s.; for one class in winter session alone, 5s.; for summer session alone, 5s.

Western Infirmary.—Fees: For Hospital Attendance, £10 10s.; afterwards free. For Clinical Instruction, winter, £3 3s.; summer, £2 2s. Pathology: systematic, £4 4s.; practical, £3 3s. Vaccination fee, £1 1s.

Royal Infirmary.—Fees: Hospital Practice and Clinical Instruction, first year, £10 10s.; second year, £10 10s.; afterwards free. Six months, £6 6s.; three months, £4 4s. Pathology, both courses, £4 4s. Vaccination Fee, £1 1s.

Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee.

Maternity and Women's Hospital.—Fee for six months, £3 3s.

Royal Hospital for Sick Children.—Fee for one year, £1 1s.

Eye Infirmary.—Fee: Hospital Practice and Clinical instruction, including Lectures at the College, six months, £1 1s.

Lock Hospital.—£1 1s.

Fever Hospital, Belvidere or Ruchill.—Fee, £1 1s.

Hospital for Skin Diseases.—Fee, £1 1s.

The Carnegie Trust extends its benefactions to students at Anderson's College Medical School. Full particulars may be obtained from Mr. W. S. McCormick, the Carnegie Trust Offices, Merchants' Hall, Edinburgh.

Certificates of attendance on the lectures at Anderson's College Medical School are received by the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions); by the Royal Colleges a preparatory School of Medicine and Surgery; the attendance of pupils at this hospital is recognised by the Examining Boards. Particulars of the Secretary at the hospital.

KENT AND CANTERBURY GENERAL HOSPITAL.—The hospital contains 104 beds. Pupils of the staff are admitted to the practice of the hospital and have the use of the library of the East Kent and Canterbury Medical Society for £7 7*s.* Operation day, Thursday, 11 A.M. Physicians: Dr. Harold Wacher and Dr. M. T. Williams. Consulting Surgeons: Mr. James Reid and Mr. Frank Wacher. Surgeons: Dr. T. Whitehead Reid, Mr. J. Greasley, Mr. Sidney Wacher, and Mr. Z. Prentice. Dentist: Mr. R. S. N. Faro. Secretary: Mr. Arthur J. Lancaster. Over 900 in-patients, 2000 out-patients and casualties, and 800 dental cases are attended in a year.

WEST OF ENGLAND EYE INFIRMARY, Exeter.—Physician: Dr. William Gordon. Surgical Staff: Mr. A. C. Roper and Mr. Ransom Pickard. Assistant Surgeon: Mr. Leonard R. Tosswill. Secretary: Mr. Sidney E. Whitton. The infirmary contains 64 beds. Students of the Exeter Hospital can attend the practice of the Eye Infirmary. Patients for the year ending Michaelmas, 1907, 2871.

SCOTLAND.

MEDICAL SCHOOLS WITH FULL CURRICULUM.[1]

SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, Edinburgh.—The number of students varies much in the classes and subjects. It is within the limit to say that about 1200 students avail themselves each session of the opportunity of attending the school. The lectures qualify for the University of Edinburgh and other Universities, the Royal Colleges of Physicians and Surgeons of London, Edinburgh, and Dublin, the Faculty of Physicians and Surgeons of Glasgow, and other Medical and Surgical and Public Boards. A post-graduate vacation course commences on August 31st.

The anatomy rooms and laboratories will open on Thursday, Oct. 1st, and the lectures will commence on that date.

In accordance with the statutes of the University of Edinburgh one-half of the qualifying classes required for graduation may be attended in this school, in addition to the class of Practical Materia Medica and the classes of Clinical Medicine and Clinical Surgery. The regulations require that the fee for any class taken for graduation in Edinburgh shall be the same as that for the corresponding class in the University. The whole education required for graduation at the University of London may be taken in this school.

The appointment of Resident Physician to the wards in the Royal Infirmary under the care of the Ordinary Physicians is open to those members of their clinical class who have held the office of clerk in their wards for at least six months. Six Residentships are appointed for a period of six months each. Resident Surgeons are also appointed by the Ordinary Surgeons to the Hospital. In all respects the students are taught under regulations similar to those at the University of Edinburgh and the other Universities of Scotland, and they receive similar certificates at the close of each session. Moreover, the University and College authorities in Edinburgh and the governing board of the school call upon each recognised lecturer to supply them at the close of each session with a statement giving the number of students attending the class, the number of lectures or prelections delivered during the session, the class examinations held, and the general mode of conducting the class. The courses on special non-qualifying subjects have for the last quarter of a century formed a marked feature of the school. Indeed, such medical subjects could be studied in Edinburgh only in this school until lately, when the University of Edinburgh appointed from the school lecturers on Diseases of the Eye, Insanity, and Diseases of Children to take charge of classes intra-murally. A list of the classes and lecturers will be found below. Special courses of instruction for dental students and for women are also included in the curriculum of this school. The classes of the school are conducted in several separate buildings, such as at Surgeons' Hall, Minto House, Nicolson-square, and the New School, Bristo-street.

Lecturers and fees.—Winter Session: Anatomy, Practical Anatomy, and Demonstrations, Dr. Ryland Whitaker (£3 5*s.* and £4 4*s.*); Chemistry (Practical, &c.), Mr. Gemmell, and Dr. T. W. Drinkwater*; Physiology (Institutes of Medicine), Dr. Alex. Goodall‖; (£3 5*s.*); General Pathology, &c., Dr. Shennan and Dr. Stuart McDonald (£3 5*s.*); Biology, Mr. Malcolm Laurie (£3 5*s.*); Zoology, Mr. Malcolm Laurie; Physics, Dr. Dawson Turner (£3 3*s.*); Bacteriology, Dr. Taylor Grant, Dr. Theodore Shennan, and Dr. Stuart McDonald; Practice of Physic, Dr. Gibson, Dr. Bruce, Dr. Philip, Dr. R. A. Fleming, Dr. Lovell Gulland, Dr. W. Russell, and Dr. Harry Rainy (£3 5*s.*); Surgery, Mr. Hodsdon, Mr. Wallace, Mr. Miles, Mr. Scot Skirving, Mr. Dowden, and Mr. Chiene (£3 5*s.*); Materia Medica, &c., Dr. Craig and Dr. F. D. Boyd† (£3 5*s.*); Midwifery, &c., Dr. Haig Ferguson, Dr. Macrae Taylor, Dr. Hart, Dr. Haultain, Dr. Ballantyne, Dr. Fordyce, and Dr. Elsie M. Inglis (£3 5*s.*); Medical Jurisprudence, &c., Dr. Aitchison Robertson (£3 5*s.*); Public Health, Dr. Aitchison Robertson and Dr. W. Robertson; Hospital Practice (Edinburgh Royal Infirmary): Physicians, Dr. Bramwell, Dr. Gibson, Dr. Bruce, Dr. Philip, Mr. Wallace, and Dr. Brewis for Gynæcology; Surgeons, Mr. Cotterill, Mr. Cathcart, and Dr. Hodsdon (perpetual ticket, £12); Clinical Medicine, Dr. Byrom Bramwell, Dr. Gibson, Dr. Bruce, and Dr. Philip; Dr. Brewis for Gynæcology (£3 5*s.*); Clinical Surgery, Mr. Cotterill, Mr. Cathcart, Mr. Hodsdon, and Mr. Wallace (£3 5*s.*); Diseases of the Chest, Dr. Philip† and Dr. Lovell Gulland (£2 2*s.*); Vaccination, Dr. Buist† and Dr. W. G. A. Robertson (£1 1*s.*); Diseases of Ear, Nose, and Throat, Dr. J. Malcolm Farquharson and Dr. J. S. Fraser (£2 2*s.*); Diseases of the Eye, Dr. Sym,† (£2 2*s.*); Ophthalmoscopy, Dr. A. H. H. Sinclair (£2 2*s.*); Gynæcology, Dr. Haig Ferguson and Dr. Elsie M. Inglis (Systematic), Dr. Brewis and Dr. J. Haig Ferguson (Clinical), and Dr. J. W. Ballantyne (Advanced) (£2 2*s.*); Neurology, Dr. J. J. Graham Brown (£2 2*s.*); Clinical Methods, Dr. W. Russell (£2 5*s.*); Medical Electricity, Dr. Dawson Turner (£2 12*s.* 6*d.*); Tropical Diseases, Major D. G. Marshall, I.M.S. (£2 2*s.*). Summer Session: Practical Anatomy and Demonstrations, Dr. Ryland Whitaker (£2 2*s.*); Practical Physiology, Dr. Goodall (£3 3*s.*); Biology, Mr. M. Laurie‡ and Miss Newbigin (£3 3*s.*); Practical Chemistry and Analytical Chemistry, Mr. Gemmell and Mr. Drinkwater §; Practical Bacteriology, Dr. Shennan, Dr. Taylor Grant, and Dr. Stuart McDonald; Materia Medica, Dr. Craig and Dr. F. D. Boyd; Diseases of the Eye, Dr. Sym (£2 2*s.*); Medical Psychology and Insanity, Sir J. Batty Tuke and Dr. Robertson (£2 2*s.*); Medical Jurisprudence, Dr. Aitchison Robertson; Public Health, Dr. Wm. Robertson (£2 2*s.*); Gynæcology, Dr. Brewis (£2 2*s.*); Midwifery Lectures, Dr. Ferguson, Dr. Ballantyne, Dr. Fordyce, Dr. Elsie M. Inglis, Dr. J. Lamond Lackie, and Dr. W. Macrae Taylor (£3 5*s.*); Operative Surgery, Mr. Hodsdon, Mr. Alexis Thomson, Mr. Alex. Miles, Mr. Dowden, Mr. Scot Skirving, and Mr. Chiene (£3 3*s.*); Practical Pathology, Dr. Shennan and Dr. Stuart McDonald (£3 3*s.*); Physics, Dr. Turner‡ (£3 3*s.*); *Practical Medicine and Physical Diagnosis*, Dr. Fleming, Dr. Lovell Gulland, and Dr. Harry Rainy (£3 3*s.*); *Clinical Medicine*, Dr. Bramwell, and Dr. Gibson (£2 2*s.*); *Vaccination*, Dr. Buist and Dr. W. G. A. Robertson (£1 1*s.*); Neurology, Dr. Bruce and Dr. Graham Brown; Diseases of Ear, Nose, and Throat, Dr. J. Malcolm Farquharson and Dr. J. S. Fraser (£2 2*s.*); Tropical Diseases, Major D. G. Marshall, I.M.S. (£2 2*s.*); Medical Electricity, Dr. Dawson Turner.

Special Classes for Women, Winter Session:[2] Practical Anatomy and Demonstrations, Dr. Ryland Whitaker (£4 4*s.*); Chemistry (Lectures and Practical), Dr. T. W. Drinkwater (£3 5*s.* and £3 3*s.*); Practice of Physic, Dr. W. Russell (£3 5*s.*); Surgery, Mr. Wade (£3 5*s.*); Midwifery and Diseases of Women, Dr. J. W. Ballantyne; General Pathology, Dr. S. McDonald (£3 5*s.*); Physiology (Institutes of Medicine), Dr. Goodall (£3 5*s.*); Materia Medica, &c., Dr. Craig (£3 5*s.*); Clinical Medicine, Dr. W. Russell, Royal Infirmary (£3 5*s.*); Clinical Surgery, Mr. Wallace, Royal Infirmary (£3 5*s.*); Physics, Dr. Dawson Turner (£3 3*s.*); Vaccination, Dr. Buist and

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[1] For Scholarships see p. 668 et seq.

[2] The scheme of Classes for Women is being rearranged as we go to press and exact details are not available.

Surgery: Mr. J. H. Pringle. On the Eye: Dr. A. M. Ramsay.

UNIVERSITY COLLEGE, Dundee.—This College is one of the constituent colleges of the University of St. Andrews. In the new medical buildings there are spacious and well-equipped laboratories and work-rooms for Anatomy, Physiology, Materia Medica, Pathology, Ophthalmology, Public Health, Medicine, Surgery, and Gynæcology. The complete medical curriculum can be taken in Dundee. For classes, fees, &c., see under University of St. Andrews.

ROYAL INFIRMARY, Dundee.—The Infirmary contains 400 beds, including special wards for the Diseases of Women, Children, Eye, Ear and Throat, and Obstetric cases. There is in addition an Extern Obstetric Department. There were during last year 17,970 out-patients and 7842 home patients. The Royal Infirmary offers exceptional facilities for practical work to students. Appointments: Five qualified Resident Medical Assistants are appointed every six months and one non-resident Obstetric Assistant. Clinical Clerks and Dressers are attached to the Physicians and Surgeons, and students are appointed as assistants in the Pathological Department. There are in connexion with the clinical courses Tutorial Classes in Medicine and Surgery. Instruction is also given in Practical Pharmacy and Materia Medica and in Practical Dentistry. Further information can be obtained from Dr. Fraser, Medical Superintendent.

ROYAL and DISTRICT ASYLUMS, Dundee (five miles from City). Number of patients, 490.—Physician Superintendent: Dr. William Tuach-Mackenzie. Lectures on Mental Diseases and clinical instruction in connexion with University College, Dundee (University of St. Andrews), are given during the Summer Session at University College and at the Royal and District Asylums by Dr. Tuach-Mackenzie. The course consists of 12 Lectures and 14 Clinical Lectures and Demonstrations. There are two paid qualified Resident Assistants and two unpaid Resident Clinical Assistants. Senior Medical Assistant: Dr. F. W. Lumsden. Junior Medical Assistant: (vacant). Clinical Assistants: Mr. L. Moncrieff and Mr. A. Lumsden.

ABERDEEN ROYAL INFIRMARY.—Contains 251 beds. Consulting Physician: Dr. P. Blaikie Smith. Physicians: Dr. Angus Fraser, Professor Finlay, and Dr. George M. Edmond. Assistant Physicians: Dr. A. H. Lister, Dr. Ashley W. Mackintosh, and Dr. W. R. Pirie. Consulting Surgeons: Professor Alexander Ogston, Dr. J. C. O. Will, and Dr. J. Mackenzie Booth. Surgeons: Mr. J. S. Riddell, Mr. John Marnoch, and Mr. H. M. W. Gray. Assistant Surgeons: Dr. Fred. K. Smith, Dr. Henry Peterkin, and Dr. Wallace Milne. Ophthalmic Surgeon: Dr. C. H. Usher. Assistant Ophthalmic Surgeon: Dr. W. Clark Souter. Gynæcologist: Professor W. Stephenson. Pathologist: Professor David James Hamilton. Assistant Pathologist: Dr. G. M. Duncan. Dental Surgeon: Dr. J. M. P. Crombie. Anæsthetist: Dr. J. J. Y. Dalgarno. Assistant Anæsthetists: Dr. Thos. Fraser and Dr. Alex. Mitchell. Medical Electrician: Dr. J. R. Levack. Assistant Medical Electrician: Dr. Clifford T. Bell. Dermatologist and Lecturer on Diseases of the Skin: Dr. J. F. Christie. Medical Superintendent and Clinical Registrar: Dr. William Sinclair. Clerk and Treasurer and Factor for the Hospital Lands: Mr. A. Scott Finnie, 343, Union-street, Aberdeen.

ABERDEEN ROYAL LUNATIC ASYLUM.—Contains, with hospital attached to main institution and Agricultural Branch, about 986 beds. Medical Superintendent: Dr. William Reid. Assistant Physicians: Dr. Arthur Kellas and Dr. James Laing. Clerk, Treasurer, and Factor: Mr. A. Scott Finnie, 343, Union-street, Aberdeen. Clinical instruction is given to students during three months in summer.

HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION.

ROYAL INFIRMARY, Edinburgh.—This hospital has over 900 beds and 60 cots for children, the average daily number of patients for 1907 being 832. Beds are set apart for clinical instruction by the professors of the University of Edinburgh. Courses of Clinical Medicine and Surgery are also given by the ordinary physicians and surgeons. Special instruction is given on Diseases of Women, Physical Diagnosis, Diseases of the Skin, Diseases of the Eye, the Ear, the Larynx, and the Teeth. Separate wards are devoted to Venereal Diseases, Diseases of Women, Diseases of the Eye, the Ear, Throat and Nose, and the Skin, and also to cases of Incidental Delirium or Insanity. There are also large and complete Medical-Electrical and X Ray and Bathing Departments. Three wards are specially set apart for Clinical Instruction to Women Students. Post-mortem examinations are conducted in the anatomical theatre by the pathologist and his assistants, who also give practical instruction in Pathological Anatomy and Histology. The fees for hospital attendance are as follows—viz: Perpetual ticket, in one payment, £12; annual ticket, £6 6*s.*; six months, £4 4*s.*; three months, £2 2*s.*; monthly, £1 1*s.* Separate payments amounting to £12 12*s.* entitle the student to a life ticket. No fees are paid for any medical or surgical appointment. The appointments are as follows:—1. Resident physicians and surgeons are appointed and live in the house free of charge. The appointment is for six months but may be renewed at the end of that period by special recommendation. 2. Non-resident house physicians and surgeons and clinical assistants are appointed for six months. The appointment may be renewed for a like period by special recommendation. 3. Clerks and dressers are appointed by the physicians and surgeons. These appointments are open to all students and junior practitioners holding hospital tickets. 4. Assistants in the Pathological Department are appointed by the pathologist.

Staff: Medical Department.—Consulting Physicians: Dr. Claud Muirhead, Dr. J. O. Affleck, Dr. Andrew Smart, and Dr. Alexander James. Consulting Gynæcologists: Professor Sir J. Halliday Croom and Emeritus Professor Sir A. R. Simpson. *Consulting Physician for Diseases of the Skin*: Dr. W. Allan Jamieson. Professors of Clinical Medicine: Sir T. R. Fraser, Dr. W. S. Greenfield, and Dr. John Wyllie. Ordinary Physicians and Lecturers on Clinical Medicine: Dr. Byrom Bramwell, Dr. Geo. Gibson, Dr. Alex. Bruce, Dr. R. W. Philip, and Dr. W. Russell. Gynæcologists: Dr. A. H. F. Barbour and Mr. N. T. Brewis. Physician for Diseases of the Skin: Dr. Norman Walker. Assistant Physicians: Dr. Murdoch Brown, Dr. G. Lovell Gulland, Dr. J. J. Graham Brown, Dr. Francis D. Boyd, Dr. R. A. Fleming, Dr. Harry Rainy, Dr. Chalmers Watson, and Dr. Edwin Bramwell. Assistant Gynæcologists: Dr. J. Haig Ferguson and Dr. Wm. Fordyce. Assistant Physicians for Diseases of the Skin: Dr. Fred. Gardiner and Dr. R. Cranston Low. Medical Electrician: Dr. Dawson Turner. Assistant Medical Electrician: Dr. Hope Fowler. Medical Registrar: Dr. A. Dingwall Fordyce.

Surgical Department.—Consulting Surgeons: Mr. Joseph Bell, Mr. A. G. Miller, Dr. P. H. Maclaren, and Dr. C. W. MacGillivray. Consulting Ophthalmic Surgeons: Dr. Argyll Robertson and Mr. George A. Berry. Consulting Aural Surgeons: Dr. P. McBride and Dr. McKenzie Johnston. Consulting Dental Surgeon: Dr. John Smith. Regius Professor of Clinical Surgery: Mr. F. M. Caird. Professor of Surgery: Mr. Chiene. Ordinary Surgeons: Mr. J. M. Cotterill, Mr. C. W. Cathcart, Mr. J. W. B. Hodsdon, and Mr. D. Wallace. Ophthalmic Surgeons: Dr. George Mackay and Dr. Wm. G. Sym. Surgeons to Ear and Throat Department: Dr. A. Logan Turner and Dr. J. Malcolm Farquharson. Dental Surgeons: Mr. William Guy and Mr. J. H. Gibbs. Assistant Surgeons: Mr. Alexis Thomson, Mr. Alexander Miles, Mr. J. W. Dowden, Mr. A. A. Scot Skirving, Mr. Geo. L. Chiene, and Mr. W. J. Stuart. Assistant Ophthalmic Surgeons: Dr. J. V. Paterson and Dr. A. H. H. Sinclair. Assistant Surgeons to the Ear and Throat Department: Dr. John S. Fraser and Dr. John D. Lithgow. *Pathologist: Dr. Theodore Shennan.* Assistant Pathologists: Dr. W. T. Ritchie (Clinical Pathology), and Dr. Carnegie Dickson and Dr. J. D Comrie (Morbid Anatomy). Surgical Registrar: Dr. Scott Carmichael. Superintendent: Colonel W. P. Warburton, I.M.S. (retired), M.D., C.S.I.

ROYAL INFIRMARY, Glasgow.—This infirmary, which is the largest in Glasgow, is situated in Cathedral-square, Castle-street, and has car communication with every part of the city. St. Mungo's College is in the infirmary grounds.

of Physicians of London and Edinburgh; by the Royal Colleges of Surgeons, England, Edinburgh, and Ireland; by the Royal College of Physicians of Ireland; by the Faculty of Physicians and Surgeons of Glasgow; by the Society of Apothecaries, London; and by the Army, Navy, and East India Boards. The courses of Laboratory Instruction and Lectures in Public Health are recognised by the Scottish Colleges; by the Royal College of Physicians and the Royal College of Surgeons, Ireland; and by the University of Cambridge. Communications relating to the Medical School to be addressed to the Secretary of the Medical Faculty, Anderson's College Medical School, Glasgow, W. Communications relating to the Preliminary Examination in General Education to be addressed to Mr. Alexander Mackay, Educational Institute Office, 34, North Bridge-street, Edinburgh. Communications relating to the Triple Qualification to be addressed to Mr. Alexander Duncan, LL.D., Faculty Hall, 242, St. Vincent-street, Glasgow. Communications relating to the Dental School to be addressed to Mr. D. M. Alexander, 97, West Regent-street, Glasgow.

The Kerr Bursary in Anatomy (value about £10) is open to students of the Junior Anatomy Class during Winter Session 1908-09.

The Winter Session will be opened on Monday, Oct. 12th, 1908, and will be closed on Thursday, March 18th, 1909.

The Summer Session will be opened on Tuesday, April 20th, 1909, and will be closed on Tuesday, June 29th, 1909.

ST. MUNGO'S COLLEGE AND GLASGOW ROYAL INFIRMARY.—This College was incorporated in 1889. The Glasgow Royal Infirmary was founded in 1791. The Faculty of Medicine of the College occupies new buildings erected for the purposes of a medical school, adjoining and communicating with the Royal Infirmary. The Laboratories, Museums, and Lecture-rooms are equipped and adapted to modern scientific requirements. Recent additions consist of Public Health, Practical Zoology, and Bacteriological Laboratories. A complete electric light installation has been added and a powerful Educational Lantern has been provided for demonstration purposes. The Royal Infirmary, which is at the service of the College for the purpose of clinical and practical instruction, is one of the largest hospitals in the kingdom. The winter session will open on Monday, Oct. 12th.

Psychological Medicine.—Practical instruction is given in Woodilee Asylum, situated within a short distance of Glasgow and having accommodation for 850 patients. Six resident clinical clerks are appointed annually. These clerkships are open to students attending St. Mungo's College.

Clinical Instruction in Fevers.—Classes are conducted by Dr. Johnston, Superintendent, at the City of Glasgow Fever Hospital, Ruchill, and Dr. Brownlee, Superintendent, at the City of Glasgow Fever Hospital, Belvidere.

Clinical Instruction in Midwifery.—The close proximity of the Maternity Hospital enables the Professor of Midwifery to conduct frequent clinical demonstrations there during the summer session.

The classes in St. Mungo's College qualify for the English, Scotch, and Irish Conjoint Boards and, under certain conditions, for the various universities, including the University of London. Students who have fulfilled the conditions of the Carnegie Trust as regards Scottish birth or extraction, age (16 years), and Preliminary Examination, are eligible for the benefits of this Trust during the whole course of their studies at St. Mungo's College.

The fee for each class is £2 2*s.*, except Zoology and Botany, joint fee £3 3*s.*, Anatomy, Winter Session, £4 4*s.*, Pathology, £4 4*s.*, Physics, £2 4*s.* 6*d.*, Public Health Laboratory, £12 12*s.*, and certain extra classes for which the fee is £1 1*s.* The hospital fee (including clinical lectures) is £21 for a perpetual ticket.

The classes in St. Mungo's College are now open to male and female students equally.

The minimum fees for all the lectures, including hospital attendance, necessary for candidates for the Diplomas of the English or Scotch Colleges of Physicians and Surgeons amount to £65. Further particulars can be obtained from a syllabus which may be procured free on application to the Dean, 86, Castle-street, Glasgow.

GLASGOW WESTERN MEDICAL SCHOOL.—This School is situated in University-avenue, close to the University and Western Infirmary. Lectures and Demonstrations are given on Chemistry, on Anatomy, on Surgery, on Physiology, on Midwifery and Gynæcology, on Pathology, on Medicine, and on the Eye. Some of the classes qualify for graduation and for Scotch diplomas.

Class Fees.—For each course of Lectures the fee is £2 2*s.*, or in some cases £1 1*s.* There is no matriculation fee.

Lecturers: Winter Session.—Chemistry (vacant); Anatomy: Dr. Wright Thomson, Tuesday, Wednesday, and Friday, at 4.15 P.M.; Surgery: Dr. Edington, at 12 noon; Midwifery: Dr. Balfour Marshall, at 2 P.M.; Medicine: Dr. Jubb, at 3 P.M.; The Eye: Dr. Fergus, Monday and Thursday, at 4 P.M.

Summer Session.—Chemistry (vacant); Anatomy: Dr. Wright Thomson, Tuesday and Friday, at 3.15 P.M.; Operative Surgery: Dr. Edington, Monday, Wednesday, and Friday, at 1 P.M.; Gynæcology: Dr. Balfour Marshall, at 2 P.M.; Medicine: Dr. Jubb, Monday, Tuesday, and Friday, at 4 P.M.; Ophthalmology: Dr. Fergus, Monday and Thursday, at 11 A.M. and 3 P.M. Some of the above hours are liable to alteration.

QUEEN MARGARET COLLEGE, University of Glasgow.—Queen Margaret College was founded in 1883 by the Glasgow Association for the Higher Education of Women (instituted in 1877), and handsome buildings and grounds near the University were presented to the College in 1884 by Mrs. John Elder. In 1890 a School of Medicine for women was added to its Arts Faculty. In 1892, when the Universities Commissioners issued an ordinance empowering the Scottish University Courts to make provision for the instruction of women, the Council of the College and Mrs. Elder transferred to the University the College, its buildings, grounds, and endowments, on condition that these should be devoted to the maintenance of University classes for women only. The College then became the women's department of the University of Glasgow; its classes are taught by professors of the University and other lecturers appointed by the University Court, and it is governed by the University Court and Senate. The curriculum, regulations, and fees are the same as those of the male students, and the University degrees are open to women on the same conditions as to men. They have access to the University Museum and can borrow books from the University Library, besides having a library of reference in Queen Margaret College. The number of students enrolled in session 1907-1908 was 631, of whom about 70 were studying medicine and the rest arts or science. The School of Medicine is a special feature of the College, and gives full preparation for the medical degrees of the University. In July, 1894, for the first time in the history of any Scottish university, women students graduated in medicine at the "capping" in Glasgow University. 131 women have now taken the degree of M.B., C.M., or M.B., Ch.B. of the University of Glasgow. The women students work in the University laboratories for Physics, Zoology, Botany, Physiology, Pathology, Medical Jurisprudence, and Public Health, and have special laboratories for Chemistry and Anatomy at Queen Margaret College. Excellent facilities for clinical work are given in the Royal Infirmary, in the New Maternity, and other hospitals. By a gift of £5000 granted for the purpose by the Bellahouston Trust the University Court was enabled to add to the College a large building for the study of Anatomy and other medical subjects which was opened in October, 1895. The Arthur Scholarship is open every third year to students of first year; other Bursaries are open in Arts and Medicine; and by an ordinance of the Universities Commissioners women are admitted to certain University bursaries, scholarships, and fellowships. A house of residence for the students of the College coming from a distance was opened by the Queen Margaret Hall Co., Limited, in October of 1894. The Winter Session commences on Oct. 12th.

Lecturers (other than University Professors).—Anatomy: Dr. T. H. Bryce. Chemistry: Dr. H. W. Bolam. Materia Medica: Dr. W. MacLennan. Medicine: Dr. W. K. Hunter.

of the Throat and Nose: Dr. J. Walker Downie. Honorary Consulting Physician for Mental Disorders: Dr. R. L. Oswald. Consulting Medical Electrician: Dr. D. J. Mackintosh, M.V.O. Medical Electricians: Dr. J. G. Tomkinson, Dr. Archd. Hay, and Dr. W. F. Somerville. Pathologist: Dr. Robert Muir. Assistant Pathologists: Dr. J. H. Teacher and Dr. M. L. Taylor. Vaccinator: Dr. J. W. Nicol. Dental Surgeon: Mr. W. D. Woodburn, L.D.S. Superintendent: Dr. Donald J. Mackintosh, M.V.O. Matron: Miss H. Gregory Smith. Secretary and Treasurer: Henry Johnston, 87, Union-street. Assistant Secretary: J. Matheson Johnston, C.A.

Royal Hospital for Sick Children, Glasgow.—The Hospital at Garnethill was opened in December, 1882, and in June, 1903, a country branch consisting of two wards was opened at Drumchapel. The number of beds in the town hospital and country branch together is 100. A specially designed Dispensary, or Out-patient Department, was opened in October, 1888, in West Graham-street. The whole institution is for non-infectious cases and is available to medical students for clinical instruction in the diseases peculiar to childhood. Classes are formed both at Hospital and Dispensary at the beginning of the University session in October. Students may be enrolled at any time. Fee £1 1s. per annum, admitting to both Hospital and Dispensary. Further particulars on applying to the House Surgeon, 45, Scott-street, Garnethill, Glasgow. Physicians: Dr. Samson Gemmell and Dr. George S. Middleton. Surgeons: Mr. T. Kennedy Dalziel and Mr. R. H. Parry.

Glasgow Ophthalmic Institution, 126, West Regent-street (29 beds and six cots).—Clinical and systematic course of lectures for students during the winter and summer sessions. In-patients, 1076; out- or dispensary patients, 11,095. Operations on Wednesdays and Saturdays. Honorary Consulting Surgeon: Dr. D. N. Knox. Surgeon: Dr. A. Maitland Ramsay. Assistant Surgeons: Dr. John Rowan, Dr. H. Wright Thomson, and Dr. John Gilchrist. Pathologist: Dr. Mary Hannay. Bacteriologist: Dr. J. Campbell McClure. Electrician: Dr. John Gilchrist. Anæsthetist: Dr. R. H. Henderson. House Surgeon: Dr. J. R. Kerr. This institution is the Ophthalmic Department of the Royal Infirmary. A post-graduate course is given by Dr. Ramsay and assistants during September. Clinical instruction is given in the summer session to students of the University and Queen Margaret College and in winter to students of St. Mungo's College and to all who take the class.

Glasgow Eye Infirmary, Berkeley-street and Charlotte-street.—This institution, the largest of its kind in Scotland, was founded in 1824. The Infirmary now consists of two large buildings—that in Berkeley-street being occupied as the Infirmary proper, and that in Charlotte-street (new buildings opened June, 1894) as a dispensary. The Infirmary is devoted exclusively to the treatment of Diseases of the Eye, and is intended primarily to provide treatment, and, when necessary, board and lodging, for those who are unable to do so for themselves. The average number of new patients for the last ten years has been 21,773·7, and the total number of cases treated in 1907 was 27,922. The Medical Staff is as follows:—Surgeons: Dr. Thomas S. Meighan, Dr. A. Freeland Fergus, Dr. Andrew Wilson, Dr. James Hinshelwood, Dr. Leslie Buchanan, and Dr. W. Ernest F. Thomson. Assistant Surgeons: Dr. A. Lewis M'Millan, Dr. Henry L. G. Leask, Dr. W. Cochrane Murray, Dr. Brownlow Riddell, Dr. Arthur J. Ballantyne, and Dr. Arthur Yost. Pathologist: Dr. W. B. Inglis Pollock. House Surgeon: Dr. A. Cappie Russell. Assistant House Surgeon: Dr. Wm. Grier.

Regulations as to Attendance of Students.—(1) Gentlemen may attend as students on payment to the treasurer of the following fees:—For six months £1 1s., 12 months £2 2s. (2) All students when duly entered in the Infirmary Register may attend the clinical instruction of any or every member of the medical staff on production of their tickets. The days on which the surgeons respectively attend to receive patients may be ascertained at the Infirmary. Students have the privilege of being present in the Dispensaries at such hours as are arranged. They may enter the wards along with the surgeon whose clinique they are attending when he visits his patients. They may also be present at operations under the sanction of the surgeon operating, but no student may enter the wards or operating-room except under the aforesaid regulation. Students may be allowed the use of the journals and case-books for examination on applying to the House Surgeon. The wards and dispensary are recognised by the University of Glasgow for the purpose of instruction in ophthalmology for graduation in medicine. Joint Secretaries and acting Treasurers: William George Black and Harold John Black, 88, West Regent-street, Glasgow. The medical session opens in October.

IRISH SCHOOLS OF MEDICINE.[1]

Royal College of Surgeons in Ireland (Schools of Surgery).—The schools of surgery are attached by Charter to the Royal College of Surgeons and have existed as a department of the College for over a century. They are carried on within the College buildings and are specially subject to the supervision and control of the Council, who are empowered to appoint and remove the professors and to regulate the methods of teaching pursued. The buildings have been reconstructed, the capacity of the dissecting-room nearly trebled, and special pathological, bacteriological, public health, and pharmaceutical laboratories fitted with the most approved appliances in order that students may have the advantage of the most modern methods of instruction. A refreshment-room is now open where students can have luncheon. There are special rooms set apart for lady students. The entire building is heated by hot-water pipes and lighted throughout by the electric light. Winter Session commences Oct. 15th; Summer Session, April 1st. Prospectuses and guide for medical students can be obtained post free on written application to the Registrar, Royal College of Surgeons, Stephen's-green, W., Dublin.

Queen's College School of Medicine, Belfast.—Ten Junior Scholarships have been founded in the Faculty of Medicine of the annual value of £20 each. Two are tenable by matriculated students of the first, second, third, fourth, and fifth years of their course respectively. The examinations for Scholarships take place at the commencement of the session. A Travelling Medical Scholarship, value £100, will be awarded in the spring of 1909. Class Prizes are awarded at examinations which take place at the close of the session. The Exhibitions, &c., of the Royal University of Ireland are also open to students. Lectures in Medicine at Queen's College, Belfast, will commence on Oct. 20th and end on March 31st. The Summer Medical Classes will begin on May 3rd, except Botany, which begins on March 22nd. The Donald Currie Chemical Buildings contain a lecture theatre, a preparation room, a chemical museum, a large class-room for elementary practical chemistry, laboratories for qualitative and quantitative analysis, rooms for water and gas analysis, dark room for photographic purposes, balance room, &c., provided with all modern appliances. Special facilities are given to those who wish to pursue original research. The Anatomical Department contains a large and well-lighted dissecting-room, a lecture-room, a professor's and demonstrator's room, a bone-room, and a laboratory for microscopic and photographic work. The medical museum is in the same building. The Jaffé Laboratories for Physiology comprise a lecture theatre, laboratories for practical work in chemical physiology, histology, and experimental physiology, and in addition small private research rooms, including balance, galvanometer, and centrifuge rooms. The Musgrave Pathological Laboratory.—In this department opportunity is afforded for research in pathology and bacteriology. The department is in touch with most of the hospitals in Belfast, and there is an ample supply of material for investigation by graduates in morbid histology, clinical pathology, and the bacteriology of infectious diseases. A course in pathology or bacteriology is given to graduates, and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in the department for the Public Health Committee of the corporation in connexion

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[1] The Irish Universities Bill, if it becomes law, will alter much that here described.

The infirmary has, including the Ophthalmic Department, over 620 beds, the average number occupied in 1905 being 600. When the reconstruction of the infirmary, which was begun three years ago, is completed it will have about 700 beds. There are special beds and wards for diseases of women, of the throat, nose, and ear, venereal diseases, burns, and septic cases. Wards are set apart for the teaching of Women Students. At the Out-door Department the attendances in 1907 numbered over 140,000. In addition to the large medical and surgical departments there are departments for special diseases—viz., diseases of women, of the throat and nose, of the ear, of the eye, of the skin, and of the teeth. Five house physicians and nine house surgeons, having a legal qualification in medicine and surgery, who board in the hospital free of charge, are appointed every six months. Clerks and dressers are appointed by the physicians and surgeons. As a large number of cases of acute diseases and accidents of a varied character are received these appointments are very valuable and desirable. A fully equipped Electrical Pavilion was opened a few years ago and year by year the latest and most approved apparatus for diagnosis and treatment has been added. The fees for hospital attendance, including clinical lectures and tutorial instruction, attendance at the out-door department, at the pathological department, post-mortem examinations, and the use of the museum, which has recently been re-arranged and catalogued, are as follows: For one year, £10 10*s.*; for six months, £6 6*s.*; for three months, £4 4*s.* Students who have paid fees to the amount of £21 to the Glasgow Royal Infirmary shall be permitted to attend in any subsequent year or years one winter and one summer course of instruction in the infirmary without further payment; and students who have paid to any other hospital in the United Kingdom fees, being not less than £21, in virtue of which they are entitled to attend without further payment, shall be admitted as students of the Royal Infirmary on payment of £3 3*s.* for six months or £1 11*s.* 6*d.* for three months.

Staff.—Visiting Physicians: Dr. D. S. Middleton, Dr. T. K. Monro, Dr. W. K. Hunter, Dr. J. M. Cowan, and Dr. J. B. Mackenzie Anderson. Visiting Surgeons: Mr. John Barlow, Mr. J. A. Adams, Mr. David Newman, Mr. Q. McLennan, Mr. J. H. Pringle, Mr. H. Rutherfurd, and Mr. P. Paterson. Consulting Surgeon for Diseases of the Eye: Dr. A. Maitland Ramsay. Surgeon for Diseases of the Throat and Nose and Consulting Medical Electrician: Mr. J. Macintyre. Gynæcologist: Dr. Balfour Marshall. Surgeon for Diseases of the Ear: Mr. J. Kerr Love. Pathologist and Curator of Museum: Dr. Hugh Galt. Assistant Pathologist: Dr. Mary Baird Hannay. Bacteriologist: Mr. David McCrorie. Assistant Bacteriologists: Mr. J. A. Campbell and Dr. Lizzie T. Fraser. Medical Electrician: Mr. J. R. Riddell. Assistant Medical Electricians: Dr. Samuel Capie, Katharine M. Chapman, L.R.C.P. Edin., and Dr. Janie S. McLauchlan. Anæsthetist: Dr. John Donald. Vaccinator: Dr. H. H. Borland. Dispensary Physicians: Mr. David McCrorie, Dr. John Henderson, Dr. Campbell S. Marshall, Dr. James Scott, Dr. J. T. McLachlan, and Dr. A. W. Harrington. Extra Dispensary Physicians: Dr. Archibald Jubb, Dr. Dugald McPhail, and Dr. Wm. H. Brown. Dispensary Surgeons: Mr. A. N. McGregor, Mr. John Patrick, Mr. John A. C. Macewen, Mr. A. C. Faulds, Mr. Thomas Kay, and Mr. Robert Ramsey. Extra Dispensary Surgeons: Mr. James Battersby, Mr. Donald Duff, and Mr. Spencer Mort. Dispensary Specialists:—Diseases of Women: Dr. Peter McBryde, Dr. W. D. Macfarlane, and Dr. A. G. Banks; Diseases of the Ear: Dr. James Adam; Diseases of the Skin: Dr. Alexander Morton and Dr. G. McIntyre; Diseases of the Throat and Nose: Dr. R. Fullerton and Dr. Grant; Diseases of the Eye: Dr. J. Rowan, Dr. H. W. Thomson, and Dr. J. H. McIlroy; Diseases of the Teeth: Mr. W. Taylor and Mr. Taylor, jun. Superintendent: Dr. J. Maxtone Thom.

ROYAL HOSPITAL FOR SICK CHILDREN, Sciennes-road, Edinburgh.—This hospital contains 120 beds, and is fitted with every modern improvement. A fully equipped out-patient department (medical and surgical) is conducted daily in a building adjoining the hospital. Systematic courses of instruction, which qualify for graduation in the Edinburgh University and elsewhere, are given from time to time throughout the year by the staff. Students may enter at any time. Full particulars can be obtained from the Registrar at the hospital.

Staff.—Consulting Physician: Dr. J. Carmichael Consulting Surgeon: Dr. J. Bell. Consulting Surgeon-Dentist: Mr. J. Smith. Pathologist: Dr. S. McDonald. Ordinary Physicians: Dr. G. H. M. Dunlop, Dr. J. Thomson, and Dr. J. S. Fowler. Surgeon: Mr. H. J. Stiles. Ophthalmic Surgeon: Mr. G. A. Berry. Assistant Surgeon: Mr. E. W. S. Carmichael. Medical Electrician: Dr. J. W. Spence. Extra Physicians: Dr. W. B. Drummond, Dr. J. W. Simpson, and Dr. Dingwall Fordyce. Anæsthetists: Dr. D. C. A. M'Allum and Dr. J. Politachi.

EYE, EAR, AND THROAT INFIRMARY OF EDINBURGH, 6, Cambridge-street, Lothian-road.—Clinical Lectures and Instruction are given in this institution, which is open at 1 o'clock daily for outdoor patients for Eye Diseases; Mondays, Thursdays, and Saturdays at 12 noon, and Tuesdays and Fridays at 4 P.M. for out-door Ear, Nose, and Throat Patients. Special Practical Ophthalmoscopic Classes by arrangement. Patients whose diseases require operations or more than ordinary care are accommodated in the house. Consulting Surgeons: Dr. Joseph Bell, Dr. Logan Turner (Ear, Nose, and Throat Department). Surgeons: Dr. William George Sym, Dr. Malcolm Farquharson, Dr. J. V. Paterson, Dr. E. M. Lithgow, and Dr. W. G. Porter. Honorary Anæsthetist: Mr. J. H. Gibbs. Dental Surgeon: Mr. G. W. Watson. Treasurer and Secretary: Mr. J. P. Watson, W.S., 32, Charlotte-square.

GLASGOW WESTERN INFIRMARY.—This hospital adjoins the University of Glasgow. Number of beds upwards of 520. Special wards are set apart for Diseases of Women and for Affections of the Skin. In the out-patient department there are special cliniques for Diseases of Women and for Diseases of the Throat, Ear, and Teeth. The Clinical Courses are given by the physicians and surgeons, each of whom conducts a separate class, and students require to enter their names at the beginning of the session for the class which they propose to attend. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class. All the courses of clinical instruction are recognised by the University of Glasgow and the other boards in the kingdom. In the Pathological Department the course is both systematic and practical, also post-graduate courses, and extends through the winter and following summer; these are likewise recognised by the University for graduation. Fourteen resident assistants are appointed annually, without salary, from those who have completed their course. The fee for hospital attendance is £10 10*s.* and the fees for clinical instruction are £3 3*s.* for the Winter Session and £2 2*s.* for the Summer Session.

Staff.—Honorary Consulting Physician: Dr. G. P. Tennant. Honorary Consulting Surgeon: Dr. Alex. Patterson. Honorary Consulting Gynæcologist: Dr. W. L. Reid. Visiting Physicians: Dr. Samson Gemmell, Dr. Ralph Stockman, and Dr. John Lindsay Steven. Visiting Surgeons: Sir Hector C. Cameron, Sir W. Macewen, Dr. J. C. Renton, Dr. George T. Beatson, C.B., Dr. T. K. Dalziel, and Dr. James H. Nicoll. Physicians for Diseases of Women: Dr. Murdoch Cameron and Dr. John M. Munro Kerr. Assistant Physicians: Dr. W. G. Dun, Dr. R. B. Ness, Dr. William MacLennan, and Dr W. R. Jack. Assistant Surgeons: Dr. Duncan Macartney, Dr. Robert Kennedy, Dr. Alfred A. Young, Dr. G. B. Buchanan, Dr. John Morton, and Dr. G. H. Edington. Dispensary Physicians: Dr. John S. M'Kendrick, Dr. Robert Fullarton, Dr. John Gracie, Dr. J. Campbell McClure, Dr. Frank Charteris, and Dr. A. B. Sloan. Dispensary Surgeons: Dr. Farquhar Macrae, Dr. Alex. MacLennan, Dr. Archd. Young, Dr. M. L. Taylor, Dr. W. W. Christie, and Dr. C. C. Cuthbert. Anæsthetists: Dr. James P. Boyd, Dr. Horne Henderson, Dr. Dingwall Kennedy, and Dr. John W. Renton. Dispensary Physician for Diseases of Women: Dr. S. Cameron and Dr. David Dickie. Extra Dispensary Physicians: Dr. Leonard Findlay. Dr. John P. Duncan, Dr. Murray Ross Taylor, Dr. Geo. A. Allan, and Dr. Jas. R. C. Greenlees. Extra Dispensary Surgeons: Dr. A. H. Edwards, Dr. R. B. Carslaw, Dr. Wm. Rankin, Dr. J. Mill Renton, and Dr. John S. Barr. Extra Dispensary Physicians for Diseases of Women: (vacant). Dispensary Surgeon for Diseases of the Ear: Dr. Thomas Barr. Assistant Dispensary Surgeon for Diseases of the Ear: Dr. J. Stoddart Barr. Honorary Consulting Ophthalmic Surgeon: Dr. Thomas Reid. Dispensary Surgeon for Diseases

Elementary Biology: Dr. D. J. Coffey. Elementary Physics: Mr. P. J. Fagan.

HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION.

Adelaide Medical and Surgical Hospitals, Peter-street, Dublin.—Fee for nine months' hospital attendance, £12 12*s.*; six months, £8 8*s.* Summer, three months, £5 5*s.*

Staff.—Physicians: Dr. James Little, Dr. Wallace Beatty, and Dr. H. T. Bewley. Surgeons: Mr. F. T. Heuston and Mr. T. E. Gordon. Obstetric Surgeon: Sir W. J. Smyly. Ophthalmic Surgeon: Sir H. R. Swanzy. Throat Surgeon: Dr. S. Horace Law. Pathologists and Bacteriologists: Dr. J. Alfred Scott and Dr. W. Geoffrey Harvey. Dental Surgeons: Dr. Theodore Stack and Mr. John Stanton. Assistant Physician: Dr. G. Peacocke. Assistant Surgeon: Dr. K. E. Levison-Gower Gunn. House Surgeons: Dr. J. L. Phibbs and Dr. W. S. Thacker.

Two resident surgeons are elected yearly and four resident pupils half-yearly. At the termination of the session prizes in Clinical Medicine and Surgery and in Dermatology will be awarded.

Hudson Scholarship.—In addition to the junior prizes the Hudson Scholarship, £30 and a gold medal, as well as a prize of £10, together with a silver medal, will be awarded at the end of the session for proficiency in Clinical Medicine and Medical Pathology, Clinical Surgery and Surgical Pathology, Pathological Histology, Surgical Appliances, including instruments and bandaging, Ophthalmology, Gynæcology, and Dermatology.

The certificates of attendance are recognised by all the Universities and licensing bodies in the United Kingdom. Further particulars may be obtained from Mr. F. T. Heuston.

Coombe Lying-in Hospital and Guinness Dispensary for the Treatment of Diseases Peculiar to Women, Dublin.—This hospital contains nearly 70 beds and consists of two divisions, one of which is devoted to lying-in cases and the other to the treatment of diseases peculiar to women. The practice of this hospital is one of the largest in Ireland; nearly 18,000 cases are treated annually, either as intern or extern patients. Lectures are delivered, practical instruction given, and gynæcological operations are performed in the theatres daily. There is a general dispensary held daily, at which instruction is given on the Diseases of Women and Children. There is a special afternoon dispensary held by the Master and his assistants, at which practical instruction in gynæcology is given. This is the largest dispensary of its kind in Dublin. There is no extra charge for attendance at this dispensary. There is accommodation for intern pupils who enjoy exceptional advantages of acquiring a thorough knowledge of this branch of their profession. Lady medical students can reside in the hospital. Clinical assistants are appointed from amongst the pupils as vacancies occur. Certificates of attendance at this hospital are accepted by all licensing bodies, and the diploma is recognised by the Local Government Board as a full legal midwifery qualification. The resident quarters have been much enlarged. A billiard table has been erected for the use of students. Fees: Extern pupils for full course of six months, £8 8*s.*; three months, £4 4*s.* Intern pupils, one month, £4 4*s.*; each consecutive month, £3 3*s.*; six months, £18 18*s.*; board and lodging in the hospital, 18*s* per week. Lady students' intern, one month, £5 5*s.*; each consecutive month, £4 4*s.* Registration fee, in advance, 10*s.* 6*d.* Students can enter for attendance at any time, but preference is given to those entering from the first day of the month. Further particulars may be had on application to the Master or the Registrar at the hospital.

Staff.—Consulting Physicians: Sir John W. Moore and Dr. J. M. Redmond. Consulting Surgeons: Dr. F. T. Heuston and Dr. F. W. Kidd. Pathologist: Dr. E. J. McWeeney. Pathological Analyst: Sir C. A. Cameron. Master: Dr. M. J. Gibson. Assistant Masters: Dr. W. D S Johnstone and Dr. Victor J. McAllister. Registrar: Fred. A. Heney.

Sir Patrick Dun's Hospital Grand Canal-street, Dublin.—Classes for clinical instruction both in Medicine and Surgery are held each morning from 9 o'clock from Oct. 1st till the end of June. Special classes for students commencing their hospital studies will be held in the wards during the months of October, November, and December. They will embrace the elements of Medicine and Surgery, including note-taking. The surgical operating theatre, which has recently been erected, is equipped upon the most approved principles and is thoroughly in accord with modern surgical requirements. Instruction in the Diseases of Women is given Tuesday and Friday at 10 A.M. by Sir Arthur V. Macan. There is a special wing devoted to fever cases. Pathological and Bacteriological Demonstrations will be given each Friday at 10.30 A.M. during the Winter and Summer Sessions in the new Pathological Laboratory. A new department has been opened for the special treatment of Throat, Nose, and Ear diseases under the direction of Dr. R. H. Woods. Instruction will be given in these subjects and in the use of the Laryngoscope and Otoscope. to senior students on Mondays and Thursdays. Opportunities are given the members of the hospital class of seeing the various applications of the x rays to the diagnosis and treatment of injury and disease Opportunities are also afforded in the out-patient department for the diagnosis and treatment of the numerous minor ailments not met with in the hospital wards. Demonstrations are given upon Diseases of the Skin. A Resident Surgeon, with salary, is appointed annually. The election takes place at the end of December. Four Resident Pupils are appointed each half-year. Six Surgical Dressers and six Clinical Clerks are appointed each month.

Prizes and Medals.—Clinical medals and prizes will be awarded in Medicine and in Surgery respectively in accordance with the will of the late Rev. Samuel Haughton, M.D., S.F.T C.D. Candidates who fail to obtain these medals and prizes will be awarded special certificates in Medicine and in Surgery provided they show sufficient merit. The next examination will be held in April, 1909.

Fees.—Winter and summer session, £12 12*s.*; winter session (six months), £8 8*s.*; and summer session (three months), £5 5*s.* The practice of this hospital is open to students of Medicine in attendance on schools other than the School of Physic, the certificates being recognised by the Royal University and Royal Colleges of Surgeons of England, Ireland, and Scotland.

Consulting Physician: Dr. J. M. Purser. Physicians: Dr. W G. Smith. Dr. J. Magee Finny, Dr. H. C. Drury. and Sir Arthur V. Macan. Assistant Physician: Dr. E. J. Watson Surgeons: Sir Charles B Ball, Dr. E H. Taylor, and Dr C. A. K. Ball. Pathologist: Dr A. C. O'Sullivan.. Department for Throat, Nose, and Ear: Dr. R. H. Woodss Assistant Surgeon: Dr. C. M. Benson. X Ray Department: Dr. E J. Watson. House Surgeon: Dr. R. E. Wright.

Further information will be supplied by the Secretary to the Medical Board, Dr. H. C. Drury.

Mercer's Hospital.—This hospital, founded in 1734, is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine. and within five minutes' walk of Trinity College. It contains 120 beds for medical and surgical cases, and arrangements have been made with the medical officers of Cork-street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution and become eligible for the posts of Resident Pupil, &c. There is a large out-patient department and a special department for diseases peculiar to women. There are also special wards for the treatment and study of children's diseases. During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements.

Appointments.—A House Surgeon is appointed annually. Five Resident Pupils, each for six months, and Clinical Clerks and Dressers are appointed monthly from amongst the most deserving members of the class.

Fees.—Winter. six months. £8 8*s.*; Summer, three months, £5 5*s.*; nine months, £12 12*s.*

Consulting Physician: Dr. J. Magee Finny. Consulting Surgeon: Mr. H. Fitzgibbon. Consulting Ophthalmic Surgeon: Mr. J. B. Story. Physicians: Dr. E. L'Estrange Ledwich and Dr. J. Lumsden. Surgeons: Mr. R. C. B Maunsell, Mr. S. S Pringle, and Mr. W. Ireland de C. Wheeler.

with water-supply, sewage disposal, meat- and milk-supply, the diagnosis of cases of infectious diseases, &c. The certificate issued to members of the class in bacteriology qualifies for the D.P.H. degree. The pharmaceutical laboratory is fitted and equipped for the work of practically instructing students in the compounding and dispensing of medicines.

Professors and Lecturers—Natural Philosophy: W. Blair Morton, M.A. Chemistry: E. A. Letts, D.Sc., F.R.S.E. Natural History: Gregg Wilson, D.Sc. Anatomy: Johnson Symington, M.D., F.R.S. Physiology (Dunville): T. Hugh Millroy, M.D. Medicine: J. A. Lindsay, M.D., F.R.C.P. *Surgery: T. Sinclair, F.R.C.S. Midwifery: Sir John W.* Byers, M.D. Pathology (Musgrave): W. St.C. Symmers, M.B. Materia Medica: Sir William Whitla, M.D. Medical Jurisprudence: W. St.C. Symmers, M.B., and T. Houston, M.D. Ophthalmology: C. E. Shaw, M.D. Sanitary Science: E. A. Letts, D.Sc., and W. J. Wilson, M.B. Vaccination: J. McLiesh, M.B., D.P.H.

Clinical instruction is given at the Royal Victoria Hospital, the medical staff of which is as follows:—Physicians: Professor Sir William Whitla, Professor James A. Lindsay, Dr. William Calwell, and Dr. H. L. McKisack. Surgeons: Mr. J. Walton Browne, Professor T. Sinclair, Mr. A. B. Mitchell, and Mr. T. S. Kirk. Gynæcologist: Professor Sir John Byers. Surgeon for Diseases of the Eye, Ear, and Throat: Mr. James A. Craig. Pathologist: Professor W. St.C. Symmers. Physician for Diseases of the Skin: Dr. W. Calwell. Assistant Physicians: Dr. W. B. McQuitty and Dr. J. S. Morrow. Assistant Surgeons: Mr. Robert Campbell and Mr. Andrew Fullerton. Assistant to the Gynæcologist: Mr. R. J. Johnstone. Assistant Surgeon Eye, Ear, and Throat Department: Mr. Henry Hanna. Assistant to the Pathologist: Dr. David Kirkhope. Administrators of Anæsthetics: Dr. V. G. L. Fielden, Dr. M. B. Smith, and Dr. F. C. Smyth. Medical Electrician: Dr. J. C. Rankin. Hæmatologist: Dr. Thomas Houston. Medical Tutor: Dr. S. H. G. Blakely. Surgical Tutor: Mr. Howard Stevenson. Registrars: Dr. J. E. MacIlwaine and Dr. S. T. Irwin. The Belfast Union and Fever Hospitals, the Ulster Hospital for Diseases of Women and Children, the Maternity Hospital, the Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Hospital for Sick Children, and the District Lunatic Asylum are open to students. Full information can be had from the Registrar, Queen's College, Belfast.

QUEEN'S COLLEGE SCHOOL OF MEDICINE, Cork.—The building is provided with a very large, well-ventilated dissecting room supplied with electric light, with physiological, toxicological, pathological, and pharmaceutical laboratories, materia medica, anatomical and pathological museums, as well as a collection of surgical and obstetrical instruments and appliances. There are well-appointed physical, chemical, and biological laboratories, and a large natural history museum in the adjoining building, and part of the College ground is laid out as a botanical garden. The plant houses are well filled with plants and are open to the students in the class of Botany.

Fees.—For Practical Anatomy, Practical Physiology and Histology, and for Practical Chemistry, £3 each course; for Physiology, £3 first course, and £2 for each subsequent course. Other medical classes, £2 first course, and £1 each subsequent course.

Eight scholarships (value about £30 each), as well as several exhibitions and class prizes, are open to students in their first four years and the Blayney Scholarship, value £32, and a Senior Exhibition to students in their fifth year.

Students can attend the North and South Infirmaries, the Cork Union Hospital, the Cork Fever Hospital, the County and City of Cork Lying-in Hospital, the Cork Maternity, the County and City of Cork Hospital for Diseases of Women and Children, the Cork Eye, Ear, and Throat Hospital, and the Cork District Lunatic Asylum.

Staff, North Infirmary.—Physicians: Dr. D. D. Donovan and Dr. E. Magner. Surgeons: Dr. Cotter, Dr. C. Y. Pearson, Dr. N. J. Hobart, and Dr. D. J. O'Mahony. Assistant Physician: Dr. R. B. Dalton. Assistant Surgeons: Dr. J. Dundon and Dr. R. P. Byrne. Pathologist: Dr. Denis Murphy. House Physician: Dr. D. F. Hegarty. House Surgeon: Dr. D. M. Donovan. Surgeon Dentist: Mr. W. Pericho.

Staff, South Charitable Infirmary.—Physicians: Dr. P. T. O'Sullivan and Dr. N. I. Townsend. Surgeons: Dr. H. R. Townsend, Dr. H. Corby, and Dr. T. G. Atkins. Ophthalmic Surgeon: Dr. A. W. Sandford. Extern Physicians: Dr. E. V. Cantillon and Dr. E. W. Allsom. Extern Surgeon: Dr. R. P. Crosbie. House Physician: Dr. M. V. Shanahan. House Surgeon: Dr. J. P. Higgins. Dentist: Mr. T. C. Butterfield.

Professors—Natural Philosophy: W. Bergin, M.A. Chemistry: A. E. Dixon, M.D. Anatomy: B. C. Windle, M.D. Physiology: D. T. Barry, M.D. Medicine: W. E. Ashley Cummins, M.D. Surgery: C. Yelverton Pearson, F.R.C.S. *Materia Medica: John Dundon, M.D. Midwifery:* H. Corby, M.D.

Medical session opens Oct. 20th, 1908.

QUEEN'S COLLEGE SCHOOL OF MEDICINE, Galway.—There are eight Junior Scholarships in Medicine of the annual value of £25 each. Two are tenable by matriculated students of the first, second, third, and fourth years. The Council has power to award exhibitions for distinguished answering. Sessional prizes are offered in each subject. Scholarship examinations are held at the commencement and those for Sessional Prizes at the close of each session. The Medical lectures are recognised by the Royal University of Ireland and the various Licensing Bodies in the United Kingdom. The College contains well lighted and ventilated dissecting room and anatomical lecture theatre; physiological, pharmaceutical, chemical, and physical laboratories; anatomical, pathological, gynæcological, and materia medica museums; as well as a large natural history and geological museum and an extensive library in which students can read and from which they can borrow books. Clinical instruction is given in the Galway Hospital and in the Galway Union and Fever Hospitals. The following constitute the medical staff of the Galway Hospital.—Physicians: Professor Kinkead and Professor Lynham. Surgeons: *Professor* Pye, Professor Colahan, and Professor Brereton. Gynæcologist: Professor Kinkead. House Surgeon: Dr. Rouse. Instruction at the Galway Union and Fever Hospital is given by Professor Colahan and Dr. McDonogh. There are extensive grounds, a portion of which is occupied by a Botanic Garden and a part is at the disposal of the College Athletic Union. A prospectus containing full information as to courses of lectures, scholarships, and fees for classes can be obtained on application to the Registrar, Queen's College, Galway.

Professors—Natural Philosophy: A. Anderson, LL.D. Chemistry: A. Senier, Ph.D. Natural History; R. J. Anderson, M.D. Anatomy and Physiology: J. P. Pye, M.D., D.Sc. Medicine: J. I. Lynham, M.D. Surgery: W. Westropp Brereton, L.R.C.S.I. Materia Medica: N. W. Colahan, M.D. Midwifery: R. J. Kinkead, M.D.

THE MEDICAL SCHOOL OF THE CATHOLIC UNIVERSITY, IRELAND, DUBLIN.—Founded in 1855, it is now the largest medical school in Ireland. It prepares students specially for the examinations of the Royal University and the Conjoint Colleges of Ireland and Edinburgh, but its lectures and practical courses are recognised by all the Licensing Bodies in Great Britain and Ireland. In addition to the ordinary medical examinations it prepares students for the D.P.H. and for the various higher University examinations in Pathology, Physiology, Chemistry, &c. One medical scholarship, six exhibitions, numerous gold and silver medals, and special prizes in anatomy, chemistry, and physics are offered annually for competition. The school opens for dissections on Oct. 1st; the winter lectures begin on Nov. 2nd. The Summer Session commences on April 1st.

Lecturers—Anatomy: Dr. E. P. McLoughlin, assisted by Mr. P. J. Fagan, Dr. G. M. Keating, and Mr. T. T. O'Farrell. Physiology: Dr. D. J. Coffey, M.A., M.B., and Dr. C. Coppinger, M.D., Emeritus Professor. Chemistry: Mr. Hugh Ryan, D.Sc., assisted by Mr. G. Ebrill, B.A. Surgery: Mr. J. S. M'Ardle, assisted by Mr. A. J. Blayney. Medicine: Sir Christopher Nixon, Bart. Midwifery: Dr. Alfred J Smith. Pathology and Bacteriology: Dr. Edmond J. McWeeney. Physics: Mr. J. A. M'Clelland. Biology: Dr. George Sigerson. Practical Biology: Mr. James B. Butler. Ophthalmology: Dr. Louis Werner. Sanitary Science: Dr. E. J. McWeeney (temporary). Materia Medica: Dr. M. J. Dempsey. Medical Jurisprudence: Dr. E. J. McWeeney (temporary). Practical Pharmacy: Mr. M. R. Hayes.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY.

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
LONDON UNIVERSITY*	No. 1.	£40 per annum.	1 year.	Awarded to the most meritorious of those candidates, whether internal or external, who, having passed the whole Intermediate Examination in Medicine at one time, have been awarded sufficient marks of distinction in (1) ANATOMY, or (2) PHYSIOLOGY, or (3) PHARMACOLOGY.	No candidate will be allowed to receive the income of more than one scholarship at the same time. They will be awarded in the year 1903 only.
	No. 2.	£40 per annum.	1 year.		
	No. 3.	£30 per annum.	1 year.		
SOCIETY OF APOTHECARIES OF LONDON	Gillson.	£20 per annum.	1 year.	Open to Licentiates of the Society, or to candidates for the Society's Diploma who obtain such Diploma within six months of their election to the scholarship.	Candidates must be under 35 years of age.
ST. BARTHOLOMEW'S MEDICAL SCHOOL	Entrance Scholarships. No. 1.	£75.	—	Open Competitive Examination in not more than three nor fewer than two of CHEMISTRY, PHYSICS, ZOOLOGY, BOTANY, PHYSIOLOGY, ANATOMY.	Full or University Course at St. Bartholomew's Hospital.
	,, No. 2	£75.	—		Ditto.
	,, No. 3	£150.	—	Open Competitive Examination in not fewer than three of the following:—CHEMISTRY, PHYSICS, BOTANY, ZOOLOGY, PHYSIOLOGY.	Full Course at St. Bartholomew's Hospital.
	Entrance Scholarship in Arts.	£100.	—	Open Competitive Examination in LATIN, MATHEMATICS, and GREEK, or FRENCH, or GERMAN.	Ditto.
	Jeaffreson Exhibition.	£50.	—	Open Competitive Examination in LATIN, MATHEMATICS, and GREEK, or FRENCH, or GERMAN.	Ditto.
	Shuter Scholarship.	£50.	—	Competitive Examination among Cambridge Graduates in ANATOMY and PHYSIOLOGY.	Ditto.
	Junior Scholarships. ,, No. 1.	£30.	—	Competitive Examination among Students in ANATOMY and BIOLOGY.	Study at St. Bartholomew's Hospital.
	,, No. 2.	£20.	—	Ditto.	Ditto.
	,, No. 3.	£25.	—	Competitive Examination in CHEMISTRY, PHYSICS, and HISTOLOGY.	Ditto.
	,, No. 4.	£15.	—	Ditto.	Ditto.
	Senior Scholarship.	£50.	—	Competitive Examination among Students in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	Ditto.
	Kirkes Scholarship.	£30 and Medal.	—	Competitive Examination among Students in CLINICAL MEDICINE.	Ditto.
	Brackenbury Scholarships. ,, No. 1.	£39.	—	Competitive Examination among Students in MEDICINE.	Ditto.
	,, No. 2.	£39.	—	Competitive Examination among Students in SURGERY.	Ditto.
	Lawrence Scholarship.	£45 and Medal.	—	Competitive Examination among Students in SURGERY, MEDICINE, and MIDWIFERY.	Ditto.
	Sir Geo. Burrows Prize.	£10.	—	Competitive Examination in PATHOLOGY among Students.	Ditto.
	Skynner Prize.	13 guineas.	—	Competitive Examination in REGIONAL and MORBID ANATOMY among Students.	Ditto.
	Matthews Duncan Medal and Prize.	£20.	—	Competitive Examination among Students in MIDWIFERY and GYNÆCOLOGY.	Ditto.
	Luther Holden Research Scholarship in Surgery. (And other Prizes and Medals of less value.)	£105.	—	By Election.	Ditto.
CHARING CROSS HOSPITAL AND COLLEGE	Entrance Scholarships, open to students at the commencement of curriculum. Livingstone.	75 guineas.	—	All the Scholarships are awarded annually at the commencement of each Winter Session, after a competitive examination in the following groups of subjects:—(1) ENGLISH, including ENGLISH LANGUAGE and LITERATURE, ENGLISH HISTORY with alternative questions on the HISTORY OF THE BRITISH EMPIRE, and GEOGRAPHY, including elementary questions in PHYSICAL GEOGRAPHY; (2) LATIN and any one of the following three languages—GREEK, FRENCH, and GERMAN; (3) MATHEMATICS, including ARITHMETIC, ALGEBRA, and GEOMETRY; with MECHANICS, including STATICS and DYNAMICS; (4) INORGANIC CHEMISTRY, and any three of the following branches of EXPERIMENTAL PHYSICS—ACOUSTICS, HEAT, MAGNETISM, ELECTRICITY, and OPTICS; and (5) ANIMAL and VEGETABLE BIOLOGY. A Candidate may offer himself for examination in not more than three of the above groups of subjects, but group (1) must be one of the three.	Open to all general students.
	Huxley.	50 ,,	—		For sons of medical men.
	—	30 ,,	—		Open to all general students.
	—	20 ,,	—		Open to all general students.
	—	30 ,,	—		For dental students.

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* In the M.B., B.S. examination a University Medal of value £5 may be awarded to the candidate who has passed with the greatest distinction. In each part of the M.D. and in the M.S. examinations a University Medal of value £25 may be awarded to the candidate who has passed with the greatest distinction.

Gynæcologist: Dr. J. H. Glenn. Pathologist and Radiologist: Dr. W. G. Harvey.

For further particulars apply to Mr. Seton Pringle, Hon. Sec., Medical Board, 27, Lower Baggot-street, Dublin.

Meath Hospital and County Dublin Infirmary.—Physicians: Sir John William Moore, Dr. James Craig, and Dr. Edward E. Lennon. Surgeons: Sir L. H. Ormsby, Mr. W. J. Hepburn, Mr. William Taylor, Mr. R. Lane-Joynt, and Mr. F. Conway Dwyer. Gynæcologist: Dr. F. W. Kidd. Clinical Assistants: Dr. William Boxwell and Dr. Henry Stokes. Pathologist: Professor Arthur H. White. This hospital was founded in 1753 and now contains 160 beds available for clinical teaching. A building containing 40 beds for the isolated treatment of fevers is attached to the Hospital. The certificates of this hospital are recognised by all the universities and licensing bodies of the United Kingdom. Six *Medical Clinical Clerks and Twelve Surgical Resident* Pupils and Dressers are appointed every six months, and a House Surgeon and two Clinical *Assistants* are elected annually. The session will open on Oct. 1st. A prospectus giving the complete arrangements for the Medical and Surgical classes for the coming session may be obtained from the Secretary of the Medical Board, Mr. William Taylor, 47, Fitzwilliam-square, Dublin.

Mater Misericordiæ Hospital, Dublin.[1]—Consulting Physician: Sir Francis R. Cruise. Consulting Surgeon: Mr. Charles Coppinger. Physicians: Sir Christopher Nixon, Bart., Dr. Joseph Redmond, Dr. John Murphy, and Dr. Martin Dempsey. Surgeons: Sir Arthur Chance, Mr. John Lentaigne, and Mr. Alexander Blaney. *Assistant Physician*: Dr. John O'Donnell. Assistant Surgeon: Mr. Curran. Temporary Assistant Surgeon: Mr. D. Farnan. Obstetric Physician: Dr. Robert Farnan. Ophthalmic Surgeon: Mr. Louis Werner. Surgeon for Diseases of Throat and Nose: Mr. Patrick Dempsey. Dental Surgeon: Mr. E. Sheridan. Pathologist: Dr. Edmond McWeeney. Anæsthetist and Surgical Registrar: Dr. Patrick O'Farrell. This hospital, the largest in Dublin, at present containing 345 beds, is open at all hours for the reception of accidents and urgent cases. Clinical instruction will be given by the Physicians and Surgeons at 9 A.M. daily. A course of Clinical Instruction on Fever will be given during the winter and summer sessions. A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. *Opportunities are afforded for* the study of Diseases of Women in the ward under the care of the Obstetric Physician, and at the Dispensary held on Tuesdays and Saturdays. Ophthalmic Surgery will be *taught in the* Special Wards *and in the* Dispensary. Surgical Operations will be performed on Mondays, Tuesdays, Fridays, and Saturdays at 11 o'clock. *Connected with* the hospital are extensive Dispensaries, which afford valuable *opportunities for the study of general Medical* and Surgical Diseases, and Accidents. Instruction will be given on Pathology and Bacteriology. Two House Physicians, six House Surgeons, and 16 resident pupils will be elected annually. Dressers and Clinical Clerks will also be appointed, and certificates will be given to those who perform their duties to the satisfaction of the staff. Leonard Prizes will be offered for competition annually. For further particulars see prospectus. Certificates of attendance upon this hospital are recognised by all the Universities and licensing bodies in the United Kingdom. Private Wards have been opened for the reception of Medical and Surgical cases. A Training School and a Home for Trained Nurses have been opened in connexion with the Hospital.

Terms of attendance.—Nine months, £12 12*s.*; six winter months, £8 8*s.*; three summer months, £5 5*s.* Entries can be made with any of the physicians or surgeons, or with the Registrar, Dr. Martin Dempsey, 35, Merrion-square. A prospectus containing in detail the arrangements for Clinical Instruction, Prizes &c., may be obtained from the Secretary, Medical Board.

Richmond, Whitworth, and Hardwicke Hospitals, *North Brunswick-street, Dublin.*—These hospitals contain 270 beds—86 for Surgical cases, 64 for Medical cases, and 120 for Fever and other epidemic Diseases. A Resident Physician and a Resident Surgeon are appointed each half year and are paid for heir services. 12 Resident Clinical Clerks are appointed each quarter and provided with furnished apartments, fuel, &c. These appointments are open not only to advanced Students, but also to those who are qualified in Medicine and Surgery. The Dressers are selected from among the best qualified of the pupils without the payment of any additional fee. For prospectuses apply to Sir W. Thomson, C.B., Hon. Treasurer, 54, Stephen's-green East; or to Dr. Travers Smith, Hon. Secretary, 20, Lower Fitzwilliam-street, Dublin.

Rotunda Hospital, Dublin.—This institution is the longest established gynæcological as well as maternity hospital in the British empire. Qualified men who take out a course of two or three months' duration during the autumn, winter, or spring periods obtain (if they show keenness and capacity) one or more forceps applications and a certain number of minor gynæcological operations. Unqualified students can also enter at any time for the practice of the hospital and have access, not alone to the maternity and gynæcological wards, but also to the pathological laboratory attached to the hospital. The residential quarters have undergone considerable improvement and afford comfortable accommodation. Valuable appointments are periodically filled by qualified students who have obtained the hospital diploma. Master: Dr. E. Hastings Tweedy. Assistants: Dr. J. W. Bell and Dr. G. B. McCaul. Pathologist: Dr. R. J. Rowlette. Resident Extern-Maternity Assistants: Dr. B. A. H. Solomons and Dr. J. R. Freeland. For further particulars apply to Dr. E. Hastings Tweedy, Master.

Royal Society of Medicine.—His Majesty the King has been graciously pleased "to accord his patronage to the Royal Society of Medicine, which has been formed by the amalgamation of the Royal Medical and Chirurgical Society with certain other medical societies." His Majesty has further intimated that on his return to town, in the autumn he will sign the roll of the society. We may add that within the last three months the society has gained two new sections, the Society of Anæsthetists and the Society for the Study of Disease in Children having decided to dissolve and to become joined to the society as sections for the study of these subjects.

Medical Education in London.—Messrs. Ash and Co., Southwark, have published an extremely valuable handbook under this title. The book is issued by the Conference of Deans of the Metropolitan Schools of Medicine as representing the Faculty of Medicine of the University of London, and was projected with the view to give visitors to the Franco-British Exhibition some idea of the vast field for medical education and research *existing in the metropolis. It is the work of* many writers, each a specialist in his particular branch, it is thoroughly well printed and well *illustrated*, and it can hardly fail to prove useful to members of the public who desire to enter the medical profession *or to* place their children in our profession. The book opens with a brief account of the City and the administrative *County* of London, its area and population, and the methods of local government. References are then made to the general hospitals to which medical schools are attached and to the various ancillary schools; and a few words are devoted to the distribution of the three great hospital funds, to the Poor-law infirmaries, and to the hospitals of the Metropolitan Asylums Board, so that the reader may get a general grasp of the medical and hygienic organisation of London. This is followed by a historical summary of the medical corporations and an account of the University of London and its Medical Faculty. The medical societies of London are described and the colleges and schools of the University of London in the Faculty of Medicine are treated in detail. Succeeding chapters are allotted to the Royal Army Medical College, the clinical facilities for the study of special branches of medicine, and the facilities for research and for *post-graduate study. An alphabetical list of the hospitals,* infirmaries, asylums, and dispensaries in London printed under *sub-headings is* appended and there is a good index.

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[1] *No returns.*

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
GUY'S HOSPITAL—*continued.*	Entrance Scholarships No. 2.	£50.	— —	Under twenty-five years of age, ditto.	Course at Guy's Hospital.
	" No. 3.	£150.	— —	Open Competitive Examination among Candidates under twenty-five years of age in CHEMISTRY, BIOLOGY, and PHYSICS.	Perpetual Course at Guy's Hospital.
	" No. 4.	£80.	......	Ditto.	Ditto.
	" No. 5.	£50.	— —	Competitive Examination among Candidates under twenty five years of age who have completed the curriculum for, or passed, the Examinations in Anatomy and Physiology for a medical degree in any University of the British Empire, and have not entered as Students in any Metropolitan Medical School.	Ditto.
	Hilton Prize.	£5.	— —	Dissections by senior Students.	Ditto.
	Junior General Proficiency.	£20.	— —	Competitive Examination among Junior Students in ANATOMY, HISTOLOGY, &c.	
	"	£15.	— —	Ditto.	Ditto.
	"	£10.	— —	Ditto.	Ditto.
	Michael Harris Prize.	£10	— —	Competitive Examination among Second-year Students in HUMAN ANATOMY.	Ditto.
	Sands Cox Scholarship.	£15 per annum.	3 years.	Competitive Examination among Second-year Students in PHYSIOLOGY, HISTOLOGY, &c.	
	Wooldridge Memorial Prize.	£10.	......	Ditto.	
	Treasurer's Gold Medals (1) for Clinical Medicine, (2) for Clinical Surgery.	......	......	Competitive Examination among Senior Students in MEDICINE and SURGERY respectively.	
	Golding Bird Prize.	£20 and Medal.	— —	Competitive Examination among Senior Students in BACTERIOLOGY.	Ditto.
	Beaney Prize.	£31 10s.	— —	Competitive Examination among Students in PATHOLOGY.	Ditto.
	Gull Studentship, Pathology.	£150 per annum.	3 years	Research Scholarship without Competitive Examination.	
	Beaney Scholarship, Therapeutics.	£31 10s.	3 years.	Ditto.	
	Arthur Durham Travelling Studentship.	£100.	3 years.		
	Greville Research Scholarship.	£200 per annum	1 year.	Cancer Investigation Award.	Ditto.
	Oldham Prize in Ophthalmology.	£30.	1 year.	Details not settled.	Ditto.
KING'S COLLEGE	Warneford Scholarships. No. 1.	£25 per annum.	4 years.	Competitive Examination among Matriculated Medical Students in DIVINITY, ENGLISH HISTORY, LATIN, GREEK, FRENCH, GERMAN, and MATHEMATICS.	Perpetual Course at King's College
	" No. 2.	£25 per annum.	4 years.	Ditto.	Ditto
	Sambrooke Exhibition.	£180	— —	Open Competitive Examination in MATHEMATICS, ELEMENTARY PHYSICS, INORGANIC CHEMISTRY, BOTANY, and ZOOLOGY.	Course as Medical Student at King's College.
	Rabbeth Scholarship.	£20	— —	Competitive Examination among Matriculated Students in Preliminary Scientific Subjects.	None.
	Science Exhibitions. No. 1.	£30 per annum	2 years.	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative Subjects.	None.
	Science Exhibitions. No. 2.	£20 per annum.	2 years.	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative subjects.	None
	Medical Entrance Scholarship.	£50.	— —	Open Competitive Examination in ANATOMY AND PHYSIOLOGY for Students who propose to take degree at any British University and have passed the Examination at that University in BIOLOGY, CHEMISTRY, and PHYSICS.	Perpetual Student from date of entering upon Scholarship on completion of University Examination in ANATOMY and PHYSIOLOGY.
	4 Medical Entrance Exhibitions.	2 of £50 in Arts. 2 of £50 in Science.	5 years.	Successful candidates to become Matriculated Students and carry out their Preliminary and Intermediate Studies at King's College, London, and their Final Studies at King's College Hospital.	
	Medical Scholarships. No. 1.	£40 per annum.	1 year.	Competitive Examination among Fourth-year Students.	
	" No. 2.	£20.	1 year	Competitive Examination among Third-year Students.	
	" No. 3.	£20.	1 year.	Competitive Examination among Second-year Medical Students	
	Sambrooke Registrarship. No. 1.	£50.	— —	Competitive Examination among Matriculated Medical Students who have filled certain appointments at hospitals.	
	" No. 2.	£50.	— —	Ditto.	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
CHARING - CROSS HOSPITAL AND COLLEGE—*continued.*	Epsom Scholarship.	Free education.	——	......	Epsom Foundation Scholars who have passed Preliminary Scientific M.B. Lond. Univ.*
	Universities Scholarship (1) Universities Scholarship (2)	50 guineas. 40 "	——	Examination in ANATOMY and PHYSIOLOGY, including HISTOLOGY.	Oxford Students who have passed first M.B. Exam. Cambridge students who have passed second M.B. Exam. London students who have passed Intermediate Exam. in Med. who have not entered at any London Medical School.
	Llewellyn Scholarship.	£25.	——	Awarded annually to the Student of not more than five years' standing who, in the opinion of the School Committee, shall have distinguished himself the most at the Prize Examinations in the following subjects, viz.:—MEDICINE, SURGERY, MIDWIFERY, PATHOLOGY, THERAPEUTICS, FORENSIC MEDICINE, PUBLIC HEALTH, PSYCHOLOGICAL MEDICINE, OPHTHALMOLOGY, PRACTICAL MIDWIFERY.	None.
	Huxley Medal with Prize.	£10.	——	Competitive Examination in ANATOMY and PHYSIOLOGY at end of Second Winter Session.	——
	Golding Prize.	£10.	——	Competitive Examination among First-year Students in ANATOMY and PHYSIOLOGY.	Students must have attended the Classes in each subject at this School.
	Dr. T. H. Green Prize for Clinical Medicine.	5 guineas.	......	Given annually to the Student who does the best work upon some special subject involving simple clinical observation in the wards or clinical laboratory and on the result of a practical examination on cases in the wards.	——
	Dr. William Travers Prize.	£16.	......	Awarded annually to the Student in the fifth year who should have proved himself most proficient in OBSTETRICS and GYNÆCOLOGY.	......
ST. GEORGE'S HOSPITAL—	Entrance Scholarships.				
	2 in Arts.	50 guineas.	....	LATIN or GREEK, FRENCH or GERMAN, ENGLISH, MATHEMATICS.	....
	2 in Science.	50 guineas.	....	CHEMISTRY, PHYSICS, ZOOLOGY, and BOTANY.	...
	University Entrance Scholarships. No. 1.	70 guineas.	——	Competitive Examination in ANATOMY and PHYSIOLOGY.	......
	No. 2.	£50.	——	Ditto.	......
	Wm. Brown Exhibition.	£100 per annum.	2 years.	Competitive Examination among Perpetual Pupils having registrable qualification in the PRACTICE OF MEDICINE, MIDWIFERY, and SURGERY.	Study at St. George's School.
	"	£40 " "	3 years.	Competitive Essay and Submission of Original Work by Perpetual Pupils qualified not more than three years previously.	Ditto.
	Allingham Scholarship in Surgery.	Interest on £1800.	——	Competitive Essay for Students qualified not more than three years.	....
	Brackenbury Prize in Medicine.	Interest on £1103.	——	Competitive Examination among Students of not more than five years' standing.	None.
	Brackenbury Prize in Surgery.	Interest on £1103.	——	Competitive Examination among Students of not more than five years' standing.	None.
	Treasurer's Prize.	£10 10s.	——	Proficiency in Clinical Examination of three Medical and three Surgical Cases, together with a written Examination in Medicine, Surgery, and Midwifery.	None.
	H. C. Johnson Memorial Prize.	£10 10s.	——	Competitive Examination in PRACTICAL ANATOMY.	None.
	Pollock Prize.	Interest on £372.	——	Competitive Examination in PHYSIOLOGY, PHYSIOLOGICAL CHEMISTRY, and HISTOLOGY.	None.
	Clarke Prize. Thompson Medal. Brodie Prize.	Interest on £209. Interest on £185. Interest on £220.	—— —— ——	Awarded for Clinical Reports and Commentaries.	None.
	Webb Prize.	Interest on £1000.	——	Competitive Examination among Perpetual Pupils in BACTERIOLOGY.	None.
GUY'S HOSPITAL— ...	Entrance Scholarships. No. 1.	£100.	——	Open Competitive Examination among Candidates under twenty years of age in LATIN, ENGLISH, GREEK or FRENCH or GERMAN, ARITHMETIC, EUCLID, and ALGEBRA.	Course at Guy's Hospital.

Scholarship of 60 guineas is awarded to a Non-Foundation Scholar who has already passed this examination.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
GUY'S HOSPITAL—*continued.*	Entrance Scholarships. No. 2.	£50.	—	Under twenty-five years of age, ditto.	Course at Guy's Hospital.
	„ No. 3.	£150.	—	Open Competitive Examination among Candidates under twenty-five years of age in CHEMISTRY, BIOLOGY, and PHYSICS.	Perpetual Course at Guy's Hospital.
	„ No. 4.	£60.	......	Ditto.	Ditto.
	„ No. 5.	£50.	—	Competitive Examination among Candidates under twenty-five years of age who have completed the curriculum for, or passed, the Examinations in Anatomy and Physiology for a medical degree in any University of the British Empire, and have not entered as Students in any Metropolitan Medical School.	Ditto.
	Hilton Prize.	£5.	—	Dissections by Senior Students.	Ditto.
	Junior General Proficiency.	£20.	—	Competitive Examination among Junior Students in ANATOMY, HISTOLOGY, &c.	
	„	£15.	—	Ditto.	Ditto.
	„	£10.	—	Ditto.	Ditto.
	Michael Harris Prize.	£10.	—	Competitive Examination among Second-year Students in HUMAN ANATOMY.	Ditto.
	Sands Cox Scholarship.	£15 per annum.	3 years.	Competitive Examination among Second-year Students in PHYSIOLOGY, HISTOLOGY, &c.	
	Wooldridge Memorial Prize.	£10.	......	Ditto.	
	Treasurer's Gold Medals (1) for Clinical Medicine, (2) for Clinical Surgery.	......	......	Competitive Examination among Senior Students in MEDICINE and SURGERY respectively.	
	Golding Bird Prize.	£20 and Medal.	—	Competitive Examination among Senior Students in BACTERIOLOGY.	Ditto.
	Beaney Prize.	£31 10s.	—	Competitive Examination among Students in PATHOLOGY.	Ditto.
	Gull Studentship, Pathology.	£150 per annum.	3 years	Research Scholarship without Competitive Examination.	
	Beaney Scholarship, Therapeutics	£31 10s.	3 years.	Ditto.	
	Arthur Durham Travelling Studentship.	£100.	3 years.		
	Greville Research Scholarship.	£200 per annum	1 year.	Cancer Investigation Award.	Ditto.
	Oldham Prize in Ophthalmology.	£30.	1 year.	Details not settled.	Ditto.
KING'S COLLEGE	Warneford Scholarships. No. 1.	£25 per annum.	4 years.	Competitive Examination among Matriculated Medical Students in DIVINITY, ENGLISH HISTORY, LATIN, GREEK, FRENCH, GERMAN, and MATHEMATICS.	Perpetual Course at King's College
	„ No. 2.	£25 per annum.	4 years.	Ditto.	Ditto
	Sambrooke Exhibition.	£160	—	Open Competitive Examination in MATHEMATICS, ELEMENTARY PHYSICS, INORGANIC CHEMISTRY, BOTANY, and ZOOLOGY.	Course as Medical Student at King's College.
	Rabbeth Scholarship.	£20.	—	Competitive Examination among Matriculated Students in Preliminary Scientific Subjects.	None.
	Science Exhibitions. No. 1.	£30 per annum	2 years.	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative Subjects	None.
	Science Exhibitions. No. 2.	£20 per annum.	2 years.	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative subjects.	None
	Medical Entrance Scholarship.	£50.	—	Open Competitive Examination in ANATOMY AND PHYSIOLOGY for Students who propose to take degree at any British University and have passed the Examination at that University in BIOLOGY, CHEMISTRY, and PHYSICS.	Perpetual Student from date of entering upon Scholarship on completion of University Examination in ANATOMY and PHYSIOLOGY.
	4 Medical Entrance Exhibitions.	2 of £50 in Arts. 2 of £50 in Science.	5 years.	Successful candidates to become Matriculated Students and carry out their Preliminary and Intermediate Studies at King's College, London, and their Final Studies at King's College Hospital.	
	Medical Scholarships. No. 1.	£40 per annum.	1 year.	Competitive Examination among Fourth-year Students.	
	„ No. 2.	£20.	1 year	Competitive Examination among Third-year Students.	
	„ No. 3.	£20.	1 year.	Competitive Examination among Second-year Medical Students	
	Sambrooke Registrarship. No. 1.	£50.	—	Competitive Examination among Matriculated Medical Students who have filled certain appointments at hospitals.	
	„ No. 2.	£50.	—	Ditto.	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
KING'S COLLEGE—*continued.*	Daniel Scholarship.	£20 per annum.	2 years.	Open Competitive Examination among six months' Laboratory Students in CHEMISTRY.	None.
	Carter Prize.	£15.	— —	Open Competitive Examination in Botany.	
	Tanner Prize.	£10.	— —	Competitive Examination in OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.	
	Todd Prize.	£4 4s. and medal.	— —	Competitive Examination in Clinical Medicine.	
LONDON HOSPITAL ...	1. Price Scholarship.	£120.	— —	Competitive Examination among Students in subjects of Preliminary Scientific M.B. Examination at University of London.	Successful Candidates must enter as Full Students.
	2. Entrance Scholarships.				
	,, No. 1.	£60.	— —	Ditto.	
	,, No. 2.	£35.	— —	Ditto.	
	3. Epsom College Scholarship.	Free Education.	— —	...	
	4. Price Scholarship.	£60.	— —	HUMAN ANATOMY AND PHYSIOLOGY.	Study at Oxford or Cambridge.
	Buxton Scholarships. No. 1.	£30.	— —	Competitive Examination among Students in subjects of Preliminary Examination.	
	,, No. 2.	£20.	— —	Ditto.	
	Scholarship.	£20.	— —	Competitive Examination in CLINICAL MEDICINE	
	,,	£20.	— —	Competitive Examination in CLINICAL SURGERY.	
	,,	£20.	— —	Competitive Examination in CLINICAL OBSTETRICS.	
	Sutton Prize in Pathology.	£20.	— —	Competitive Examination in PATHOLOGY.	
	Biennially: Duckworth Nelson Prize.	£10.	— —	Competitive Examination in PATHOLOGY, PRACTICAL MEDICINE, and SURGERY.	
	Letheby Prizes (3)	£20.	— —	Competitive Examination in CHEMISTRY.	
	Scholarship.	£25.	— —	Competitive Examination in ANATOMY AND PHYSIOLOGY.	
	,,	£20.	— —	Competitive Examination in ANATOMY and BIOLOGY.	
	Dressers' Prizes. ,, No. 1.	£10.	— —	ZEAL, EFFICIENCY, and KNOWLEDGE OF MINOR SURGERY.	
	,, No. 2.	£10.	— —	Ditto.	
	,, No. 3.	£10.	— —	Ditto.	
	,, No. 4.	£10.	— —	Ditto.	
	,, No. 5.	£10.	— —	Ditto.	
	,, No. 6.	£10.	— —	Ditto.	
	Triennially: Hutchinson Prize.	£40.	— —	For the best essay upon a subject in CLINICAL SURGERY.	
	Practical Anatomy Prizes.	£6. £4.	— — — —	... ...	
	Biennially: Andrew Clark Prize.	£26.	— —	CLINICAL MEDICINE and PATHOLOGY.	
	James Anderson Prizes.	£9.	— —	CLINICAL MEDICINE.	
	Douro Hoare Prize.	£5.	— —	PHYSIOLOGY.	
	Wynne Baxter Prize.	£5 5s.	— —	FORENSIC MEDICINE.	
ST. MARY'S HOSPITAL ...	Natural Science Scholarship	£145.	— —	Competitive Examination.	Course at St. Mary's Hospital.
	,,	£78 15s.	— —	Ditto.	
	,,	£52 10s.	— —	Ditto.	
	,,	£52 10s.	— —	Ditto.	
	University Scholarship.	£63.	— —	Open to Students from any British University by Competitive Examination in NATURAL SCIENCE.	
	,,	£63.	— —		
	Epsom College Scholarship.	£145.	— —	By nomination.	
	Gold Medal in Clinical Medicine.	£20.	— —	Given for an ESSAY ON SOME SPECIAL POINT IN CLINICAL MEDICINE	
	General Proficiency Scholarship. No. 1.	£20	1 year.	ADVANCED ANATOMY, PHYSIOLOGY, and HISTOLOGY.	
	,, No. 2.	£20.	1 year.	MIDWIFERY, MATERIA MEDICA, PATHOLOGY, and FORENSIC MEDICINE.	
	,, No. 3.	£20.	1 year.	MEDICINE, SURGERY, HYGIENE, and MENTAL DISEASES.	
	Dermatology Prize.	£5 5s.	— —	Awarded twice in each year by Competitive Examination.	
	Meadows Prize in Obstetrics.	£8.	— —	Awarded in alternate years for Proficiency in OBSTETRICS.	
	Clinical Medicine Prize.	£5 5s.	— —	Awarded annually for Reports of Clinical Cases by Students of Third and Fourth Years.	
	Clinical Surgery Prize.	£5 5s.	— —		

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ST. MARY'S HOSPITAL—*continued.*	Winter Session Prizes (9 in number).	£3 3s. each.	—	Competitive Examination at the end of the Course of Lectures in each of the Subjects of the Medical Curriculum.	
	Summer Session Prizes (9 in number).	£2 2s. each.	—	Ditto.	
MIDDLESEX HOSPITAL	Entrance Scholarship No. 1.	£100.	—	Open Competitive Examination.	Course at Middlesex Hospital.
	" No. 2.	£50.	—	Ditto.	Ditto.
	" No. 3.	£25.	—	Ditto.	Ditto.
	" No 4.	£50.	—	Competitive Examination among Students from Oxford or Cambridge. (Subjects: ANATOMY and PHYSIOLOGY, including HISTOLOGY.)	Ditto.
	Freer Lucas Scholarship.	£125.	—	To Students of Epsom College, on Nomination of Head Master.	
	Broderip Scholarship. No. 1.	£60.	—	Competitive Examination among Senior Students in CLINICAL SUBJECTS.	
	" No. 2.	£40.	—	Ditto.	
	Freeman Scholarship.	£30.	—	Examination in OBSTETRICS and GYNÆCOLOGY.	
	Hetley Clinical Prize.	£25.	—	Competitive Examination among the Students during Fifth Year of Study.	
	John Murray Gold Medal and Scholarship.	£20.	Every third year.	Examination in THEORETICAL and PRACTICAL MEDICINE.	
	Lyell Medal and Scholarship.	£55 5s.	—	Examination in SURGICAL ANATOMY and PRACTICAL SURGERY.	
	Leopold Hudson Prize.	£11 11s.	—	Examination in SURGICAL PATHOLOGY and BACTERIOLOGY.	
	Second year's Exhibition.	£10 10s.	—	Examination in ANATOMY and PHYSIOLOGY.	
	"Emden" Cancer Research Scholarship.	£100.	3 years.	—	
	Richard Hollins Research Scholarship.	£105.	—	—	
ST. THOMAS'S HOSPITAL SUMMER	College Prizes.				
	" No. 1.	£15.	—	Competitive Examination among Second-year Students.	
	" No. 2.	£10.	—	Ditto.	
WINTER	Entrance Science Scholarship. No. 1.	£150.	—	Competitive Examination in PHYSICS, CHEMISTRY, and BIOLOGY.	Perpetual Course.
	" No. 2.	£60.	—	Ditto.	Ditto.
	" No. 3.	£50.	—	Competitive Examination in ANATOMY, PHYSIOLOGY, CHEMISTRY (any two).	Perpetual Course from fourth year.
	Wm. Tite Scholarship.	£25.	—	Competitive Examination among Second-year Students.	
	College Prizes.				
	" No. 5.	£20.	—	Ditto.	
	" No. 6.	£10.	—	Ditto.	
	Musgrove Scholarship, or	£35.	2 years.	Competitive Examination among Third-year Students.	
	Peacock Scholarship.	£35.	2 years.	Ditto	
	College Prizes.				
	" No. 7.	£20.	—	Competitive Examination among Third-year Students.	
	" No. 8.	£10.	—	Ditto.	
	" No. 9.	£10.	—	Competitive Examination among Fifth-year Students.	
	" No. 10.	£10.	—	Ditto.	
	" No. 11.	£10.	—	Ditto.	
	" No. 12.	£10.	—	Ditto.	
	" No. 13.	£10.	—	Ditto.	
	" No. 14.	£10.	—	Ditto.	
	" No. 15.	£10.	—	Ditto.	
	Cheselden Medal.	—	—	Competitive Examination in SURGERY and ANATOMY.	
	Mead Medal.	—	—	Competitive Examination in MEDICINE and PATHOLOGY.	
	Seymour Graves Toller Prize.	—	—	Ditto.	
	Bristowe Medal.	—	—	Competitive Examination in PATHOLOGY and MORBID ANATOMY.	Perpetual Course from fourth year.
	Solly Medal and Prize.	—	—	SURGICAL REPORTS.	
	Treasurer's Medal.	—	—	General Proficiency (Fifth-year Students).	
	Wainwright Prize.	—	—	MEDICINE and PATHOLOGY.	
	Hadden Prize.	—	—	PATHOLOGY.	
	Beaney Scholarship.	£50 biennially.	—	For SURGERY and SURGICAL PATHOLOGY.	
	Sutton Sams Memorial Prize.	£5 biennially.	—	Reports of Cases in OBSTETRIC MEDICINE.	
	Grainger Testimonial Prize.	£15 annually.	—	For work in ANATOMY and PHYSIOLOGY.	
	The Salters' Company Research Fellowship.	£100 annually.	3 years.	Promotion of Research — PHARMACOLOGY.	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ST. THOMAS'S HOSPITAL—continued.	Louis Jenner Research Scholarship.	£60 annually.	2 years.	Promotion of Research—PATHOLOGY.	
UNIVERSITY COLLEGE, LONDON	Entrance Scholarship (Bucknill).	185 gs.	——	Open Competitive Examination in CHEMISTRY, PHYSICS, BOTANY, and ZOOLOGY.	Complete Course at University College and University College Hospital Medical School.
	Entrance Exhibition. No. 1.	55 gs.	——	Ditto.	Complete Intermediate Course at University College.
	,, No. 2.	55 gs.	——	Ditto.	Ditto.
	Cluff Memorial Prize.	£16 (biennially).	——	Proficiency in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	
	Epsom Free Medical Scholarship.	....	....	Proficiency in subjects of PRELIMINARY SCIENTIFIC, and nomination by Epsom College.	Complete Course at University College and University College Hospital Medical School.
	Schäfer Prize in Physiology.	£18 (triennially).	——	Research in PHYSIOLOGY.	
	Sharpey Physiological Scholarship.	£105 a year.	——	Proficiency in BIOLOGICAL SCIENCES.	
	Morris Bursary.	£16 a year.	2 years.	Available for sons of deceased professional men, by nomination.	
	5 Gold and 5 Silver Medals.	Annually.	....	Competition among Students of the various departments.	
UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL	Entrance Scholarship (Bucknill). (See above.)	....	....	....	
	Entrance Exhibition. No. 1.	80 gs.	——	Open Competitive Examination in ANATOMY and PHYSIOLOGY.	Final Course at University College Hospital Medical School.
	,, No. 2.	80 gs.	....	Ditto.	*Ditto.*
	Atkinson Morley Scholarship.	£45 per annum.	3 years.	Theory and Practice of SURGERY.	
	Atchison Scholarship.	£55 per annum.	2 years.	Competitive Examination among Medical Students.	
	Filliter Exhibition.	£30.	1 year.	Competitive Examination among Students in PATHOLOGY.	
	Fellowes Clinical Medals.	2 Senior and 2 Junior Medals.	....	Competition among Students in CLINICAL MEDICINE.	
	Liston Gold Medals.	2 Gold Medals.	——	Competition among Students in CLINICAL SURGERY.	
	Alexander Bruce Gold Medal.	....	——	Proficiency in PATHOLOGY and SURGERY.	
	Tuke Silver and Bronze Medals.	——	....	Competition in PATHOLOGY.	
	Erichsen Prize.	£10 10s.	——	Competition in PRACTICAL SURGERY.	
	And Class Prizes.	——	....	——	
WESTMINSTER HOSPITAL	Guthrie Entrance Scholarship.	£60 (total).	——	Open Competitive Examination among Candidates under twenty-five years of age in LATIN, MATHEMATICS, ENGLISH, and GREEK, FRENCH, or GERMAN.	For Students entering in the Winter Session.
	Entrance Scholarship.	£40 (total).	——	Ditto.	Ditto.
	Ditto.	£30.	——	Ditto	Ditto.
	Dental Scholarship.	£20 (total).	——	Ditto, as above, save that Dental Students only can compete.	For Students entering in the Winter Session
	Free Presentation.	——	——	Open to Pupils of the Epsom Medical College, obtained by recommendation.	
	Entrance Scholarship	£40 (total).	——	Open Competition in CHEMISTRY and EXPERIMENTAL PHYSICS according to the Synopsis of the Conjoint Board	In September and in April.
	Natural Science	£60.	——	Competitive Examination in subjects of Preliminary Scientific of University of London.	For Students entering in the Winter Session.
	University Scholarship.	£60 (total).	——	Competitive Examination among University Students in ANATOMY and PHYSIOLOGY.	In April and in September.
	Ditto.	70 gs.	——	Ditto.	In September
	Natural Science	£60.	——	Competitive Examination in subjects of Preliminary Scientific of London University.	In April.
	Arts Scholarship (Entrance).	£60.	——	Competitive Examination as for the Guthrie Scholarship.	For Students entering in the Summer Session.
	Ditto.	£40.	——	Ditto.	*Ditto.*
	Sturges Prize in Clinical Medicine.	About £6.	——	Notes and commentaries on 6 cases.	
	Clinical Surgery.	£5.	——	Ditto on 6 cases.	
	Chadwick Prize.	£21 in books or instruments.	——	Competitive Examination among Medical Students in MEDICINE and SURGERY, including PATHOLOGY and APPLIED ANATOMY and PHYSIOLOGY.	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
WESTMINSTER HOSPITAL —*continued.*	Frederic Bird Medal and Prize.	£14 in medal and books or instruments.	——	Competitive Examination in MIDWIFERY and DISEASES of WOMEN, MEDICINE, and PATHOLOGY among Students who have completed their Fourth Winter Session at the Westminster Hospital School of Medicine.	
	Alfred Hughes Memorial Prize.	About £5 in books or instruments.	....	Awarded annually to the candidate who during the second year in ANATOMY exhibits the highest proficiency at the class examinations in that subject held during the Winter Session	
	Carter Gold Medal and Prize for Botany.	Gold Medal and books of the joint value of £15.	——	Open to Students who have not exceeded three academical years from the beginning of their attendance.	
	Jelf Medal.	....	....	Awarded annually to the Student of the third year most distinguished in examinations.	
	econd Year Scholarship.	£20.	1 year.	Subjects of Examination—ELEMENTARY ANATOMY, ELEMENTARY PHYSIOLOGY and HISTOLOGY, and ORGANIC CHEMISTRY.	
	Third Year Scholarship.	£20.	1 year.	This Scholarship is open to all Students at the end of their Third Winter and Summer Sessions. Subjects — ANATOMY, PHYSIOLOGY, and PHARMACOLOGY and MATERIA MEDICA.	
	Daniell Scholarship.	£20.	2 years.	Awarded every year to the Student who shall have executed the best researches in CHEMISTRY.	
	Rabbeth Scholarship.	£20.	——	Given annually in memory of Samuel Rabbeth, M.B. Lond., who sacrificed his life in an attempt to save a child who was dying from diphtheria. It is awarded to the Student who in his first year shall acquit himself best in the Class Examinations in *the Preliminary Scientific Course.*	
LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN	Entrance Scholarship.	£30.	——	Competitive Examination in ENGLISH, LATIN, ARITHMETIC, EUCLID, and ALGEBRA.	
	St. Dunstan's Medical Exhibition.	£60.	3 years, extendible to 5 years.	Ditto.	Candidates must be (1) not more than 20 years of age on June 1st preceding the examination; (2) resident in the Metropolitan Police District area; (3) Matriculated Students of the University of London; (4) in the opinion of the Governors in need of such an exhibition for the prosecution of their medical studies.
	Bostock Scholarship.	£60.	2 or 4 years.	Given on the result of an examination held by the University of London in June to a Student who has passed the Preliminary Scientific Examination or Intermediate Science Examination of the University of London held in the previous July or the July following the Examination.	Candidates are expected to read for the M.B. degree of the University of London. Next award June, 1911.
	Mabel Webb Research Scholarship.	£30.	1 year, renewable.	For Research Work in PHYSIOLOGY, CHEMISTRY, or PATHOLOGY.	Next award October, 1908.
	Fanny Butler Scholarship.	£14 10s.	4 years.	Application to Secretary by Sept. 1st.	Candidates must be willing to work in connexion with the Church of England Zenana Missionary Society. Next award September, 1909.
	John Byron Bursary.	£20.	2 to 4 years.	Application to Secretary by March 31st.	Offered to students already in the school requiring assistance for the prosecution of their medical studies. Next award March, 1910
	Helen Prideaux Scholarship.	£40.	——	......	Awarded every second year to a Student who has qualified during the two years immediately preceding the date of the award, and who, in the opinion of the Trustees, has done the best work during her final years in

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

Institution.	Title of Scholarship, &c.	Annual or total value.	How long tenable.	How obtainable.	Conditions attached to tenure.
LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN—*continued.*	Helen Prideaux Scholarship—*continued.*	£40.	......	......	Medicine, Surgery, Obstetric Medicine, and Pathology. The holder of the Prize shall submit to the Trustees for their approval a statement as to how she proposes to spend the money, so as to fulfil the condition that it is for the purpose of assisting her to further study. Next award December, 1908.
OXFORD UNIVERSITY	Burdett-Coutts Scholarships.	£115 per annum.	2 years.	Competitive Examination.	For the promotion of the Study of Geology and of Natural Science as bearing on Geology.
	Radcliffe Trav. Fellowship (stipend paid by University College).	£200 " "	3 years.	Ditto.	Foreign Travel for purpose of Medical Study.
	Rolleston Prize.	——	——	Original Research.	This prize is given once in two years and is of the value of about £80.
	Scholarships in various branches of Natural Science at many of the Colleges.	£50 to £80 a year.	4 years.	Competitive Examination.	Satisfactory industry.
	Welsh Memorial Prize.	——	——	Best set of drawings illustrative of Human Anatomy.	Competitors must be members of the University who have studied in the Anatomical laboratory. No one is eligible who has passed the first examination for the degree of B.M., or an examination in Anatomy necessary for registration as a qualified medical practitioner.
	Philip Walker Studentship in Pathology.	£200 per annum.	2 years.	By application to the Professor of Pathology.	Holder must carry on Research under the direction of the Professor of Pathology.
	Radcliffe Prize (endowed by University College).	£50.	......	Original Research.	Awarded biennially.
CAMBRIDGE UNIVERSITY	University Prize in Medicine (Raymond Horton Smith).	£19.	......	......	Awarded to a candidate for the M.D. degree who presents the best thesis for the degree during the academical year and who has taken honours in a Tripos examination.
	Scholarships in Natural Science are awarded by various Colleges.	......	......	Competitive examination.	
UNIVERSITY OF DURHAM	Four Scholarships.	£25 a year each.	4 years.	The Examination will be the *September* Matriculation Examination. Candidates must take English, Latin, Arithmetic, Euclid, Algebra, Geography, English History, with Greek or German, or both. (See College Calendar for special books.)	Candidates desirous of being admitted as Medical Students. The successful Candidates must take out their entire curriculum at the University of Durham College of Medicine, Newcastle-upon-Tyne.
College of Medicine	Pears Scholarship.	£50 a year.	3 years.	Matriculation Examination.	
	Masonic Scholarship.	£15 a year.	3 years.	Ditto.	
	Dickinson Scholarship.	Interest on £400 and Gold Medal.	——	Examination in Medicine, Surgery, Midwifery, and Pathology.	Full Students of the College of Medicine who have passed the third M.B. examination.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY OF DURHAM *(College of Medicine)—continued.*	Tulloch Scholarship.	Interest on £400.	... ...	Examination in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	No Student is eligible who commenced his medical curriculum more than two academical years before the date of examination.
	Charlton Memorial Scholarship.	Interest on £700.	... ...	Examination in Medicine.	Open to full Students of the College entered for the class on the Principles and Practice of Medicine.
	Gibb Scholarship.	Interest on £500.	... ...	Awarded annually as a Scholarship in PATHOLOGY to full Student who passes the best examination in that subject.	No Student eligible after completion of his curriculum.
	Luke Armstrong Memorial Scholarship.	Interest on £680.	... ...	Original Essay on some subject in COMPARATIVE PATHOLOGY. (If no Essay of sufficient merit be presented the Scholarship may be awarded to the Candidate who, in passing the first part of the Examination for the B.Hy. Degree, obtains the highest number of marks in COMPARATIVE PATHOLOGY during the year.)	Open to all Graduates in Medicine or Hygiene and candidates for these degrees who have spent six months at the University, and whose age does not exceed 30 years.
	Stephen Scott Scholarship.	Interest on £1000.	... ...	Original Essay on any Surgical subject.	Any Graduate in Medicine or Surgery of the University or any Student of the College of Medicine. Student's age must not exceed 30 years.
	Heath Scholarship.	Interest on £4000.	... ...	For 1908 – Original Essay on INJURIES AND DISEASES OF THE ARTERIES, VEINS, AND CAPILLARIES, AND THEIR TREATMENT.	All Graduates in Medicine or Surgery of the University are eligible.
	Gibson Prize.	Interest on £225.	... ...	Examination in subject of MIDWIFERY and DISEASES OF WOMEN AND CHILDREN.	Open to Students who have attended one course of lectures on Midwifery and Diseases of Women and Children.
	Turnbull Prize and Medal.	... ...	... ...	Examination in SURFACE ANATOMY.	Open to Students at end of their second Winter Session.
Royal Infirmary	Goyder Memorial Scholarship.	Interest on £325.	Annually.	Student who most distinguishes himself in CLINICAL MEDICINE and CLINICAL SURGERY at the Royal Infirmary.	
UNIVERSITY OF BIRMINGHAM	Myers Travelling Studentship.	£150.	1 year.	Awarded by vote of committee to M.B., Ch.B.Birm., B.Sc. candidates.	Tenable at one of certain German universities.
	Ingleby Scholarship.	£10.	1 year.	Awarded to the candidate at Final Examination obtaining highest "first-class" marks in the subjects of MIDWIFERY and GYNÆCOLOGY.	
	Sydenham Scholarship.	£42.	8 years.	Award of Council to orphan sons of Medical Practitioners.	
	Sands Cox Scholarship.	£42.	8 years.	Awarded to the candidate, not being more than 19 years of age, taking the highest marks at the June Matriculation.	
	Dental Scholarship.	£37 10s.	3 years.	Open Competitive Examination in subjects learned during apprenticeship.	
	Four Queen's Scholarships.	£10 10s. each.	... ...	Awarded to candidates taking highest "first-class" marks at Second, Third, Fourth, and Final M.B. Examinations.	
	George Henry Marshall Scholarship.	£10.	Annually.	For the encouragement of Research Work in OPHTHALMOLOGY	
UNIVERSITY OF MANCHESTER	General Entrance Scholarships.	... ...	... ...	... ...	Open to candidates above 16 and under 20 years of age
	Rogers.	£50.	2 years.	Subjects: GREEK, LATIN TRANSLATIONS AT SIGHT, and PROSE COMPOSITION.	
	Seaton.	£40.	2 years.	Subjects: GREEK, LATIN TRANSLATIONS AT SIGHT, and PROSE COMPOSITION.	
	Dalton.	£40.	2 years.	Subjects: EUCLID, ALGEBRA, TRIGONOMETRY, GEOMETRY, and CONIC SECTIONS.	
	Cartwright.*	£35.	3 years.	Ditto.	
	Dreschfeld Memorial.	£30.	1 year.	Awarded on results of July Matriculation Examination.	

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* Open to men candidates only.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY OF MANCHESTER—*continued.*	Hulme.	£35.	3 years.	Subjects: ENGLISH LANGUAGE and LITERATURE, HISTORY, GEOGRAPHY, and LATIN, GREEK, FRENCH, or GERMAN (any two subjects).	
	James Gaskill.	£35.	2 years.	MATHEMATICS, MECHANICS, and CHEMISTRY.	
	Dora Muir.†	£25.	3 years.	Awarded on results of Entrance Scholarship Examinations.	
	Manchester Grammar School.*	£25.	3 years.	MATHEMATICS, ENGLISH ESSAY with CLASSICS and PHYSICAL SCIENCE in alternate years.	
	Kay-Shuttleworth.*	£30.	3 years.	Subjects as in James Gaskill Scholarships.	Pupils of Sedbergh, Giggleswick, or Burnley Grammar School.
	Theodores Exhibition.	£15.	1 year.	Subjects: FRENCH and GERMAN	Successful candidates are required to enter for a regular University course.
	Matriculation Entrance Scholarship.	£30.	3 years.	Awarded on results of July Matriculation Examination.	
	Entrance Scholarships in Medicine.	£100.	......	One for proficiency in Arts. One for proficiency in Science.	No limit as to age. £60 set off against University fees and £40 against Infirmary fees.
	Platt Biological Scholarship.	£50.	1 year.	Awarded to candidate who shows the most promise of ability for prosecuting original research in ZOOLOGY and BOTANY.	To devote his time to research in Zoology or Botany.
	Robert Platt Physiological Scholarship.	£50.	2 years.	Subjects: PHYSIOLOGY and COMPARATIVE ANATOMY.	Open to Candidates whether or not previously students of the University.
	Dauntesey Medical Scholarships (two).	£35 each.	1 year.	Subjects: ZOOLOGY, BOTANY, and CHEMISTRY.	These Scholarships are open to all students preparing for a Medical Course who shall not have attended Lectures or Laboratory Courses on Human Anatomy or Physiology, or a purely Medical or Surgical Course in the University or any other Medical School in the United Kingdom. Candidates must not be more than 25 years of age on October 1st of the year of competition. Scholars must immediately on election enter for a full course of medical studies.
	Robert Platt Exhibitions (two).	£15 each.	——	——	First and second year students in Physiology.
	Sidney Renshaw Exhibition.	£15.	——	——	Second year students in Physiology.
	Professor Tom Jones Exhibition in Anatomy.	£25.	......	......	First year students in Anatomy.
	Turner Scholarship.	£20.	——	Subjects: MEDICINE, PATHOLOGY (written and practical), OBSTETRICS, PRACTICAL SURGERY, OPHTHALMOLOGY, FORENSIC MEDICINE, and PUBLIC HEALTH.	Students who have completed a full course of medical study in the University are eligible only.
	John Henry Agnew Scholarship.	£30.	——	The Scholarship is awarded on the results of an Examination, partly written and partly clinical, on DISEASES OF CHILDREN, MEDICAL AND SURGICAL.	Open for competition annually to all students in the Medical Department who have pursued a regular course of medical study in the University extending over a period of not less than 4 years or more than 6, and who have attended the course of lectures on Diseases of Children.

* Open to men candidates only.

† Open to women candidates only.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY OF MANCHESTER—*continued.*	Professor Tom Jones Memorial Surgical Scholarship.	£100.	1 year.	The scholar will be elected on the result of evidence submitted by him.	Candidates must have either graduated in the University or have obtained the Diploma of the Conjoint Colleges.
	Dumville Surgical Prize.	£15.	——	Subjects: SYSTEMATIC, PRACTICAL, and OPERATIVE SURGERY, SURGICAL ANATOMY, and SURGICAL PATHOLOGY.	
	Honorary Research Fellowships.	——	2 years.	Conferring the right of free use of the *Laboratories.* Awarded generally in October on application, with evidence of capacity for independent investigation.	
	Leech Fellowship.	£100.	……	Awarded annually for excellence and promise *in one or more of the* subjects of the Second or Final M.B. Examination.	
	Graduate Scholarship in Medicine.	£25 to £50.	1 year.	Awarded on results of Second Examination for M.B., Ch.B.	
UNIVERSITY COLLEGE, BRISTOL, BRISTOL ROYAL INFIRMARY, AND BRISTOL GENERAL HOSPITAL	Medical Entrance Scholarship.	£75.	——	Competitive Examination in Subjects of GENERAL EDUCATION.	
	Tibbits Surgical Prize.	£9 9s.	——	Proficiency in PRACTICAL SURGERY.	*Open to* Perpetual Students of Faculty of Medicine, University College, Bristol.
	Martyn Memorial Pathological Prizes.	Two annually, of £10 each.	——	Competitive Examination in PATHOLOGY and MORBID ANATOMY.	
	A Gold and a Silver Medal.	——	——	Given by the Committees of the two Institutions to most distinguished Students of Fifth Year.	
Bristol Royal Infirmary ...	Suple Medical Prize.	Gold Medal value £5 5s. and £7 7s. in money.	——	Competitive Examination in MEDICINE to Students of Fourth and Fifth Years.	*Restricted to* Perpetual Students who have done the necessary qualifying work at the *Bristol Royal Infirmary.*
	Suple Surgical Prize.	Gold Medal value £5 5s. and £7 7s. in money.	——	Competitive Examination in SURGERY of Students of Third and Fourth Years.	
	Henry Clark Prize.	£11 11s	——	Class Work of Third-year Students.	
	Crosby Leonard Prize.	£7 7s.	——	Examination in CLINICAL SURGERY.	
	Augustin Prichard Prize.	£6 6s.	——	Examination in SURGICAL ANATOMY.	
Bristol General Hospital ...	Sanders Scholarship.	£22 10s.	——	Competitive Examination in MEDICINE, SURGERY, and MIDWIFERY of Fourth-year Students.	Restricted to Perpetual Students who have done the necessary qualifying work at the Bristol General Hospital.
	Clarke Scholarship.	£15.	——	Competitive Examination in SURGERY among Students of Fourth Year.	
	Marshall Prize.	£12.	——	To the best Surgical Dresser of the Fourth Year.	
THE UNIVERSITY, LEEDS (SCHOOL OF MEDICINE)	Entrance Scholarship.	£73 2s. 6d.	——	*Joint Matriculation Board* Examination held in July.	Complete Course of Lectures and Practical Classes at Leeds School.
	Infirmary Scholarship.	£42.	——	On the results of the First M.B. Examination of the University of *Leeds.*	Complete Course of *Hospital Practice* and Clinical Lectures at Leeds Infirmary.
	Hardwick Prize.	£10.	——	Competitive Examination in CLINICAL MEDICINE among Clinical Clerk Students of two years' standing.	
	McGill Prize.	£10.	——	Competitive Examination among advanced Surgical Students in CLINICAL SURGERY.	
	Thorp Prizes.	£10 and £5.	——	Examinations in Forensic Medicine and Hygiene.	
	Thorp Prize Essay.	£15.	——	Essay or Research on some subject connected with FORENSIC MEDICINE, TOXICOLOGY, or PUBLIC HEALTH.	Every three years to former students of the Leeds School.
	Scattergood Prize.	£5.	….	Examination in MIDWIFERY.	
UNIVERSITY OF LIVERPOOL	Robert Gee Entrance Scholarships (two annually).	£25 each.	2 years.	Joint Matriculation Board Examination held in July.	First M.B. Course
	Lyon Jones Scholarship. No. 1.	£21 per annum.	2 years.	Competitive Examination among Junior Students in First M.B. SUBJECTS.	Perpetual Course at the University.
	" No. 2.	£21.	——	Competitive Examination among Senior Students in ANATOMY, PHYSIOLOGY, and THERAPEUTICS.	
	Derby Exhibition.	£15.	——	Competitive Examination among Fourth- or Fifth-year Students in CLINICAL SUBJECTS.	
	University Scholarship.	£25.	1 year.	Awarded on results of Second Examination for the degrees.	
	Holt Fellowships (Physiology and Pathology).	£100 each.	1 year.	Vote of Faculty to Student after graduation.	Teaching and Original Research
	Gee Fellowship (Anatomy).	£100.	1 year.	Ditto.	Teaching and Research.
	Alexander Fellowship (Pathology).	£100.	1 year.	Ditto.	Research in Pathology.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY OF LIVERPOOL—*continued.*	*Johnston Colonial Fellowship (Pathology and Bacteriology).*	*£100.*	1 year.	*Vote of Faculty to Student after graduation.*	Research in Pathology.
	John W. Garrett International Fellowship (Physiology and Pathology).	£100.	1 year.	Ditto.	Ditto.
	Stopford Taylor Fellowship (Dermatological Pathology).	*£100.*	*1 year.*	*Ditto.*	*Ditto.*
	Thelwall Thomas Fellowship (Surgical Pathology)	£100.	1 year.	Ditto.	Ditto.
	Ethel Boyce Fellowship in Gynæcological Pathology.	£100.	1 year.	Vote of Faculty to graduate.	Research.
	Bickersteth Scholarship (Surgical Pathology.)	£50.	1 year.	Ditto.	Ditto.
SHEFFIELD UNIVERSITY	Entrance.	£116.	——	Examination.	Must read for Degree in Medicine.
	Special (1908) (for Women only).	£100.	——	Awarded on the results of the Joint Board Matriculation Examination.	Ditto.
	Staff (Special 1908).	£105.	——	Ditto.	*Ditto.*
	Staff (Special 1938).	£50.	——	Ditto.	Ditto.
	Town Trust (two).	Each £50 per annum.	3 years.	Special examination.	Boys educated in Sheffield.
	Town Trust (one).	£50 per annum.	3 years.	Ditto.	*Girls educated in Sheffield.*
	Town Trust (two).	£60 per annum.	3 years.	Ditto.	Boys or girls educated in Sheffield.
	Kaye, in Anatomy and Physiology.	£22 10s.	1 year.	Ditto.	Students who have completed second Winter Session; native of Sheffield
	Town Trust Fellowship.	£75 per annum.	1 year.	The Senate considers each application.	Graduates of the University.
	Mechanics' Institute.	£50 per annum.	1 year, renewable to a second.	Ditto.	Post-graduate Scholarship.
	Frederick Clifford.	£50 per annum.	2 years.	Ditto.	Graduates *of the University residing* within 40 miles.
EDINBURGH UNIVERSITY	*Sibbald Bursaries (1 or 2 annually).	Each £30 per annum.	3 years.	Competitive Examination in Preliminary Subjects among entrants.	Continued Study.
	*Heriot Bursaries (7 for men and 1 for *women annually*).	Each £30 per annum.	3 years.	Ditto.	Ditto.
	*Thomson Bursaries (2 annually).	Each £25 per annum.	4 years.	Distinction in Medical Preliminary Examination.	*Ditto.*
	*Grierson Bursary. " No. 1.	£20.	1 year.	Ditto.	Ditto.
	*Crichton Bursaries (2 annually).	Each £50 per annum.	4 years.	Distinction in Medical Preliminary Examination, with extra subjects.	Born in Scotland.
	* Mackie Bursary. " *No. 1.*	*£30 per annum.*	2 years.	Vote of Faculty.	Pecuniary circumstances requiring assistance, &c.
	*Junior J. A. Carlyle Bursary.	£28.	1 year.	Distinction in Class Examinations in ANATOMY and CHEMISTRY.	
	* Coldstream Memorial Scholarship.	*£25* per annum.	5 years.	——	Intention to become *Medical Missionary,* &c.
	* Vans Dunlop Scholarship. " No. 1.	£100 per annum.	3 years.	First place in MEDICAL PRELIMINARY EXAMINATION.	Continued study.
	" *No. 2.*	*£100* per annum.	*3 years.*	Competitive Examination in CHEMISTRY and PHYSICS.	Ditto.
	" No. 3.	£100 per annum.	3 years.	Ditto in BOTANY and ZOOLOGY.	Ditto.
	*Thomson Scholar*ship.*	£40 per annum.	4 years.	Competitive Examinations in BOTANY, ZOOLOGY, and MECHANICS.	
	† Mackie Bursary. " No. 2.	£30 per annum.	2 years.	Vote of Faculty.	Pecuniary circumstances requiring *assistance, &c.*
	† Grierson Bursary. " No. 2.	£20.	1 year.	Competitive Examination in CHEMISTRY, BOTANY, ZOOLOGY, and PHYSICS.	Continued study.
	† Senior J. A. Carlyle Bursary.	£28.	1 year.	Distinction in Class Examinations in ANATOMY and PHYSIOLOGY.	Ditto.
	† Sibbald Scholarship.	*£40 per annum.*	*3 years.*	Competitive *Examination* in CHEMISTRY, BOTANY, ZOOLOGY, and PHYSICS.	Ditto.
	† Vans *Dunlop* Scholarship. " No 4.	£100 per annum.	3 years.	Competitive Examination in PHYSIOLOGY.	Ditto.
	† Neil Arnott Prize.	£37 10s.	——	*Distinction in* NATURAL PHILOSOPHY in the M.A. Examination.	Ditto.

* For Students entering on or in their First Year. † For Students entering on or in their Second Year.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
EDINBURGH UNIVERSITY —*continued.*	‡ Grierson Bursary. ,, No. 3.	£20.	1 year.	Competitive Examination in ANATOMY and PHYSIOLOGY.	Continued study.
	§ Syme Surgical Fellowship.	£100 per annum.	2 years.	Competitive Thesis by M.B. of not more than three years' standing.	
	§ Goodsir Memorial Fellowship.	£100 per annum.	2 years.	Competitive Thesis by M.B., &c., of not more than three years' standing.	
	§ Leckie Mactier Fellowship.	£80 per annum.	3 years.	Competitive Examination among M.B.'s of not more than three years' standing.	
	§ Freeland Barbour Fellowship.	£100.	1 year.	Highest Marks in ANATOMY, PHYSIOLOGY, and PATHOLOGY in Professional Examinations.	One year's research in Midwifery.
	§ Allan Fellowship.	About £55.	1 year.	Competitive Examination in CLINICAL MEDICINE and CLINICAL SURGERY.	
	§ Vans Dunlop Scholarship.				
	,, No. 5.	£100 per annum.	3 years.	Competitive Examination in ANATOMY.	Continued study and research.
	,, No. 6.	£100 per annum.	3 years.	Ditto in PATHOLOGY and SURGERY.	Ditto.
	,, No. 7.	£100 per annum.	3 years.	Ditto in MATERIA MEDICA (including PHARMACOLOGY) and MEDICINE.	Ditto.
	,, No. 8.	£100 per annum.	3 years.	Ditto in FORENSIC MEDICINE, PUBLIC HEALTH, and MIDWIFERY.	Ditto.
	§ Murchison Memorial Scholarship.	Interest on £1000.	1 year.	Competitive Examination in CLINICAL MEDICINE.	
	§ Stark Scholarship in Clinical Medicine.	£112.	1 year.	Competitive Examination in CLINICAL MEDICINE.	Research in Clinical Medicine.
	§ Buchanan Scholarship.	£40.	1 year.	Competitive Examination and Class Work in MIDWIFERY and GYNÆCOLOGY.	Work in Gynæcological Ward, &c.
	§ James Scott Scholarship.	£32 10s.	1 year.	Competitive Examination and Class Work in MIDWIFERY.	Work in Maternity Hospital.
	§ Ettles Scholarship.	£31.	1 year.	Most distinguished M.B., Ch.B. of year.	
	§ Crichton Research Scholarships in Anatomy, Physiology, Materia Medica, and Pathology.	£100 each per annum.	1, 2, or 3 years.	Competitive Examination for Graduates of the University.	Continued research.
	§ Mouat Scholarship.	£55 and Medal.	1 year.	Class and Degree Examinations in PRACTICE OF PHYSIC (MEDICINE).	Continued study in Medicine.
	§ Grierson Bursary.				
	,, No. 4.	£10.	1 year.	Competitive Examination in MATERIA MEDICA.	Continued study.
	,, No. 5.	£10.	1 year.	Competitive Examination in PATHOLOGY.	Ditto.
	§ M'Cosh Graduate's Bursary and M'Cosh Medical Bursary (for Research).	Income of £5500.	1 year.	Distinction in Professional Subjects, and sufficient knowledge of FOREIGN LANGUAGES.	Study or Research in Medical Schools of Europe.
	§ Gunning Victoria Jubilee Prizes (2 awarded annually).	Each £50.	—	Thesis or Original Research in ANATOMY, PHYSIOLOGY, ZOOLOGY, BOTANY, CHEMISTRY, MATERIA MEDICA, SURGERY, PRACTICE OF PHYSIC, PATHOLOGY, OBSTETRICS, and MEDICAL JURISPRUDENCE and PUBLIC HEALTH, respectively.	
	§ Theses Gold Medals.	—	—	Candidates for M.D. who present Theses of high merit.	
	Conan Doyle Prize.	£32.	—	Most distinguished Graduate of year from South Africa.	
	§ Wightman Prize.	£12.	—	Competitive Reports on Clinical Medicine Cases.	
	§ Beaney Prize.	£32 10s.	—	Highest Marks in ANATOMY, SURGERY, and CLINICAL SURGERY, in M.B. and Ch.B. Examinations.	
	§ Ellis Prize.	£28 per annum.	—	Essay on ANIMAL OR VEGETABLE PHYSIOLOGY.	
	§ Cameron Prize.	Annual Proceeds of £2000.	—	Most valuable addition to PRACTICAL THERAPEUTICS during preceding 5 years.	
	§ Milner Fothergill Gold Medal.	About £20.	—	Essay on PHARMACOLOGICAL or THERAPEUTIC SUBJECT.	
	‖ Mackay Smith Scholarship in Chemistry.	£25 per annum.	2 years.	Competitive Examination in CHEMISTRY among University Students.	Continued study of Chemistry.
	‖ Houldsworth Scholarship.	£40.	1 year.	Competitive Examination in MATERIA MEDICA among University Students or Graduates.	Research in Pharmacology.
	‖ Mackenzie Bursaries (2 annually).	£20.	……	Industry and Skill in PRACTICAL ANATOMY.	
	§ Pattison Prize.	About £11 7s. 6d.	……	Competitive Reports on CLINICAL SURGERY CASES.	
	Dobbie Smith Gold Medal.	—	—	Essay on BOTANICAL SUBJECT.	
	Anderson Henry Prize.	Proceeds of £300 accum. for 3 years.	—	Ditto.	
	Gilfillan Memorial Prize.	About £10.	—	Most distinguished Woman Graduate of year.	

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‡ For Students entering on their Third Year.
§ For Students entering on or in their Fourth or Fifth Year, or for Graduates.
‖ For Students of any year (or standing of candidates not stated).

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
GLASGOW UNIVERSITY ...	Two Highland Society Bursaries.	£25 each.	5 years.	Open 1907. Awarded on results of Preliminary Examination.	Open to medical students of Highland descent.
	Mackintosh Mental Science Bursary.	£31.	1 year.	— —	Open for competition to students of medicine of either sex attending the lectures on Insanity.
	Monteith Bursary.	£21.	2 years.	Vacant 1907. Examination in ANATOMY and PHYSIOLOGY.	Awarded on results of Second Professional Examination.
	Dr. Thos. Gibson Bursary.	£36.	4 years.	Vacant 1907. Competition by Students at the First Professional Examination.	Open to medical students preparing to be missionaries in connexion with the Church of Scotland.
	Coats Scholarship.	£80.	1 year.	Special Examination in PATHOLOGY Vacant 1907.	Open to Graduates in Medicine of not more than three years' standing. Holder to prosecute research in Pathology.
	John Macfarlane Bursary.	£40.	3 years.	Vacant 1908. Examination in ANATOMY, CHEMISTRY, and BOTANY.	Open to medical students entering on their Second Winter Session.
	Lorimer Bursary.	£24.	3 years.	Vacant 1907. Examination in ANATOMY, CHEMISTRY, and BOTANY.	Open to medical students entering on their Second Winter Session.
	One Armagh Bursary in Medicine.	£48.	3 years.	Competition by Students who are presenting themselves for the Final Examination for the degree of M.A. with Honours in MENTAL PHILOSOPHY.	Open to students of either sex who have taken the course of study for graduation in Arts and intend to study Medicine.
	One Armagh Bursary in Medicine.	£48.	2 years.	Competition by Students who are presenting themselves for the Final Examination for the degree of M.A. with Honours in CLASSICS.	Ditto.
	Taylor Bursary.	£7.	4 years.	Appointment by the Senate.	Open to students of either sex in any faculty.
	William Gardiner Bursary.	£14	2 years.	Vacant 1907. Competition in PHYSIOLOGY, CHEMISTRY, and PHYSICS of PROFESSIONAL EXAMINATIONS.	Open to medical students of either sex.
	Rainy Bursary.	£20.	2 years.	Vacant 1907. Examination in ANATOMY, PHYSIOLOGY, CHEMISTRY, BOTANY, and ZOOLOGY.	Open to medical students entering on their Fourth Winter Session.
	Two Paterson Bursaries.	£25 and £20.	4 years.	Vacant 1907. Examination in MATHEMATICS and DYNAMICS.	Open to medical students of First or Second Session.
	Brunton Memorial Prize.	£10.	1 year.	Awarded annually to the most distinguished Graduate in MEDICINE of the year.	
	Dobbie Smith Gold Medal.	....	— —	Awarded annually for the best essay on any subject within the limits of the science of BOTANY.	All matriculated students of 1905-6 or 1906-7 may be competitors
	Two Arnott Prizes.	£25 and £15.	1 year.	Examination in PHYSIOLOGICAL PHYSICS &c.	
	Andrew and Bethia Stewart Bursary.	£50.	3 years.	Special Examination.	Candidates must be M.A. of Glasgow University.
	Weir Bursary.	£16.	1 year.	Awarded on result of Second and Third Professional Examinations.	
	Mc Cunn Medical Research Scholarship.	£100.	1 year.	See University Calendar, p. 405	Open to Medical Graduates of Scottish Universities within two years of graduation.
QUEEN'S COLLEGE, BELFAST	Ten Junior Scholarships for Matriculated Students, two for each of the five years' curriculum.	£20 each.	1 year.	Examination at the commencement of session.	Open to matriculated Medical Students of either sex.
	Mackay Wilson Travelling Medical Scholarship.	£100.	1 year.	Appointed by the Council.	Holder must study for nine months in some foreign school of medicine approved by the Council.
ROYAL COLLEGE OF SURGEONS IN IRELAND, SCHOOLS OF SURGERY	Class Prizes.	£100.	— —	Proficiency in Class Examination.	Open to student of class.
	Stoney Gold Medal.	£3 15s.	......	For ANATOMY Class.	Open to students of class.
	Surgery Gold Medal.	£3 15s.	......	For PRACTICAL SURGERY Class.	Open to students of class.
	Carmichael Scholarship.	£15.	— —	Examination in ANATOMY, PHYSIOLOGY, HISTOLOGY, CHEMISTRY, MATERIA MEDICA, and PHARMACY.	Open to students of the third year.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ROYAL COLLEGE OF SURGEONS IN IRELAND, SCHOOLS OF SURGERY —*continued.*	Mayne Scholarship.	£8.	– –	SURGERY, MEDICINE, PATHOLOGY, MIDWIFERY, and DISEASES OF WOMEN.	Open to students of third and fourth year.
	Barker Bequest.	£31 10s.	– –	For best DISSECTION.	Open to all medical students.
ROYAL UNIVERSITY OF IRELAND	Travelling Medical Scholarship	£100	– –	The subjects are in rotation: (1) ANATOMY AND HISTOLOGY; and (2) PHYSIOLOGY AND PATHOLOGY.	Those who have passed the Medical Degrees Examination either in the year of the scholarship examination or in the year immediately preceding are alone eligible.
	Dr. Henry Hutchinson, Stewart Medical Scholarships.				
	„ No. 1.	£10.	3 years	Competition in the subjects of the (Autumn) second examination in MEDICINE.	Candidates must present themselves after the lapse of not more than one medical year from the time of passing the first examination in medicine.
	„ No. 2	£50.	3 years.	Subjects include PSYCHOLOGICAL MEDICINE, DISEASES OF THE NERVOUS SYSTEM, and ANATOMY, PSYCHOLOGY and PATHOLOGY OF BRAIN, CORD, AND NERVES.	Competition among medical graduates of not more than 3 years' standing for proficiency in the knowledge of Mental Diseases. Fee £2.
	Medical Studentship.	£200	2 years.	In 1908 PATHOLOGY and BACTERIOLOGY.	Open to Graduates in Medicine of the University. Fee £2
	Exhibition at first Examination in Medicine.				
	„ No. 1.	£20.	– –	– –	
	„ No. 2	£20.	– –	– –	
	„ No. 3.	£10.	– –	– –	
	„ No. 4.	£10.	– –	– –	
	Exhibition at second Examination in Medicine.				
	„ No 1.	£25.	– –	– –	
	„ No. 2	£25.	– –	– –	
	„ No. 3.	£15.	– –	– –	
	„ No. 4.	£15.	– –	– –	
	Exhibition at third Examination in Medicine.				
	„ No. 1.	£30.	– –	– –	
	„ No. 2.	£30.	– –	– –	
	„ No 3	£20.	– –	– –	
	„ No. 4.	£20	– –	– –	
	M.B., B.Ch., and B.A.O. Examinations.				
	„ No. 1.	£40.	– –	[At each of the two Examinations in the year there are three Exhibitions of £21 each in the groups of MEDICINE SURGERY, and MIDWIFERY]	
	„ No 2.	£40.	– –		
	„ No. 3.	£25.	– –		
	„ No. 4.	£25	– –		
QUEEN'S COLLEGE, GALWAY	Eight Junior Scholarships	£25 each and half fees.	1 year.	Competitive Examination at the commencement of session.	Students of either sex must be of the standing of the year, and may be of any recognised school of medicine.
QUEEN'S COLLEGE, CORK	Eight Junior Scholarships for Matriculated Students, two for each of first four years of curriculum.	£25	1 year.	Examination at commencement of session.	Open to matriculated students of either sex.
	Blayney Scholarship, in fifth year of curriculum.	£32.	1 year.	Ditto.	Ditto.
	Senior Exhibition, in fifth year of curriculum.	£30.	1 year.	Ditto.	Ditto.
	Three Exhibitions in Practical Medicine, Surgery, and Midwifery respectively.	£15 each.	......	Examination at end of medical session.	

THE NAVAL, MILITARY, AND INDIAN MEDICAL SERVICES.

THE conditions of service in the medical departments of the Navy, Army, and Indian Army, remain practically the same as for 1907. There is no new warrant or important modification of regulations calling for particular comment; and except to lay stress on the fact that the military services now offer a better opening to young medical men than they have ever done we do not propose to make any special reference to them. The terms of the warrants sufficiently explain their advantages.

With regard to the Naval Medical Service a few prefatory words are needed, for we have recently published articles dealing with the considerable amount of dissatisfaction which exists therein, while in summarising communications from our correspondents we came to the inevitable conclusion that some of the unfavourable criticism was just. We would strongly urge on the authorities the advisability of removing legitimate grievances *now;* the reforms could for the most part be effected at the expense of little but tact and a consideration of what is justly due to the naval medical officers. Every naval medical officer who has written to our columns, and this is not a small number, has expressed dissatisfaction with the position in which the cabin question has been left by recent regulations. Allotment to the medical officer of cabin accommodation inferior to that to which he is entitled still takes place, and cannot, at any rate cannot always, be explained by the cramped space on that elaborate box of tricks, a modern man-of-war. Another innovation sadly wanted is a regulation to insure that the senior medical officers in hospitals should have proper disciplinary power over their subordinates and patients. Other points, the supply and use of boats, for example, and the payment in certain grades, might well be settled in accordance with the just desires of the Naval Medical Service, for the Admiralty will be prudent to aim at making the Service more popular. And the same may be said of all three services. For that there is now no competition for commissions in the Naval Medical Service and no keen competition for those in the Army Medical Staff or the Indian Medical Staff seems undeniable, and this is the more unfortunate a position that fewer men are now entering the medical profession as a whole. It is no longer easy for all hospitals to obtain suitable residents, while assistants are scarce and even junior partners are not to be found directly they are wanted. The Services will therefore have to be careful to increase their popularity, and the point is that it may be economical of them to do so now. By small concessions they may be avoiding having later to pay a heavy price to attract men. We would also suggest that it is unwise to let any of these departments run below the normal strength if it is possible to maintain them at par.

An esteemed and shrewd correspondent who has seen many years' service in the Naval Medical Service has sent us a letter on the merits and demerits of the Service, the information in which will be interesting to some of our readers. We regret that limitations of space have prevented us from publishing the communication at length, but we are happy to give its substance as it shows that, though reform may be wanted in the Service, its present state is not without material advantages. At one time not so very long ago, he says, the Naval Medical Service was not looked upon as one in which an educated gentleman could serve with dignity, while complaints were heard of many of the conditions of service. But the old order of things is giving place to the new, and our correspondent, after comparing the lot of the naval medical officer with that of the civil practitioner, comes to the conclusion that the trials of the civil branch of the profession are greater than those of the naval branch, and that probably when all things are considered the naval surgeon is in a far better position than the average lay professional man. In the junior ranks of the Service, he says, the pay is better than the average income of the lay medical man of the same age, and promotion is not always slow. "With £20 a month the young naval surgeon can, if he is not extravagant, get along very comfortably, though he will require at the commencement of his career £100 for outfit. A private income is certainly not necessary though it is eminently desirable. After 20 years of service a naval surgeon is entitled to a pension of £350 a year, which compares very favourably with the prospects of many medical men on the civil side of the profession, and in case of illness there is the half-pay rate, while pensions are provided for widows and children should a married officer die in action or from injuries received while in discharge of his duties." He points out that in this way the young naval officer is relieved of the most serious anxiety which can press upon a married man, but he suggests that he ought not to marry young without due consideration, a warning which, however, applies to most medical men. In comparing the Medical Services of the Army and Indian Army with that of the Navy he says, "though the Army and Indian Service are better paid, expenses are higher and the work more fatiguing, while in the Indian Service there is a greater liability to disease and death." With regard to the position of the young surgeon on board his vessel our correspondent thinks he gets a better chance in the Navy than in the Army. "So long as the new surgeon is moderately good at his profession, is kind and unselfish towards his patients, is not too self-assertive, and has any positive accomplishments or skill at any sport or game, he should get on very well, especially if he is good-humoured and helpful. And if a man has not these qualities and readiness where should he be advised to practise?"

ROYAL NAVY MEDICAL SERVICE.

REGULATIONS FOR THE ENTRY OF CANDIDATES FOR COMMISSIONS IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

Every candidate for admission into the Medical Department of the Royal Navy must be not under 21 nor over 28 years of age on the day of the commencement of the competitive examination. He must produce an extract from the register of the date of his birth; or, in default, a declaration made before a magistrate, from one of his parents or other near relative, stating the date of birth. He must also produce a certificate of moral character, up to date, and a recommendation signed by a clergyman or magistrate, to whom he has been for some years personally known, or by the president or senior professor of the college at which he was educated.

He must be registered under the Medical Act in force, as qualified to practise medicine and surgery in Great Britain and Ireland.

He must declare (1) his age and date and place of birth; (2) that he is of pure European descent and the son either of natural-born British subjects or of parents naturalised in the United Kingdom; (3) that he labours under no mental or constitutional disease or weakness, nor any other imperfection or disability which may interfere with the most efficient discharge of the duties of a medical officer in any climate; (4) that he is ready to engage for general service at home or abroad, as required; (5) whether he holds, or has held, any commission or appointment in the public services; and (6) that he is registered under the Medical Act in force as duly qualified professionally, and what diplomas, &c., he holds.[1]

He must be free from organic or other diseases, and his physical fitness will be determined by a Board of Medical Officers, who are to

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parts as follows:—(1) Compulsory

e admission of candidates will be

marks gained in the compulsory

qualify in voluntary subjects will have the marks so obtained added to those gained in the compulsory subjects, and their position on the list will be determined by the total of marks for both compulsory and voluntary subjects.

Candidates will be examined by the Examining Board in the following compulsory subjects and the highest number of marks attainable will be distributed as follows (a fee of £1 will have to be paid by each candidate to entitle him to take part in the competition): (*a*) medicine, materia medica, therapeutics and general hygiene, 1200 marks; (*b*) surgery and surgical anatomy, 1200 marks. The examination in medicine and surgery will be in part practical and will include, beyond papers, the examination of patients, the examination of pathological specimens, a knowledge of bacteriology, the performance of operations on the dead body, and the application of surgical apparatus. The attention of candidates is especially drawn to the importance of

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Candidates may be examined in t

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Sciences: chemistry (300); physiol

(300); and geology and physical geo

be allowed to present himself for examination in more than two of *these subjects.* French and German (300 each), 600 marks. A number less than one-third of the marks obtainable in each of these *voluntary subjects* will not be allowed to count in favour of the candidate who has qualified in the *compulsory subjects.* The knowledge of modern languages being considered of great importance, all intending competitors are urged *to qualify in French and German.* The examination in chemistry will include the general principles of inorganic and organic chemistry; the preparation and properties of the chief non metallic and metallic elements and their compounds; the preparation, properties and classification of the more important compounds, such as marsh gas, ethylene, acetylene, methyl and ethyl alcohols, glycerin, ether, formic, acetic, lactic and oxalic acids; cyanogen and cyanides, carbohydrates; fats, proteids. The examination in physiology will comprise the minute structure and functions of the various tissues and organs of the body; the physiology of the blood; the nature of food and the processes of its digestion; the mechanics of the circulation and of respiration; the physiology of nutrition, secretion, and excretion; animal heat, the nature of sensation, volition, reflex action, inhibition and influence of the nervous system on other organs and their functions. The examination in zoology will include—the general principles of biology, and a comparison of animals with plants; the distinctive characters of the larger groups of animals—the protozoa, cœlenterata, vermes, arthropoda, mollusca, echinodermata, and vertebrata—as illustrated by common types; the elements of embryology; animal parasites. The examination in botany will comprise the general principles of the morphology and physiology of low forms of life—e.g., torula, bacteria, spirogyra, moss fern; the general morphology of flowering plants; diagnosis of the important British natural orders; medicinal plants. The examination in geology and physical geography will be limited to general principles, such as the relations of the earth to the rest of the solar system, nature of the earth's crust and the chief kinds of rocks, general configuration of land and water, mountains, plains, islands, rivers, lakes, glaciers and icebergs, ocean currents, tides, winds, storms, dew, rain, climate, volcanoes, earthquakes, distribution of animal and vegetable life.

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[1] If any doubt should arise on this question the burden of clear proof that he is qualified will rest upon the candidate himself.

The appointments announced for competition will be filled from the list of qualified candidates, arranged in order of merit; but should it at any time be considered expedient to grant Commissions beyond those periodically competed for, the Admiralty have power to admit annually (a) two candidates—proposed by the governing bodies of schools of medicine in the United Kingdom—who have satisfactorily filled the office of house surgeon in a large civil hospital for at least six months; and (b) not more than six candidates, according to requirements, specially recommended by the governing bodies of such colonial universities as may be selected and whose qualifications are recognised by the General Medical Council. Candidates so proposed are to be approved by the Director-General of the Medical Department of the Navy and are to be certified by the governing body proposing them as duly qualified according to the regulations in force for the entry of candidates. In cases of colonial nominations, registration of professional qualifications may be deferred until after the arrival in England of a candidate who has been passed on the station, but a Commission as Surgeon will not be granted until the certificate of the Registrar of the Medical Council has been produced at the Medical Department of the Navy. Candidates from schools at home will be required to pass a physical examination in London which will be arranged for by the Medical Director-General. Colonial candidates will have to pass a physical and test examination before a board of Naval Medical Officers on the station. Successful candidates immediately after passing the examination in London will receive commissions as Surgeons in the Royal Navy, and will undergo a course of practical instruction in Naval Hygiene, &c., at Haslar Hospital. Three prizes of the approximate value of £10 each will be awarded at the close of each session at Haslar to the students who have shown the greatest proficiency.

Surgeons on entry are only required to provide themselves with a pocket case of instruments, a stethoscope, and three clinical thermometers. All other instruments are provided at the public expense.

Promotion.

An Inspector General of Hospitals and Fleets will be selected from amongst Deputy Inspectors-General who have in that rank three years' full pay service and who have not at any time declined foreign service except for reasons which the Lords Commissioners of the Admiralty regard as good and sufficient.

A Deputy Inspector-General of Hospitals and Fleets will be selected for ability and merit from amongst Fleet Surgeons.

(a) Subject to the approval of the Lords Commissioners of the Admiralty rank as Fleet Surgeon will be granted to Staff Surgeons at the expiration of eight years from the date of promotion to Staff Surgeon, provided they are recommended by the Medical Director-General and have not declined service except for reasons which in the opinion of the Lords Commissioners of the Admiralty are satisfactory. (b) Special promotions from the rank of Staff Surgeon to that of Fleet Surgeon will be made at their Lordships' discretion in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and will not exceed the rate of one in two years; the total number at any one time of Fleet Surgeons holding that rank by such special promotions will not exceed six.

(a) Rank as Staff Surgeon will be granted, subject to their Lordships' approval, to surgeons at the expiration of eight years from the date of entry, provided they are recommended by the Medical Director-General, and have passed such examination as may be required after completion of five years from the date of entry in the rank of surgeon. (b) Special promotions will be made at their Lordships' discretion to the rank of Staff Surgeon in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and not exceed the rate of one a year. The total number at any one time of Staff Surgeons holding that rank by such special promotions will not exceed eight. No officer will be so promoted unless he passes the examination prescribed for other surgeons, but in such a case the requirement of five years' time in rank of surgeon will be dispensed with. (c) When a surgeon's promotion to the rank of Staff Surgeon has been retarded by failure to pass the qualifying examination he will, should he pass and be promoted, be dealt with as follows. He will be granted the seniority as Staff Surgeon he would have received had he passed in ordinary course. He will reckon service for increase of full and half pay only from the date of appointment to full pay as Staff Surgeon. If on half pay, or if placed on half pay when promoted, he will receive the lowest rate of half pay of the new rank from the date of passing the qualifying examination. Where delay in passing the qualifying examination may be due to unavoidable circumstances special consideration will be given. (d) The seniority of surgeons on entry will be determined by the sum total of the marks they obtain at the London examination and those at the conclusion of the Haslar course and their names will then be placed in the official navy list, except in the case of candidates who hold, or are about to hold, a post as resident medical officer or surgical officer to a recognised civil hospital. These candidates will retain the position in the list which they obtained on entry, and when their period of service as resident officer is over they will join the next Haslar course and will be required to obtain qualifying marks. Surgeons entered without competition will take seniority next after the last surgeon entered at the same time by competition. (e) The examination for promotion to the rank of staff surgeon will be held by the Examining Board, to which a naval medical officer will be attached to conduct the examination in naval hygiene. The subjects of examination will be in writing and will include medicine, surgery, pathology, general hygiene, naval hygiene. Earlier promotion to the rank of staff surgeon may be granted to those surgeons who, before entry, have held the post of legally qualified resident medical or surgical officer to a civil hospital of not less than 100 beds for a period of not less than six months, provided their conduct and professional abilities have been favourably reported on during the time they have served in the Navy. They may be granted from six months to one year's seniority, according to the time they have held their civil appointments, but in no case will more than one year's seniority be granted. This only applies to officers who enter by competition (Para. 4 (f)). A candidate who at the time of passing the examination for entry into the medical branch of the Royal Navy holds, or is about to hold, an appointment as resident medical or surgical officer in a recognised civil hospital, may be allowed to serve in such civil appointment provided that the period of such service after the date of entry into the Royal Navy does not exceed *one year*. Pay from naval funds will be withheld from officers while thus serving, but the time concerned will reckon for increase of full and half pay while on the active list, and retired pay or gratuity on retirement or withdrawal, except that no officer will be allowed to retire on a gratuity until he has completed four years' service exclusive of the time spent as resident medical or surgical officer. The eligibility of this appointment will also be decided by the Medical Director-General.

Full Pay and Allowances.

Rank.	Daily.	Yearly.
	£ s. d.	£ s. d.
Surgeon—		
On entry	0 14 0	255 10 0
After 4 years' full pay service	0 17 0	310 5 0
Staff Surgeon—		
On promotion	1 0 0	365 0 0
After 4 years' full pay service in rank ...	1 4 0	438 0 0
Fleet Surgeon—		
On promotion	1 7 0	492 15 0
After 4 years' service in rank	1 10 0	547 10 0
" 8 " "	1 13 0	602 5 0
" 12 " "	1 16 0	657 0 0
Deputy Inspector-General	2 2 0	766 10 0
Inspector General	—	1300 0 0 Consolidated.

The medical officers in charge of the following hospitals and sick quarters will be granted charge pay: Haslar, Plymouth, Chatham, Malta, Hong Kong, Bermuda, Portland, Yarmouth, Haulbowline, Cape, Gibraltar, and Yokohama. The rate of charge pay will be as follows:—

	s.	d.	
Inspectors General...	10	0	a day.
Deputy Inspectors-General	7	6	"
Fleet Surgeons of over 4 years' seniority	5	0	"
Fleet Surgeons of under 4 years' seniority and Staff Surgeons	2	6	"

The hospital allowances for naval medical officers at home and abroad, in lieu of provisions, for themselves and servants, and for fuel and lights, are as follows:—

—	At home.	Abroad.
	£	£
Deputy Inspectors General	67	112
Fleet Surgeons and Staff Surgeons of over 4 years' seniority	53	112
Staff Surgeons of under 4 years' seniority and Surgeons...	39	103*

* Except at Malta, where the allowance will be £70, but servants will be provided at the public expense. These allowances are also granted to medical officers of marine divisions and dockyards.

An allowance of 5s. a day, in addition to full pay, is granted to the senior medical officer, being a Fleet or Staff Surgeon, of a flag ship bearing the flag of a Commander-in-Chief. An allowance of 2s. 6d. a day is granted to the senior medical officer, being a Fleet or Staff Surgeon, of the ship bearing other flags or broad pendants. The following charge allowances may be granted to medical officers in charge of hospital ships: if above the rank of fleet surgeon, 5s. a day; and if of the rank of fleet surgeon or junior, 2s. 6d. a day. The Fleet and Staff Surgeons serving in the Admiralty and the Marine Rendezvous will be granted the Hospital allowance of £55 a year in addition to the usual lodging money. Medical officers conducting the course of instruction at Haslar Hospital will receive the following allowances: two senior officers employed upon this duty, £150 a year each, the junior officer assisting, £50 a year, and the junior officer instructing the Sick Berth Staff, £20 a year. The junior officer instructing the Sick Berth Staff at Plymouth, £50 a year. Medical officers employed elsewhere than at a hospital, and not victualled in kind, receive an allowance of 1s. 6d. a day in lieu of provisions, fuel, and lights. The travelling allowances, extra pay, lodging money, and compensation for losses are fixed for naval medical officers according to their relative rank in the service.

Half Pay.

Rank.	Daily.	Yearly.
	£ s. d.	£ s. d
Surgeon—		
Under 2 years' full-pay service	0 6 0	109 10 0
After 2 years' full pay service	0 7 0	127 15 0
,, 4 ,, ,, ...	0 8 0	146 0 0
,, 6 ,, ,, ...	0 9 0	164 5 0
Staff Surgeon (or Surgeon over eight years)—		
On promotion	0 10 0	182 10 0
After 2 years' service in rank	0 11 0	200 15 0
,, 4 ,, ,, ...	0 12 0	219 0 0
,, 6 ,, ,, ...	0 13 0	237 5 0
Fleet Surgeon—		
On promotion	0 14 0	255 10 0
After 2 years' service in rank	0 15 0	273 15 0
,, 4 ,, ,, ...	0 17 0	310 5 0
,, 6 ,, ,, ...	0 18 0	328 10 0
,, 8 ,, ,, ...	0 19 0	346 15 0
,, 10 ,, ,, (maximum) ...	1 0 0	365 0 0
Deputy Inspector-General—		
On promotion	1 6 0	456 5 0
After 2 years' full pay service in rank	1 7 0	492 15 0
,, 4 ,, ,, ...	1 9 0	529 5 0
Inspector-General	1 18 0	693 10 0

Candidates will do well to notice that the regulations issued to applicants do not put any limit on the amount of half pay service which they may be compelled to undergo.

Retirement.

Compulsory retirement will be as follows —

Inspector and Deputy Inspector-General of Hospitals and Fleets.	At the age of 60, or at any age, if he has had three years' non-employment in any one rank, or after four years' continuous non employment in any two ranks combined. Except that if in any particular case the Lords Commissioners of the Admiralty may consider that the interests of the public service will be materially advanced by the further retention of an Inspector-General of Hospitals and Fleets on the active list, the age for the retirement of such Inspector-General may be extended to 62.	To be retired irrespective of age if found physically unfit for service.
Fleet Surgeon, Staff Surgeon, and Surgeon.	At the age of 55 or at any age, if he has had three years' non employment in any one rank, or after four years continuous non employment in any two ranks combined	

The special attention of candidates is directed to the following rules under which officers are allowed to withdraw from the service after four years' full pay service in the Royal Navy, with the advantage of joining the Reserve of Naval Medical Officers —

After four years' service in the Royal Navy, an officer, if he wishes,
f Naval Medical Officers,
passing into the Reserve
y List, he will retain his
naval rank and be entitled to wear his naval uniform under the regulations applying to officers on the retired and reserved lists of His Majesty's Navy

(3) If he agree to remain in the Reserve for four years he will receive a retaining fee of £25 per annum. If at the expiration of this period he agree to remain in the Reserve for a further period of four years he will continue to receive the same retaining fee

Should an officer prefer it, howeve
for a period not exceeding eight ye
notice of his intention to resign his
he will receive no retaining fee)
Reserve service after the expiration of four years served under the conditions referred to in (3), by renouncing his retaining fee for his last four years' service in the Reserve

No officer will be allowed to remain in the Reserve for a longer period than eight years

Officers of the Reserve will be liable to serve in the Royal Navy in time of war or emergency When called up for such service they will receive the rate of pay—viz, 17s a day and allowances—to which they
four years' service on the active list

retired pay provided in Par
provided in that paragraph i
piration of four, eight, 12, or
from the
aragraph
the lists
en be severed, except in
of the Navy, with v
ears who are liable to
the case of officers
and withdrawal at the
serve in the Reserve
a rule, only when an
discretion of their
serving at home Under very special circum
be permitted in the case of an officer serving
s his passage home, and, if necessary, that of
lications from officers to retire or withdraw
ions will receive every consideration, but no
officer will, as a rule, be permitted to resign under three years from the date of entry.* In order that arrangements may, as far as possible, be made for the relief of officers who may wish to withdraw on a gratuity it is desirable that six months' notice of their wish should be forwarded for the consideration of their lordships

* The Admiralty reserve to themselves power to remove any officer from the list for misconduct

Gratuities and retired pay will be awarded on retirement and withdrawal on the under mentioned scale (Paragraph 16).—

Rank	Gratuities	Daily.	Yearly.
	£ s. d	£ s d.	£ s d
Surgeon, Staff Surgeon, and Fleet Surgeon—			
After 4 years' full pay service	500 0 0	—	—
After 8 years' full-pay service (including service allowed by Para 4 (*f*)) ...	1000 0 0	—	—
After 12 years' full pay service (including service allowed by Para 4 (*f*)) .	1500 0 0	—	—
After 16 years' full pay service (including service allowed by Para 4 (*f*)) ...	2250 0 0	—	—
Fleet Surgeon—			
After 20 years' service (including proportion of half pay time)	—	*1 0 0	365 0 0
After 24 years' service (including proportion of half-pay time)	—	*1 2	410 12 6
After 27 years' service (including proportion of half-pay time)	—	*1 5 0	456 5 0
After 30 years' service (including proportion of half pay time)	—	*1 10 0	547 10 0
Deputy Inspector General ...	—	1 15 0	638 15 0
Inspector-General	—	2 0 0	730 0 0

* *To obtain this rate* an officer must hold the commission of Fleet Surgeon.

An officer *retired with less than* 20 years' service on account of disability, contracted in and attributable to the *Service*, will receive the half pay of his rank, or, with the consent of their *Lordships*, a gratuity on the scales given in Paragraphs 16 and 18 (*b*), but such officer will not be entitled to receive any special compensation for the disability in addition to the gratuity as above (Paragraph 17).[2]

An officer retired with less than 20 years' service on account of disability, contracted in but not attributable to the Service, will receive—(*a*) if he has over eight years full pay service, either a gratuity on the scale given in Paragraph 16 or half pay according as their Lordships think fit; (*b*) if he has less than eight years' full pay service, *such gratuity as their Lordships think fit*, not exceeding the rate of £125 for each year of full pay service (Paragraph 18) In *circumstances other* than those specified in Paragraphs 17 and 18, and other than misconduct, neglect of duty, &c, an *officer retired with* less than 20 years' service will not be allowed half pay *or retired* pay, but will receive a gratuity on the scale laid down in Paragraph 16 if he has eight years' full pay service, and on that provided in Paragraph 18 (*b*) should his full pay service not amount to eight years The power vested in their Lordships of granting reduced rates of half pay and retired pay in cases of misconduct is extended to the award of gr
and the gratuity
awarded will be reduced to
officer retiring after 20 years'
mended by the Medical
meritorious service, to receive
awarded at their Lordships discretion, and not to confer any claim to increase of retired pay or of widow's pension All retired officers will be *liable*, till the age of 55, to serve in time of declared national emergency, in *a rank not lower* than that held on retirement This liability does not exist in cases of officers *who withdraw* from the Naval Service receiving *a gratuity after* 8, 12, *or* 16 years' full pay service Retired officers will receive special consideration as regards appointments on *shore* connected with the Admiralty now filled by civilians.

Widow's Pension.

When an officer retires or withdraws *on a gratuity* his widow and children will have no claim to pension or compassionate allowance
uring re employment are injured
s attributable to the service, come
compensation for themselves, or
pensions and compassionate allowances for their widows and children, as *officers of* the same rank on the permanent Active List

Miscellaneous.

A special cabin will be appropriated to the Fleet *or Staff Surgeon* or the Surgeon in charge of the medical duties in *each ship* Special regulations have been made as regards the mess expenses of medical officers appointed to the several divisions of Royal Marines for limited periods Every medical *officer will* be required to undergo a post-graduate course of three *months'* duration at a Metropolitan Hospital once in every eight years (should the exigencies of *the Service permit*), and this as far as possible during his Surgeon's, *Staff Surgeon's*, and Fleet Surgeon's period of service While carrying *out this course* the medical officer will be borne on a ship's books for full *pay and* will be granted lodging a
avelling *expenses* as for
service under the
home *or port*, the fees
for each course (n
d by the Admiralty on
the production of
rse The medical officer
will be required to produce separate certificates of efficient attendance

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[2] If the health of a surgeon breaks down before he completes 20
years' service, even if his disabi
due to climatic causes, he is lia
list, receiving only a gratuity
a most unjust one.

in the following: (1) the medical and surgical practice of the hospital, including instruction in anæsthetics; (2) a course of operative surgery on the dead body; (3) a course of bacteriology; (4) a course of ophthalmic surgery, particular attention being paid to the diagnosis of errors of refraction; and (5) a practical course of skiagraphy. Relative rank is accorded to medical officers as laid down in the King's Regulations and Admiralty Instructions.

The Admiralty has made a considerable effort to make the Medical Service attractive to men of a good professional stamp. The new regulations promulgated on Oct. 31st, 1903, are of course included in the above account of the Naval Medical Service. By these regulations promotion was accelerated, special promotion in the lower grades was made possible in cases of distinguished service or conspicuous professional merit, and encouragement to enter the service, in the shape of earlier promotion, was given to men who have held resident posts in recognised hospitals. A feature of the latest regulations is the permission to withdraw at the end of four years with a gratuity of £500. The pay has been increased but, in respect of allowances, the medical officers of the navy, up to the senior ranks, are not as well off as those of the Royal Army Medical Corps. In spite of the steps taken by the Admiralty there is still much discontent among naval medical officers, and such discontent will exist until the medical officers are unhampered in the performance of their important work by the executive officers. The medical officers should have control over the sick bay staff in ships, and over nurses and other attendants in hospitals, and executive officers should no longer figure as presidents of "medical surveys." The authority of the Director-General must be made adequate. More care must also be taken that medical officers are assigned fitting cabin accommodation. To make the service thoroughly efficient the medical officers must be given authority and position commensurate with their responsibilities.

THE ARMY.

Consequent upon the issue of the Royal Warrant published in Army Orders dated July 1st, 1898, the Army Medical Staff and the Medical Staff Corps were formed into the Royal Army Medical Corps. Medical officers also have been placed. as regards sick leave of absence on full pay, on the same footing as that laid down for regimental officers. By a Royal Warrant dated Nov. 10th, 1891, Art. 1208*b* of the Pay Warrant was revised by inserting the words "an officer of our Royal Army Medical Corps" after the words "combatant officer," thus giving medical officers an equal title with combatant officers to reckon time on half-pay towards retirement when the half-pay has been due to ill health contracted in the performance of military duty. Under the Royal Warrant of July, 1895, time on half-pay not exceeding a year may in similar circumstances also reckon towards promotion. In the New Royal Warrant it was announced that the late Queen had been pleased to approve of the following ranks for the officers of the Royal Army Medical Corps: Colonel, Lieutenant-Colonel, Major, Captain, and Lieutenant. The Warrant also states that the Medical Staff of the Army shall in future consist of Surgeon-Generals (ranking as Major-Generals). Officers of the Royal Army Medical Corps holding appointments in the Household Troops are to be borne as seconded officers on the establishment of the Royal Army Medical Corps.

REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS (PROMULGATED BY ARMY ORDERS DATED MAY 1ST, 1902).

A candidate for a commission in the Royal Army Medical Corps must be 21 years and not over 28 years of age at the date of the commencement of the entrance examination. He must, at the time of his appointment, be registered under the Medical Acts in force in the United Kingdom. A candidate must complete the subjoined form of application and declaration and submit it to the Director-General, A.M.S., in sufficient time to permit of reference to the medical school in which the candidate completed his course as a medical student.

*Application of a Candidate for a Commission in the Royal Army Medical Corps.**

1. Name in full... ... ...
2. Address ... ...
3. Date of birth † ... ...
4. Qualifications ... ...
5. Academic and other distinctions ... ...
6 Name of the Dean or other responsible authority of the school in which the candidate completed his course as a medical student ... ...
7. Particulars of any commission or appointment held in the public services ... ...
8. Date of examination at which the candidate proposes to present himself ... ...

Declaration.

(N.B.—A mis-statement by the candidate will invalidate any subsequent appointment and cause forfeiture of all privileges for services rendered.)

I hereby declare upon my honour that the above statements are true to the best of my knowledge and belief and further:—

1. That I am a British subject of unmixed European blood.

2. That I am not, as far as I know, at present suffering from any mental or bodily infirmity, or physical imperfection or disability that is likely to preclude me from efficiently discharging the duties of an officer in any climate.

3. That I will fully reveal to the Medical Board, when physically examined, all circumstances within my knowledge that concern my health.

I also declare that my vision is good with either eye (with or without the aid of glasses as the case may be).

Signature ....
Date..

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* All communications to be addressed to the Secretary, War Office, Whitehall, S.W.

† A certificate of registration of birth or other satisfactory evidence of age, such as a declaration made before a magistrate by one of his parents or guardians, giving the date of his birth, to be furnished.

The dean of the candidate's school will be requested by the Director-General to render a confidential report as to his character, conduct, professional ability, and fitness to hold a commission in the corps. A candidate whose application is regarded as satisfactory will be directed to appear before the Director-General, Army Medical Service, a few days (usually on the fourth Thursday of the month) preceding the examination. The Director-General will decide if the candidate may be allowed to compete for a commission. If approved, he will then be examined as to his physical fitness by a board of medical officers. The following is the order of the examinations:—

1. A candidate for a commission in the Royal Army Medical Corps must be in good mental and bodily health and free from any physical defect likely to interfere with the efficient performance of military duty.

2. The attention of the board will be directed to the following points: (*a*) That the correlation of age, height, weight, and chest girth is equal or superior to that which is given in the following table:—

Physical Equivalents.

Age.	Height without shoes.	Chest.	
		Girth when expanded.	Range of expansion.
	Inches.		
21 and upwards.	62½ and under 65	35 inches.	2 inches.
	65 " 68	35½ "	2 "
	68 " 70	36 "	2 "
	70 " 72	36½ "	2½ "
	72 and upwards.	37 "	2½ "

(*b*) Measurement of height. The candidate will be placed against the standard with his feet together and the weight thrown on the heels and not on the toes or outside of the feet. He will stand erect without rigidity and with the heels, calves, buttocks, and shoulders touching the standard; the chin will be depressed to bring the vertex of the head level under the horizontal bar and the height will be noted in parts of an inch to eighths.

(*c*) Measurement of chest. The candidate will be made to stand erect with his feet together and to raise his hands above his head. The tape will be carefully adjusted round the chest with its posterior upper edge touching the inferior angles of the shoulder blades and its anterior lower edge the upper part of the nipples. The arms will then be lowered to hang loosely by the side and care will be taken that the shoulders are not thrown upwards or backwards so as to displace the tape.

(*d*) Weight. The candidate will also be weighed and his weight recorded in the proceedings of the Board.

The regulations regarding the examination of eyesight are as follows:—

1. If a candidate can read D.=6 at 6 metres (20 English feet) and D.=0·6 at any distance selected by himself, with each eye without glasses, he will be considered *fit*.

2. If a candidate can only read D.=24 at 6 metres (20 English feet) with each eye without glasses, his visual deficiency being due to faulty refraction which can be corrected by glasses which enable him to read D.=6 at 6 metres (20 English feet) with one eye, and D.=12, at the same distance with the other eye, and can also read D.=0·8 with each eye without glasses, at any distance selected by himself, he will be considered *fit*.

3. If a candidate can read D.=6 at 6 metres (20 English feet) with one eye, a higher defect than D.=24 will be accepted in the other; and if he can read D=36 with the defective eye at the required distance, the defect being due to error in refraction which can be remedied by glasses so that he can read, at least, D.=12, he will be considered *fit*.

4. If a candidate cannot read D.=24 at 6 metres (20 English feet) with each eye without glasses, notwithstanding he can read D.=0·8, he will be considered unfit. The candidate must be able to read the tests without hesitation in ordinary daylight. (N.B.—Snellen's test types will be used for determining the acuteness of vision.) Squint, or any morbid conditions, subject to the risk of aggravation or recur
in either eye, will cause the rejection of a candidate. (1)
distinguish the principal colours will not be regard
rejection, but the fact will be noted in the report,
date will be informed. (2) The degree of acuteness

Half Pay.

Rank.	Daily.	Yearly.
urgeon—	£ s. d.	£ s d
Under 2 years' full pay service	0 6 0	109 10 0
After 2 years' full pay service	0 7 0	127 15 0
" 4 " "	0 8 0	146 0 0
" 6 " "	0 9 0	164 5 0
Staff Surgeon (or Surgeon over eight years)—		
On promotion	0 10 0	182 10 0
After 2 years' service in rank	0 11 0	200 15 0
" 4 " "	0 12 0	219 0 0
" 6 " "	0 13 0	237 5 0
Fleet Surgeon—		
On promotion	0 14 0	255 10 0
After 2 years' service in rank	0 15 0	273 15 0
" 4 " "	0 17 0	310 5 0
" 6 " "	0 18 0	328 10 0
" 8 " "	0 19 0	346 15 0
" 10 " " (maximum) ...	1 0 0	365 0 0
Deputy Inspector-General—		
On promotion	1 5 0	456 5 0
After 2 years' full pay service in rank	1 7 0	492 15 0
" 4 " "	1 9 0	529 5 0
Inspector-General	1 18 0	693 10 0

Candidates will do well to notice that the regulations issued to applicants do not put any limit on the amount of half pay service which they may be compelled to undergo

Retirement.

Compulsory retirement will be as follows —

Inspector and Deputy Inspector-General of Hospitals and Fleets	At the age of 60, or at any age, if he has had three years' non-employment in any one rank, or after four years' continuous non-employment in any two ranks combined. Except that if in any particular case the Lords Commissioners of the Admiralty may consider that the interests of the public service will be materially advanced by the further retention of an Inspector General of Hospitals and Fleets on the active list, the age for the retirement of such Inspector General may be extended to 62.	To be retired irrespective of age if found physically unfit for service.
Fleet Surgeon, Staff Surgeon, and Surgeon.	At the age of 55 or at any age, if he has had three years' non-employment in any one rank, or after four years' continuous non employment in any two ranks combined	

The special attention of candidates is directed to the following rules under which officers are allowed to withdraw from the service after four years' full pay service in the Royal Navy, with the advantage of joining the Reserve of Naval Medical Officers —

After four years' service in the Royal Navy, an officer, if he wishes, may [illegible] f Naval Medical Officers, when [illegible] —

(1) [illegible] passing into the Reserve

(2) [illegible] y List, he will retain his naval rank and be entitled to wear his naval uniform under the regulations applying to officers on the retired and reserved lists of His Majesty's Navy.

(3) If he agree to remain in the Reserve for four years he will receive a retaining fee of £25 per annum If at the expiration of this period he agree to remain in the Reserve for a further period of four years he will continue to receive the same retaining fee

Should an officer prefer it, however, he may simply enter the Reserve for a period not exceeding eight years, with power to give six months' notice of his intention to resign his position at any time (in which case he will receive no retaining fee) He may also adopt this method of Reserve service after the expiration of four years served under the conditions referred to in (3), by renouncing his retaining fee for his last four years' service in the Reserve

No officer will be allowed to remain in the Reserve for a longer period than eight years

Officers of the Reserve will be liable to serve in the Royal Navy in time of war or emergency When called up for such service they will receive the rate of pay—viz, 17*s* [illegible] they would have been entitled after four [illegible]

Voluntary retirement and with [illegible] lows (*a*) Every officer will have the [illegible] hips' approval, of retiring after 20 years' full pay service on the scale of retired pay provided in Paragraph 16 or with a gratuity on the scale provided in that paragra [illegible] eight 12 [illegible]

16 The name of an officer [illegible] will then be severed, except in of the Navy, with which all connexion the case of officers who withdraw after four years who are liable to serve in the Reserve (*c*) Voluntary retirement and withdrawal at the discretion of their Lordships will be allowed, as a rule, only when an officer is unemployed or serving at home Under very special circumstances, however, it may be permitted in the case of an officer serving abroad, provided he pays his passage home, and, if necessary, that of his successor (*d*) Applications from officers to retire or withdraw or resign their commissions will receive every consideration, but no officer will, as a rule, be permitted to resign under three years from the date of entry.* In order that arrangements may, as far as possible, be made for the relief of officers who may wish to withdraw on a gratuity it is desirable that six months' notice of their wish should be forwarded for the consideration of their lordships

* The Admiralty reserve to themselves power to remove any officer from the list for misconduct

Gratuities and retired pay will be awarded on retirement and withdrawal on the under mentioned scale (Paragraph 16) —

Rank.	Gratuities	Daily.	Yearly.
Surgeon, Staff Surgeon, and Fleet Surgeon—	£ s d	£ s. d	£ s d
After 4 years' full-pay service	500 0 0	—	—
After 8 years' full-pay service (including service allowed by Para 4 (*f*)) ...	1000 0 0	—	—
After 12 years' full pay service (including service allowed by Para 4 (*f*))	1500 0 0	—	—
After 16 years' full pay service (including service allowed by Para 4 (*f*)) ..	2250 0 0	—	—
Fleet Surgeon—			
After 20 years' service (including proportion of half-pay time)	—	*1 0 0	365 0 0
After 24 years' service (in- [illegible]	—	*1 2	410 12 6
[illegible] cluding proportion of half pay time)	—	*1 5 0	456 5 0
After 30 years' service (including proportion of half-pay time)	—	*1 10 0	547 10 0
Deputy Inspector General ...	—	1 15 0	638 15 0
Inspector-General	—	2 0 0	730 0 0

* To obtain this rate an officer must hold the commission of Fleet Surgeon.

An officer retired with less than 20 years' service on account of disability, contracted in and attributable to the Service, will receive the half pay of his rank, or, with the consent of their Lordships, a gratuity on the scales given in Paragraphs 16 and 18 (*b*), but such officer will not be entitled to receive any special compensation for the disability in addition to the gratuity as above (Paragraph 17) [2]

An officer retired with less than 20 years' service on account of disability, contracted in but not attributable to the Service, will receive—(*a*) if he has over eight years full-pay service, either a gratuity on the scale given in Paragraph 16 or half pay according as their Lordships think fit, (*b*) if he has less than eight years' full pay service, such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full pay service (Paragraph 18) In circumstances other than those specified in Paragraphs 17 and 18, and other than misconduct, neglect of duty, &c., an officer retired with less than 20 years' service will not be allowed half pay or retired pay, but will receive a gratuity on the scale laid down in Paragraph 16 if he has eight years' full pay service, and on that provided in Paragraph 18 (*b*) should his full pay service not amount to eight years The power vested in their Lordships of granting reduced rates of half pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit An officer retiring after 20 years' full pay service will be eligible, if recommended by the Medical Director General for distinguished or meritorious service, to receive a step of honorary rank, such step to be awarded at their Lordships' discretion, and not to confer any claim to increase of retired pay or of widow's pension. All retired officers will be liable, till the age of 55, to serve in time of declared national emergency, in a rank not lower than that held on retirement This liability does not exist in cases of officers who withdraw from the Naval Service receiving a gratuity after 8, 12, or 16 years' full pay service Retired officers will receive special consideration as regards appointments on shore connected with the Admiralty now filled by civilians

Widow's Pension

When an officer retires or withdraws *on a gratuity* his widow and children will have no claim to pension or compassionate allowance Officers servi [illegible] are injured on duty, or lo [illegible] , or under the san [illegible] -en, pensions and [illegible] as officers of the same rank on the permanent Active List

Miscellaneous.

A special cabin will be appropriated to the Fleet or Staff Surgeon or the Surgeon in charge of the medical duties in each ship Special regulations have been made as regards the mess expenses of medical officers appointed to the several divisions of Royal Marines for limited periods Every medical officer will be required to undergo a post- [illegible] s' duration at a Metropolitan Hospital [illegible] the exigencies of the Service permit), [illegible] ng his Surgeon's, Staff Surgeon's, and Fleet Surgeon's peri [illegible] this course the medical officer will b [illegible] pay and will be granted lodging and [illegible] expenses as for service under the Re [illegible] r port, the fees for each course (not exceeding £25) will be paid by the Admiralty on the production of vouchers at the end of the course The medical officer will be required to produce separate certificates of efficient attendance district in which the officer is serving. The subjects of this examination, which are detailed in the King's Regulations, are as follows: (1) squad, company, and corps drills and exercises; (2) the duties of wardmasters and stewards in military hospitals, and the preparation of returns, accounts, and requisitions connected therewith; (3) duties of executive medical officers; and (4) military law.

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[2] If the health of a surgeon breaks down before he completes 20 years' service, even if his disability be contracted in the Service or be due to climatic causes, he is liable at once to be placed on the retired list, receiving only a gratuity. This point should be well noted, as it is a most unjust one.

Captains before Promotion to Major.—(For Captains promoted to that rank after July 27th, 1895.) Captains will be examined under the rules laid down in Paragraph 23 and will be eligible for acceleration in their promotion to the rank of Major under Article 352 of the Pay Warrant.

A Captain promoted to that rank in January, 1893, can gain the full acceleration. In all cases an officer who gains accelerated promotion will be placed for precedence after the last officer (whether subject to acceleration or not) promoted approximately 3, 6, 12, or 18 months before him.

This examination, which may be taken at any time after completing five years' service, will be held on the termination of a period of special study at such times and under such arrangements as the Director-General A.M.S. may determine. The examination will consist of written papers, essays, oral and practical examinations in the following subjects, which are detailed in the King's Regulations: (1) medicine; (2) surgery; (3) hygiene; (4) bacteriology and tropical disease; and (5) one special subject from the subjoined list to which additions may from time to time be mad [illegible] tropical diseases; (b) dental surgery; (c) [illegible] venereal diseases; (d) midwifery and gyn [illegible] surgery, advanced; (f) [illegible], including laryngology and rhinology; [illegible] ne; and (i) State medicine. Captains ser [illegible] 27th, 1895, will be promoted under the [illegible] in Appendix I., Regulations for Army [illegible] not be eligible for acceleration.

Majors before Promotion to Lieutenant-Colonel (for Majors promoted to the rank after March 31st, 1895).—This examination, which may be taken at any time after three years in the rank of Major, will be held in the military district in which the officer is serving at times which will be duly notified. The subjects of this examination, which are detailed in the King's Regulations, are as follows: 1. Military law. 2. Army medical organisation in peace and war. 3. Sanitation of towns, camps, transports, and all places likely *to be occupied by troops* in peace and war; epidemiology, and the management of epidemics. 4. (*a*) Medical history of the more important campaigns and the lessons to be learnt therefrom; (*b*) a knowledge of the Army Medical Services of the more important Powers; and (*c*) the laws and customs of war, so far as they relate to the sick and wounded.

PAY.

The following shall be the rates of pay, additional pay, and charge pay of the Army Medical Staff and Royal Army Medical Corps:—

Army Medical Service.	Inclusive of all allowances except field and travelling allowances (yearly).
At Headquarters.	£
Director-General	2000
Deputy Director-General	1500
Assistant Director-General...	850
Deputy Assistant Director-General	750
	Exclusive of allowances (daily).
At Other Stations.	£ s. d.
Surgeon-General	3 0 0
Colonel	2 5 0
Lieutenant-Colonel	1 10 0
Lieutenant-Colonel promoted to the rank on or after Jan. 9th, 1907, after three years as such	1 15 0
Major	1 3 6
After three years as such...	1 6 0
Captain	0 15 6
After seven years' total full-pay service	0 17 0
After ten years' total full pay service	1 1 0
Lieutenant on probation and Lieutenant	0 14 0
Adjutant of the Royal Army Medical Corps (Volunteers)	The pay of his rank.

A Captain of the Royal Army Medical Corps, holding the brevet rank of Major, shall receive pay at 2*s.* a day, in addition to the rates laid down.

Additional Pay.

An officer not serving on the Headquarters Staff appointed a member of the Advisory Board, £150 a year. An officer serving as secretary of the Advisory Board and Nursing Board, £100 a year. An officer under the rank of Lieutenant-Colonel holding an appointment as specialist, 2*s.* 6*d.* daily.

Charge Pay.

(*a*) An officer in charge of a general or other hospital, or of a division of a general hospital—

	Daily. s. d.
If in charge of at least 50 beds	2 6
,, ,, 100 ,, ...	5 0
,, ,, 200 ,, ...	7 6
,, ,, 300 ,, ...	10 0
(*b*) Senior medical officer, Royal Arsenal, not exceeding	10 0
(*c*) Officer in command of the Depôt, Royal Army Medical Corps	5 0
(*d*) The Senior officer of the Army Medical Service with an army in the field— A rate to be fixed by the Secretary of State, according to the magnitude of the charge.	
(*e*) In a command abroad— The senior medical officer, if under the substantive rank of colonel, if the number of soldiers is 1500 or upwards	Daily. 5 0

Extra-duty Pay.

An officer of the Royal Army Medical Corps, appointed to act as adjutant or quartermaster of the Royal Army Medical Corps (Militia) during preliminary drill or training shall receive extra-duty pay at the following rates:—

	Daily. s. d.
Acting Adjutant	2 6
Acting Quartermaster	2 0

Reserve of Officers.

An officer of our Royal Army Medical Corps with at least three, but not more than six, years' service may be permitted by our Army Council to become an Army Reserve Officer for a period of seven years, and while so serving he shall receive pay at the rate of £25 a year. With the sanction of our Army Council such officer may be allowed to return to the active list, and if the period he has been in our Reserve of Officers amounts to at least one year, and not more than three years, he shall be allowed to reckon one-third of such period towards promotion, gratuity, and pension.

Seconded Officers.

A Lieutenant on probation who at the time of passing the examination for admission to the Royal Army Medical Corps holds, or is about to hold, a resident appointment in a recognised civil hospital may be seconded for a period not exceeding one year during which he holds the appointment. While seconded he shall not receive pay from army funds, but his service shall reckon towards promotion, increase of pay, gratuity, and pension.

PROMOTION.

Every promotion of a medical or departmental officer shall be made with the approval of our Secretary of State. Promotion by selection shall be given on the ground of ability and merit, due consideration being given, however, to length of efficient service.

An officer shall be eligible for promotion to the rank of Captain on the completion of three and a half years' service, and to the rank of Major on the completion of 12 years' service, provided that in each case he has previously qualified in such manner as may be prescribed by the Army Council.

Promotion to the rank of Lieutenant-Colonel to complete an establishment shall be made by selection from Majors who have qualified in such manner as may be prescribed by the Army Council.

If an officer has passed with distinction the examination qualifying for promotion to the rank of Major, the period of service required to render him eligible for the rank of Major or Lieutenant-Colonel may be reduced as follows:—

	Months.
If he obtained a "special certificate"	18
,, passed in the 1st Class	12
,, ,, ,, 2nd ,, ...	6
,, ,, ,, 3rd ,, ...	3

Promotion to the rank of Colonel to complete an establishment shall be made by selection from Lieutenant-Colonels and from Lieutenant-Colonels or Surgeon-Lieutenant-Colonels of the Household Troops specially recommended to the Army Council for distinguished service in the field. Promotion to the rank of Surgeon-General shall be made by selection from Colonels. A Colonel may also be promoted to the rank of Surgeon-General for distinguished service in the field. In cases of distinguished service in the field a departmental officer may, with the concurrence of the Lords Commissioners of the Treasury, be promoted from any rank or class to the next above it and shall, if promoted to a rank or class having a fixed establishment, remain supernumerary in such rank or class until the occurrence of the vacancy to which in the ordinary course he would have been promoted. An officer of the Royal Army Medical Corps is eligible for promotion to brevet rank. A Captain after at least 6 years' service, a Major or Lieutenant-Colonel, may be promoted to the next higher rank by brevet for distinguished service in the field or for distinguished service of an exceptional nature other than in the field. If the officer dies before the date on which the notification of his promotion for distinguished service in the field appears in the *London Gazette* the promotion shall bear the date which it would have borne had the officer not died. Distinction in original investigation or research may, in the case of officers of the Royal Army Medical Corps, be regarded as "distinguished service of an exceptional nature other than in the field." An officer who does not qualify for promotion to the rank of Captain or Major within the periods specified shall be placed on a special list with pay equal to half-pay until the da of the next succeeding examination, provided a period of eight mo ths is not thereby exceeded. An officer who may in the opinion of the Army Council have been prevented, in very special circumstances, from qualifying for promotion, or who, having failed to qualify, may have been debarred from further opportunity of qualifying, may be provisionally promoted. If, however, he fails to qualify on the first available opportunity his promotion shall be cancelled and he shall be retired from the service. An officer shall reckon towards his promotion any time, not exceeding one year, during which he may have been on half-pay on account of ill-health caused by military service; and also any time not exceeding two years during which he may have been on half-pay on reduction. An officer while seconded shall continue to be eligible for selection for promotion as if he had remained on the establishment, and his service while seconded shall reckon towards such promotion.

RANK.

The Director-General of the Army Medical Service shall hold the substantive rank of Surgeon-General and shall rank in relation to combatant officers as a Lieutenant-General if recommended by the Army Council. All other Surgeon-Generals shall rank as Major-Generals in relation to combatant officers.

RETIREMENT.

An officer of the Army Medical Service will be permitted to retire in candidates for commissions (including preliminary examinations) will be entered in their reports in the following manner:—

Sufficient ... ... { Right eye ... V =
{ Left eye ... V =
Defective ... ... { Right eye ... V =
{ Left eye ... V =

No relaxation of the standard of vision will ever be allowed.

The following additional points will then be observed. (b) That his hearing is good. (c) That his speech is without impediment. (d) That his teeth are in good order. Loss or decay of the teeth will be considered a disqualification Decayed teeth if well filled will be considered as sound. (e) That his chest is well formed and that his heart and lungs are sound. (f) That he is not ruptured. (g) That he does not suffer from varicocele or varicose veins in a severe degree, *or other disease likely to cause inefficiency. A slight defect if successfully* cured by operation is not a disqualification. A definition of severe varicocele may be obtained from the Director-General Army Medical Service, War Office, Whitehall, S.W. (h) That his limbs are well formed and developed. (i) That there is free and perfect motion of all the joints. (j) That his feet and toes are well formed. (k) That he does not suffer from any inveterate skin disease. (l) That he has no congenital malformation or defect. (m) That he does not bear traces of previous acute or [illegible] to an impaired constitution. In any doubtful [illegible] further state: (n) Whether he is in their op[illegible] descent. If a candidate be pronounced physically fit for service at home and abroad he will be eligible to present himself at the next entrance examination which will be held twice in the year, usually in January and July.

The Army Council reserves the right of rejecting any candidate who may show a deficiency in his general education.

An entrance fee of £1 is required from each candidate admitted to the examination and is payable at the conclusion of his physical examination, if pronounced fit.

Candidates who have been specially employed in consequence of a national emergency, either as an officer or in a position usually filled by an officer, will [illegible]rvice towards retired pay and gratuity, and [illegible] age at the date of commencement of th[illegible] shall be permitted to deduct from their actual age any period of that service, if such reduction will bring them within the age limit. The duration of service is to be reckoned from the date on which the candidate commenced such service, except in the case of candidates who have served for two or more periods at short intervals. In such cases the total period of service to be considered in granting marks at the entrance examination shall be specially determined.

A candidate successful at the entrance examination will be appointed a Lieutenant on probation and will be required to pass through such courses of instruction as the Army Council shall decide and, after passing the examinations in the subjects taught and satisfying the Director-General that he possesses the necessary skill, knowledge, and character for permanent appointment to the Royal Army Medical Corps, his commission as Lieutenant will be confirmed. The commission shall bear the date of passing the entrance examination.

Before the commission of a Lieutenant on probation is confirmed he must be registered under the Medical Acts in force in the United Kingdom at the time of his appointment.

The precedence of Lieutenants among each other shall be in order of merit as determined by the combined results of the entrance examination and the examinations undergone while on probation, except that the position on the list of a lieutenant on probation, seconded to hold a resident appointment in a recognised civil hospital shall be determined by the place he has gained at the entrance examination. A lieutenant so seconded will be required, at the conclusion of his hospital appointment, to attend the course of instruction at the Royal Army Medical College; but the subsequent examinations will be of a qualifying character and will not influence his position on the seniority list of the Corps.

Lieutenants when appointed on probation will receive instructions as to the provision of uniform.

EXAMINATIONS.

Subjects for the Entrance Examination.

Candidates will be examined by the examining board in medicine and surgery. The examination will be of a clinical and practical character, partly written and partly oral, marks being allotted under the following scheme.

Medicine (written).	Maximum marks.
A. Examination and report upon a medical case	125
B. Commentary upon a case in medicine	100
(Two periods of 45 minutes—total, one a half hours—for A and one and a half hours for B.)	
Medicine (oral).	
A. Clinical cases	100
B. Medical pathology	75
(Ten minutes to examine case and ten minutes *viva voce*—total, 20 minutes—for A; 30 minutes to examine specimens and ten minutes *viva voce*—total, 40 minutes—for B.)	
Surgery (written).	
A. Examination and report upon a surgical case	100
B. Commentary upon a case in surgery	125
(Two periods of 45 minutes—*total, one and a half* hours—for A and one and a half hours for B.)	
Surgery (oral).	
A. Clinical surgery and pathology (including diseases of the eye)	75
B. Operative surgery and bandaging (including surgical instruments and appliances)	100
(Ten minutes to examine case and ten minutes *viva voce*—total, 20 minutes—for A, and about 30 minutes for B.)	
Total marks	800

The following headings are published as a guide to candidates in drawing up their reports on cases:—(a) A brief history of the case as given by the patient, including such points only (if any) in the family or personal history as have a distinct bearing upon the present illness or incapacity. (b) A detailed account of the subjective symptoms and physical signs elicited by the candidate's personal examination of the patient, noting the absence of any which might be expected to be present in a similar case. (c) Where there is any reasonable doubt in the mind of the candidate as to an exact diagnosis he is to give the alternatives, with his reasons for making the selection. (d) A commentary upon the case as a whole, pointing out the symptoms which [illegible] and those which appear to be [illegible] (e) Suggestions as to treatment [illegible]ary at a later date. (f) A for[illegible]ation of the case.

Similarly the commentary on the report of a case submitted to the candidate should discuss: (a) The family and personal history and other conditions preceding the development of the condition described. (b) The relative significance of the physical signs, symptoms, other indications of disease noted, and the general clinical aspects of the case. (c) The diagnosis, with reasons for selection of the most probable, when a positive diagnosis cannot be attained. (d) The treatment, dietetic, medicinal, operative, &c., including a criticism of the plan adopted, and alternative schemes of treatment in case of disagreement. (e) The morbid appearances and an account of the post-mortem examination (if any).

The examination will be held in London and will occupy about four days.

The appointments announced for the competition will be filled up from the list of qualified candidates arranged in the order of merit, as determined by the total number of marks each has obtained. Having gained a place in this entrance examination the successful candidates will be ordered to proceed to the Royal Army Medical College for instruction in recruiting duties, at the termination of which they will join the Royal Army Medical Corps School of Instruction at Aldershot for a two months' course in the technical duties of the corps and at the end of the course will be examined in the subjects taught. The maximum number of marks obtainable at this examination will be 100. On completion of the above course lieutenants on probation will rejoin the Royal Army Medical College to undergo two months' instruction in Hygiene, Pathology, Tropical Medicine, Military Surgery, and Military Medical Administration, after which they will be examined in these subjects. The maximum number of marks obtainable at this examination will be 700. At the present time the professors at the Royal Army Medical College are Major C. G. Spencer, M.B., F.R.C.S., in the department of military surgery; Lieutenant-Colonel Robert J. S. Simpson, M.B., C.M.G., in the department of military medicine; Major W. B. Leishman, M.B., in the department of pathology; and Lieutenant-Colonel A. M. Davies in that of hygiene, Major W. S. Harrison, M.B., and Major C. E. P. Fowler, F.R.C.S., both of the Royal Army Medical Corps, being the respective assistant professors. Colonel H. R. James, F.R.C.S., the commandant of the Royal Army Medical College, instructs in hospital and corps administration, in the duties of officers on transports, and in the examination of recruits, and Brevet-Colonel F. J. Lambkin lectures on Syphilology. The course of hygiene has hitherto comprised the examinations of water and air, the general principles of diet with the quality and adulterations of food and beverages, the sanitary requirements of barracks, hospitals, and camps, the consideration of the clothing, duties, and exercises of the soldier, and the circumstances affecting his health, with the best means of preventing disease and instruction in the mode of preparing the various statistical and other returns required of the medical officer. The pathological course has up to the present time included bacteriology and demonstrations in physiological chemistry. The surgical course consists of lectures and demonstrations in military surgery and lectures on errors of refraction from a military point of view. On completion of the above course Lieutenants on probation will be ordered to proceed to the depôt of the Royal Army Medical Corps at Aldershot for a three months' course of instruction in the technical duties of the corps, and at the end of the course will be examined in the subjects taught. A Lieutenant on probation who fails to qualify in either of these examinations will be allowed a second trial, and, should he qualify, will be placed at the bottom of the list. Should he again fail in either examination his commission will not be confirmed. Illiteracy on the part of a candidate as evinced by inaccurate spelling, poor composition, or grammatical errors in the oral examination, at the entrance examination, or at the examinations undergone while on probation will be regarded as disqualifying for appointment.

EXAMINATIONS FOR PROMOTION IN THE ROYAL ARMY MEDICAL CORPS.

These examinations are intended to test the progress and proficiency of officers in those branches of knowledge which are essential to their continued efficiency.

Lieutenant before Promotion to Captain.—(For Lieutenants appointed after March 31st, 1901.) This examination may be taken at any time after completing 18 months' service and will be held in the military

WIDOWS' PENSIONS.

Widows' pensions and compassionate allowances for children and other relatives of deceased officers are given under certain conditions specified in the Royal Warrant for Pay and Promotion. There is also an Army Medical Officers' Widows' Annuity Fund on mutual assurance principles.

ROYAL ARMY MEDICAL CORPS IN INDIA.

Under the Indian commands reorganisation scheme it is ordered that: (*a*) The appointments of principal medical officer, personal assistant to the principal medical officer, sanitary officer, and staff officer, Army Bearer Corps, in each command, and of sanitary officer and staff officer. Army Bearer Corps, in the Secunderabad Division and Burma, will be abolished. (*b*) The principal medical officers of the three divisions will be surgeon-generals, their pay being fixed at 2200 rupees per mensem, consolidated. (*c*) Two temporary administrative posts will be created. each to be held by a colonel—viz.: one for the Allahabad and the second for the Secunderabad brigades, infantry and cavalry. (*d*) A colonel will be appointed deputy to the principal medical officer of His Majesty's forces in India, his pay being fixed at 1800 rupees a month, consolidated. (*e*) A sanitary officer will be appointed in each office of the nine divisions and in Burma, the staff pay being fixed at 300 rupees per mensem. (*f*) A staff officer for medical mobilisation stores will be appointed in each of the nine divisions (excluding Burma). the staff pay being fixed at 300 rupees per mensem. (*g*) Owing to the above changes the establishments of medical services in India will be reduced by a number of officers corresponding to the number of cadre appointments abolished. (*h*) Existing lady superintendents will, under the orders of the principal medical officer of His Majesty's forces in India, be distributed to the charge of four circles, as follows: First Circle, comprising Peshawar, Rawul Pindi, and Lahore Divisions; Second Circle, comprising Meerut and Lucknow Divisions; Third Circle, comprising Quetta, Mhow, and Poona Divisions: Fourth Circle, comprising Secunderabad Division and Burma. (*i*) Orders regarding the disposal of clerks and establishments of the medical division officers at command headquarters will be issued by the principal medical officer, His Majesty's forces in India.

REGULATIONS FOR ADMISSION TO THE ARMY MEDICAL RESERVE.

CANDIDATES FOR COMMISSIONS.

Qualifications.

1. A candidate for a commission in the Army Medical Reserve must not be over 30 years of age at the date of his appointment.

2. He must be registered under the Medical Acts in force in the United Kingdom at the time of his appointment.

3. He must complete the form of application and declaration shown hereafter.

Appointment and Promotion.

4. If his application is approved the candidate will be directed to present himself at a military station convenient to his place of residence, in order that he may be examined by an *officer of the Royal Army Medical Corps* as to his physical fitness for a commission.

5. The standard of physique required will be that laid down for candidates for the Royal Army Medical Corps.

6. If selected, he will be appointed a Lieutenant on probation, and will be required to undergo a course of instruction at the Depôt, Royal Army Medical Corps, at Aldershot, for *two months*. *Classes* will begin about 1st February, 1st July, and 1st September in each year, and a candidate will, as far as possible, be permitted to select the class most convenient to him. At the conclusion of this course he will be examined as to his fitness to have his commission confirmed.

7. Commissions will date from time of joining the class of instruction at the Depôt.

8. Lieutenants when appointed will be required to provide the following articles of uniform, towards the expense of which an allowance of £5 will be issued:—

Cap, field service, khaki.
Frock, khaki.
Pants, khaki, 1 pair.
Puttees, khaki, 1 pair.
Boots, regulation, brown, 1 pair.
Sam Browne belt and sword.

9. Before becoming eligible for promotion to Captain, a Lieutenant will be required to undergo a second course of instruction for one month, at the conclusion of which he will be examined as to his fitness for such promotion.

Conditions of Service.

10. Officers of the Army Medical Reserve will be liable to be called to army service at home or abroad at a time of emergency.

11. Officers of the Army Medical Reserve who are willing to offer their services in times of peace will be considered for employment with troops in the locality in which they reside.

12. *Extracts from the Royal Warrant for Pay and Promotion.*

The following extracts are given for the information of candidates:—

Commissions as Lieutenants in Our Army Medical Reserve may be given to persons, not over 30 years of age, who may be duly qualified under regulations approved by Our Army Council. (Art. 654.)

The ranks of officers of Our Army Medical Reserve shall be those o Captain and Lieutenant, and the total period of service in the Reserve shall be limited to seven years. On the completion of three and a half years' service a Lieutenant shall be eligible for promotion to the rank o Captain, if recommended for that rank. (Art. 655.)

Appointments to commissions will be made on probation, and persons so appointed will undergo an initial training of two months, on the expiration of which, should their work and conduct be considered satisfactory, their commissions will be confirmed. Officers of the Reserve before promotion to the rank of Captain shall fulfil such conditions as Our Army Council may determine, and shall undergo one month's further training. (Art. 655.)

When called to army service, or while undergoing training, officers o the Reserve shall receive the pay and allowances of officers of similar rank in the Royal Army Medical Corps. After the first year's service an officer shall, in addition to any such pay and allowances for days of actual service, receive pay at the rate of £20 a year. This rate shall be increased to £25 a year if the Officer is promoted to the rank of Captain. (Art. 657.)

Officers of the Army Medical Reserve will be subject to the general regulations applicable to Army Reserve Officers as laid down in the *following extracts from the Pay Warrant*, so *far* as such regulations do not conflict with those laid down in the foregoing Articles.

Officers who volunteer for service in the Reserve of Officers, and whose services are *accepted*, shall *receive commissions from Us as* officers in Our Land Forces. (Art. 660.)

An Army Reserve Officer shall report himself at the commencement of each year, in writing, to Our Army Council. Should he fail to do so he shall (unless he is an *officer* retired from Our Regular Forces, with liability for further service in case of emergency) be removed from Our Reserve of Officers at the end of the year in which he fails to report himself. (Art. 662.)

An Army Reserve Officer shall, if his services have been of a special character and if recommended to Us by Our Army Council, be eligible on retirement for a step of substantive or *honorary* rank, or of brevet rank for distinguished service. (Art. 664.)

An Army Reserve Officer may, with his own consent and the sanction of Our Army Council, be employed on Army Service at any time. Art. 667.)

Application of a Candidate for a Commission in the Army Medical Reserve.

1. Name in full ... ...
2. Address ... ...
3. Date of birth* ... ...
4. Qualifications ... ...
5. Academic and other distinctions ....
6. Medical school in which the candidate completed his course as a medical student ... ...
7. Name of a person of position and responsibility who can be referred to as to candidate's character, conduct, and fitness to hold His Majesty's Commission ... ...
8. Particulars of any commission or any appointment held since qualifying ... ...

Declaration.

I hereby declare upon my honour that the above statements are true to the best of my knowledge and belief, and further—

1. That I am a British subject of unmixed European blood.

2. That I am not, as far as I know, at present suffering from any mental or bodily infirmity, or physical imperfection or disability that is likely to preclude me from efficiently discharging the duties of an officer in any climate.

3. That I will fully reveal when physically examined all circumstances within my knowledge that concern my health.

I also declare that my vision is good with either eye (with or without the aid of glasses as the case may be).

Signature..

Date..

(N.B.—A misstatement by the candidate will invalidate any subsequent appointment and cause forfeiture of all privileges for services rendered.)

All communications to be addressed to the Secretary, London, S.W.

* A certificate of registration of birth or other satisfactory evidence of age, such as a declaration made before a magistrate by one of his parents or guardians, giving the date of his birth, to be furnished.

INDIAN MEDICAL SERVICE.

The grades of officers in the Indian Medical Service are the same as those of the Army Medical Service and Royal Army Medical Corps. The Director-General will rank either as Major-General or Lieutenant-General as may be decided in each case by the Secretary of State for India in Council.

REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR ADMISSION TO THE INDIAN MEDICAL SERVICE.

Candidates must be natural born subjects of His Majesty, of European or East Indian descent, between 21 and 28 years of age at the date of the examination, of sound bodily health, and in the opinion of the Secretary of State for India in Council in all respects suitable to hold commissions in the Indian Medical Service. They may be married or unmarried. They must possess a diploma or diplomas entitling them under the Medical Acts to practise both medicine and surgery in Great Britain and Ireland. Examinations for admission to the service usually take place twice in the year—in January and July.

They must subscribe and send in to the Military Secretary, India Office, Westminster, so as to reach *that address by the date fixed in the advertisement of the examination*, a declaration according to the annexed form.

cases in which such retirement may be deemed expedient by the Secretary of State.

Scale of Retired Pay.

	Yearly. £
Director General after 3 years' service in the appointment (with 30 years' service)	1125
Under 3 years' service as Director General and after not less than 30 years' service	875
	Daily. £ s d.
Surgeon General	2 0 0
Colonel promoted on, or after, the 9th January, 1907—	
Under 4 years' service as such, but with 30 years' total service	1 15 0
After 4 years' service as such	1 10 0
If not qualified as above	the rate for a lieutenant-colonel.
Surgeon-Lieutenant-Colonel of the Household Troops—	£ s d.
After 20 years' service	1 0 0
" 25 "	1 2 6
" 30 "	1 5 0
Lieutenant-Colonel, *promoted on, or after, the* 9th January, 1907—	
After 20 years' service	1 0 0
" 25 "	1 2 6
" 28 "	1 7 6
Major, or Surgeon Major of the Household Troops—	
After 20 years' service	1 0 0
	Gratuity. £
Major, or Captain, or Surgeon Captain of Household Cavalry—	
After 5 years' service in the rank of captain	1000
" 3 " " major . ..	1800
" 6 " " "	2500
Surgeon Lieutenant Colonel or Surgeon Major of the Household Troops—	
After 15 years' service	1800
" 18 "	2500

Except in the case of a Colonel promoted after the 9th January, 1907, or a Lieutenant Colonel, an officer of our Army Medical Service, who, on voluntary retirement, has served for less than three years in the rank from which he retires, shall be entitled only to the gratuity *or* retired pay assigned to the next lower rank.

Retirement on Account of Age or Limitation of Period of Service.

The Director General of the Army Medical Service shall retire on completion of the term of his appointment, and the retirement of other officers of the Army Medical Service except Quartermasters) shall be compulsory at the following ages Surgeon General, 60, *Colonel,* 57, *and other officers,* 55 *A Major shall retire on completion of* 25 years' service if he has been superseded for promotion; or, if he fails to qualify for promotion, on completion of 20 years' service. A Lieutenant placed on the special list shall be *retired* if he fails to qualify at the next succeeding examination. A Captain placed on the special list under Article 361 shall, if he fails to qualify at the next succeeding examination, be retired at once on any gratuity for which he may be eligible, and if not so eligible shall be retired as soon as he completes five years' service in the rank of Captain It shall be competent to the Secretary of State to place a medical officer on the retired list after 30 years' service.

Retirement on Account of Medical Unfitness.

An officer of the Army Medical Service or a medical officer of the Royal Malta Artillery placed on the half pay list on account of medical unfitness shall, if not previously retired, be retired from the Army at *the expiration of five years from the date on which he was placed on* the half pay list, or, if reported by the regulated medical authority to be permanently unfit for duty, on the officer's application, at such earlier date as may be decided by the Army Council

An officer, whether on full pay or half pay, who, to the satisfaction of the regulated medical authority has been pronounced insane, shall be retired from the Army with the retired pay to which he would be entitled if reported by the regulated medical authority to be permanently unfit for duty If his disability was not caused by military service and he is not entitled to permanent retired pay by length of s[illegible] l pay equivalent to the half pa[illegible] ich he would have received .f [illegible] y.

Rates for Officers not qualified for Retired Pay on Voluntary Retirement

If the unfitness was caused by military service retired pay equal to the half pay of his rank If not so caused, provided the officer has at least 12 years' service, retired pay equal to the half pay of his rank for such period only, not exceeding five years from the date of the officer's retirement from the Army, after five years on half pay under Article 306, as the *Secretary of State shall determine according to the* merits of the case

King's Honorary Physicians and Honorary Surgeons

Six of the most meritorious officers of the Army Medical Service on the active list shall be named Honorary Physicians and six Honorary Surgeons. *On appointment as* Honorary Physician or Honorary Surgeon an officer under the rank of Colonel in the Army Medical Service may be promoted to the brevet rank of Colonel A Lieutenant-Colonel ap pointed Honorary Physician or Honorary Surgeon shall receive pay at the rate laid down for a Colonel of the *Royal Army Medical Corps* when qualified for promotion to that rank An officer shall relinquish the appointment of Honorary Physician or Honorary Surgeon on etirement.

Medical Officers of the Regiments of Household Troops.

Household Cavalry

Commissions as surgeon lieutenants in our Household Cavalry shall be given, on the nomination of the titular colonels of the regiments, to persons approved by our Army Council

Promotion.

Household Cavalry.

A Surgeon-Lieutenant shall be eligible for promotion to the rank of Surgeon Captain on completing three and a half years' service and a *Surgeon-Major for promotion* to the rank of Surgeon Lieutenant Colonel on completing 20 years' service Promotion from Surgeon Captain to Surgeon-Major *shall be by seniority on the medical* establishment of the brigade, *but only on a vacancy occurring for* such promotion

A S[illegible] L[illegible]tenant, S[illegible]geon Captain, or Surgeon Major of our [illegible] omoted for distinguished service in the [illegible] down in Article 327.

Pay.

	Daily £ s d
Surgeon-Lieutenant Colonel	1 10 0
Surgeon-Major	1 3 6
After three years' service as such	1 6 0
Surgeon Captain	0 15 6
After seven years' service	0 17 0
After ten years' service	1 1 0
Surgeon Lieutenant	0 14 0

Promotion

A medical officer of our Household Troops shall be eligible for extra pay under the provisions of Articles 367 and 368.

General Regulations

In all matters not provided for by Articles 382 to 387 and 555 to 562 the medical officers of our Household Troops shall be governed by the general regulations for regimental officers of our army.

Exchanges and Transfers.

An officer of the Royal Army Medical Corps shall be permitted to exchange with another officer of such corps, or with a medical officer of the *Household* Troops, under such conditions and regulations as may from time to time be made

A medical officer of the Household Troops may be permitted to exchange with an officer of the Royal Army Medical Corps, provided that an officer exchanging into the Royal Army Medical Corps has fulfilled any conditions as to service abroad required of officers of such corps

Exchanges between officers of the Royal Army Medical Corps under the rank of Major and medical officers of the Indian Army, and *transfers of such officers from either of the above services to the other,* shall only be permitted subject to the approval of the Secretary of State for India in Council and on the following conditions (1) That the officers have less than seven years' service, (2) that the senior officer exchanging takes the place of the junior on the list and shall not be promoted until the officer next above him has been so promoted, (3) that the junior officer exchanging is placed for seniority next below all medical officers whose commissions have the same *date* as *his own*, and (4) that the officer transferred is placed for seniority below all *medical officers* holding the same rank at the time of his transfer and shall not be promoted until the officer next *above him* has been promoted.

An officer of the Royal Army Medical Corps who has exchanged or *been transferred from the Indian Army* shall reckon, subject to the conditions of *Article 364*, his previous *service with* the said forces towards promotion, increase of pay, gratuity, and pension.

Leave of Absence.

Full pay during ordinary leave of absence for the period admissible in the case of a staff officer may be granted to a medical officer provided that no additional expense is incurred thereby.

When the periods of leave referred to in Article 457 have been exhausted or exceeded in consequence of sickness no further pay during ordinary leave shall remain due

Sick Leave

An officer of the Army Medical Service may be allowed full pay during *sick leave of absence on the same conditions as those* laid down for regimental officers

A regimental officer may draw full pay for the undermentioned periods during sick leave granted on the recommendation of the regulated medical authority, provided there is reasonable probability that he will ultimately be fit to return to duty —

1 In *ordinary* cases for a *period not exceeding* 12 months
2 In very special cases, such as loss of health due to tropical service or to active operations, the period may be extended, but it shall not exceed 18 months in all. (Article 298)

When a medical officer is sick at his station, whether in hospital, quarters, *or lodgings, his absence from duty on account of sickness,* if not exceeding 30 days in duration, and if duly certified by a medical officer, shall not be included in the period of absence on leave to which the issue of pay is limited by Article 457, provided the general officer commanding at the station considers that the circumstances of the case warrant such a concession. Any excess of such *leave of absence* on account *of sickness* at an *officer's station beyond the period* of 30 days shall come under the provisions of Article 458

Service on the West Coast of Africa.

An officer volunteering for, or ordered to, the *West Coast of Africa* shall receive double pay while actually serving on the coast, and for any time spent at Madeira or the *Canary* Islands on sick leave, or on ordinary leave not exceeding 61 *days in a year*

For each year's service on the coast a medical officer shall be entitled to full pay during 183 days' leave at home and for every additional *period beyond a year* he shall have a proportionate extension of full pay during leave

Each year or portion of a year served on the West Coast of Africa by an officer of the Royal Army Medical Corps shall reckon double towards voluntary retirement or retired pay, *provided that* he has served 12 months on the coast In ordinary cases the 12 months may be made up of two separate periods of not less than six months each, and if an *officer leaves the coast on account* of sickness he may reckon any period *of* service on the coast, however short in order to make up the 12 months' coast service which is required to entitle him to count his service double. Except when the officer has been invalided, any broken period, if amounting to less than six *months'* of service on the coast, and leave on full pay, shall not reckon double under this article now set aside to be competed for by the lieutenants-on-probation of the Royal Army Medical Corps, while the Webb prize and the Pathology prize are competed for by the young officers of both services. The two Montefiore prizes are open to the competition of the lieutenants-on-probation of the Indian Medical Service, and the Martin Memorial Gold Medal is competed for by the lieutenants-on-probation for the same service after the course in Military Medicine. The Maclean prize was withdrawn on the abolition of the Army Medical School and foundation of the Medical Staff College. The Herbert Prize of £20 is awarded to the lieutenant-on-probation who has obtained the highest number of marks at the Staff College examination in London; the Parkes Memorial Bronze Medal to the one who gains the highest number of marks in the examination in hygiene; the de Chaumont prize of books to the one who takes second place in Hygiene; the Montefiore Medal and £21 are awarded for Military Surgery; the Montefiore Second Prize, a cheque to the lieutenant-on-probation who obtains the second highest number of marks in this branch; a prize of books is given for the highest number of marks gained in Pathology; and the Marshall Webb prize of £5 and a bronze medal is awarded for Hospital Administration.

At the close of the session those lieutenants-on-probation who have obtained one-third of the possible total of marks and have satisfied the authorities that they possess the necessary skill, knowledge, and character for permanent appointment are recommended for commissions as Lieutenants in the Indian Medical Service.[4]

Officers on appointment are, when possible, provided with passage to India by troop transport; when such accommodation is not available passage at the public expense is provided by steamer, or a passage allowance granted if preferred. A charge for messing during the voyage is made at the rate of *2s.* a day. This payment does not include the cost of liquors, which are charged for as extras. Any officer who may neglect or refuse to proceed to India under the orders of the Secretary of State for India within two months from the date of terminating his course of instruction, or within 14 days of the termination of his hospital appointment if the Secretary of State has permitted him to hold one will be considered as having forfeited his commission unless special circumstances shall justify a departure from this regulation.

APPENDIX I.

CERTIFICATES OF AGE AND NATIONALITY REQUIRED BY NATIVES OF INDIA.

MEDICAL DEPARTMENT.

he Governor-General in Council is pleased to publish the following es under which certificates of age and nationality will be issued to lives of India who are candidates for the examinations for the Indian dical Service held in England:—

General Rules applicable to all Candidates.

A candidate for admission to compete in England for the Indian dical Service is required before leaving India to obtain a certificate age and nationality, signed, should he be a resident in British India, the Secretary to the Government of the Province or the Commissioner of the Division within which his family resides, or, should he side in a native State, by the highest Political Officer accredited to e State in which his family resides.

Note.—In the case of a candidate who has proceeded to England ithout obtaining a certificate the certificate may be granted to his ther or guardian, provided that the latter produces the requisite idence, and, when making the application, states when the candidate ent to England and where he has been residing during his stay in at country.

In order to obtain a certificate, a candidate is required, if resident in British India, to prove the date and place of his birth before the magistrate of the district in which his family resides, or, if resident in a native State, before the Political Officer of the State in which his family resides.

A candidate must, if resident in British India, signify to the Secretary to the Government of the Province or the Commissioner of the Division in which his family resides his desire to compete not less than three months before the date on which he proposes to go to England. If resident within a Native State, he must signify his desire in like manner to the highest Political Officer accredited to the State within which his family resides.

The officer to whom the application is made shall forward it for the purpose of inquiry to the Magistrate of the district or Political Officer of the State in which the applicant's family resides.

The Magistrate or Political Officer to whom such application has been forwarded shall call upon the candidate to appear and give evidence of the date and place of his birth and of his nationality within one month. He will carefully examine into the value of the evidence given and forward a summary of it, with certified copies of all documents tendered, and his comments and opinion, to the officer who forwarded the application to him for inquiry.

The documentary evidence which a candidate may be expected to produce comprises—(*a*) the horoscope; (*b*) family books; (*c*) tradesmen's account books showing entries relating to the birth; (*d*) the record of admission in the registers of the school in which the candidate was educated and the record of the candidate's age at various periodical school examinations; and (*e*) if the candidate is matriculated a certified copy of his application to the Registrar.

Oral testimony of persons acquainted with the candidate's family or otherwise able to give relevant evidence, will also be taken; and the candidate is required to comply to the best of his power with any requisition the Magistrate or Political Officer, as the case may be, may make in order to clear up any doubt as to the purport of the documentary proof.

Any declaration of age made after the application of these rules on the occasion of seeking admission to any university examination, educational institution, or Government office, or otherwise recorded in a formal and deliberate manner, will be taken as conclusive evidence in disproof of the subsequent assertion by the same person that he is of different age to that so declared or recorded.

Rules to apply to Candidates Born in His Majesty's Dominions.

If the Secretary to Government, Commissioner of a Division, or the highest Political Officer accredited to the State, as the case may be, shall be satisfied by the papers submitted that the candidate has stated the date and place of his birth correctly, he will issue a certificate declaring that the candidate has submitted the proofs of his birth to the Magistrate of the district or the Political Officer of the State, as the case may be, and has satisfied him that he was actually born on or about the dates stated by him, viz., the day of , at , a place within His Majesty's Dominions. The nature of the evidence produced by the candidate must be stated in the certificate, which shall be given in the following form:—

> I hereby certify that , who is a candidate for the Indian Medical Service, has submitted the proofs of his birth detailed below, and has satisfactorily shown that he was actually born on or about the date stated, viz., the day of , at , a place within His Majesty's Dominions.
>
> (Here enter details.)

* * * * * * *

If the Secretary to Government, Commissioner of a Division, or the highest Political Officer accredited to the State, as the case may be, finds reason to disbelieve that the candidate was born on the day or at the place asserted by him, the certificate will be refused and the candidate will be unable to obtain admission to the competitive examination for the Indian Medical Service.

Where the date and place of the birth have been formally registered in a register kept by any public officer in British India, an extract from the register, duly certified by the proper official, shall be accepted as sufficient proof of the date and place of the birth.

Rules to apply to Candidates not Born within His Majesty's Dominions.

In addition to the particulars required by Rule 2, a candidate not born in His Majesty's Dominions must also prove that he is the son or grandson of a person born in those dominions.

If the Secretary to Government, Commissioner of a Division, or the highest Political Officer accredited to the State, as the case may be, shall be satisfied by the papers submitted that the candidate has stated the date and place of his birth correctly, and has established the fact that, though born without the limits of His Majesty's dominions, he is the son or grandson of a person born in those dominions, he will issue a certificate in the following form, stating the nature of the evidence produced regarding the candidate's birth:—

> I hereby certify that , who is a candidate for the Indian Medical Service, has submitted the proofs of his birth detailed below and has satisfactorily shown that he was actually born on or about the date stated, viz., the day of , and that he was born at , a place without His Majesty's Dominions, but that he is the $\frac{\text{son}}{\text{grandson}}$ of a person born in those dominions.
>
> (Here enter details.)

* * * * * * *

If the Secretary to Government, Commissioner of a Division, or the highest Political Officer accredited to the State, as the case may be, finds reason to doubt that the candidate was born on the day asserted by him, or that he is the son or grandson of a person born in His Majesty's Dominions, the certificate will be refused and the candidate will be unable to obtain admission to the competitive examination for the Indian Medical Service.

A course of instruction in sanitary methods, rules, and regulations as carried out in Indian cantonments was instituted last winter for young officers of the Indian Medical

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[4] A lieutenant who, within a reasonable period before the date at hich he would otherwise sail for India, furnishes proof of his election a resident appointment at a recognised civil hospital, may be seconded r a period not exceeding one year from the date on which he takes p such appointment, provided that he joins it within three months f passing his final examination and that he holds himself in readiness o sail for India within 14 days of the termination of the appointment. While seconded he will receive no pay from Indian funds, but his ervice towards promotion, increase of pay, and pension will reckon rom the date borne on his commission. In special cases permission may be granted to lieutenants to delay their departure for India, in rder to sit for some further medical examination. Lieutenants remaining in England under such circumstances will receive no pay for any eriod beyond two months from the date of leaving the Royal Army Medical College, unless the period elapsing before the day on which the majority of the lieutenants of the same seniority sail to India exceeds two months, in which case lieutenants allowed to remain in England will receive pay up to that day. In such cases pay will re-commence on the day of embarkation for India. All the provisions of this clause are subject to the general exigencies of the service. Before the commission of a lieutenant-on-probation is confirmed he must be registered under the Medical Acts in force at the time of his appointment. Candidates who have been specially employed in consequence of a national emergency, either as an officer, or in a position usually filled by an officer, will be allowed, under certain circumstances, to reckon such service towards pension.

Declaration and Schedule of Qualifications to be Filled up by Candidates.

1. Name in full... ... ...
2. Address. (*Any alteration to be notified to the Military Secretary, India Office, London, S.W.*)... ... .
3. Date of birth. (*This must be supported by a certificate or statutory declaration. See Paragraph 4 of the Regulations*) ... ...
4. Profession or occupation of father, and whether, at the time of candidate's birth, his father was a British subject of European or East Indian descent... ... ...
5. Statement as to whether the candidate is married or single ... .
6. Colleges and Medical Schools at which the candidate has received his medical education ... ...
7. Medical School in which the candidate completed his course as a medical student, and name of the Dean or other responsible authority ... ...
8. Degrees of B.A. or M.A.; details as to any prizes, university honours, &c. ... ...
9. Registrable qualification ... ...
10. Date of examination at which the candidate proposes to present himself ... ...
11. Date of any previous occasions on which the candidate may have presented himself for examination for admission to the Indian Medical Service, or other examination for the Public Services... ... ...
12. Particulars of any commission or appointment held in the Public Services... ... ...

I, , a candidate for empl ce, do hereby attest my r ceed on duty immediately on being gazetted.

I declare that I labour under no mental or constitutional disease, nor any imperfection or disability that can interfere with the most efficient discharge of the duties of a medical officer.

I hereby declare upon my honour that the above statements are true to the best of my knowledge and belief.

I inclose, in accordance with Paragraph 4 of the Regulations, (*a*) proof of age; (*b*) two certificates of character; (*c*) certificate of having attended a course of ophthalmic instruction; (*d*) evidence of a registrable qualification; (*e*) *in case of natives of India or others educated in that country only*, a certificate from the Director-General, Indian Medical Service.

Signature ....

Date ...., 19 .

Candidates for the Indian Medical Service may, if they like, undergo a preliminary examination by the Medical Board which meets at the lying to the Under Secretary of State, guineas. They must pay their own must be understood, however, not to either direction by the Examining Medical Board immediately prior to the Professional Examination.

The declaration following documents:—*a*. *Proof of age* certificate, or, where such certificate i lidate's own statutory declaration, form of which can be obtained at the India Office, supported, if required by the Secretary of State, by such evidence as he may consider satisfactory. A certificate of baptism which does not afford proof of age will be useless. *b*. A recommendation and certificate of moral character from two responsible persons—not a member of his own family—to the effect that he is of regular and steady habits and likely in every respect to prove creditable to the service if admitted. *c*. A certificate of having attended a course of instruction for not less than three months at an ophthalmic hospital or the ophthalmic department of a general hospital, which course shall include instruction in the errors of refraction. *d*. Some evidence of having obtained a registrable qualification. *e*. In the case of natives of India or others educated in that country the candidate will be required to by the Director-General, Indian Medical person to hold a commission in the Indian

The Secretary of State for India reserves the right of deciding whether the candidate may be allowed to compete for a commission in His Majesty's Indian Medical Service.

The physical fitness of each candidate will be determined by a Board of Medical Officers who are required to certify that his vision is sufficiently good to enable him to pass the tests laid down by the regulations. Every candidate must also be free from all other organic disease and from constitutional weakness or other disability likely to unfit him for military service in India. The standard of eyesight is the same as for the Royal Army Medical Corps and the physical examination is in all respects the same (see under Royal Army Medical Corps). Candidates who pass the physical examination will be required to pay a fee of £1 before b candidate will be permitted to compe detailed regulations as to the physical application to the India Office.

On proving possession of the foregoing qualifications the candidate will be examined by the Examining Board in the following subjects and the highest number of marks attainable will be distributed as follows:—

		Marks.
1.	Medicine, including therapeutics...	1200
2.	Surgery, including diseases of the eye	1200
3.	Applied anatomy and physiology...	600
4.	Pathology and bacteriology	900
5.	Midwifery and diseases of women and children	600
6.	Materia medica, pharmacology, and toxicology	600

N.B.—The examination in medicine and surgery will be in part practical and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside No syllabus is issued in the subjects of pharmacology and toxicology, but the examination will be conducted so as to test the general knowledge of the candidate. No candidate shall be considered eligible who shall not have obtained at least one *third* of the marks obtainable in each of the above subjects and one *half* of the aggregate marks for all the subjects.

For the clinical examinations each candidate should provide himself with notebook, pencil, e. In drawing up reports on cases the ved, viz.: (*a*) A brief history of the cas such points in the family or personal history as have a distinct bearing on patient's case. (*b*) A detailed account of the subjective symptoms and physical signs elicited by the candidate's personal examination of the patient, noting the absence of any which might be expected to be present in a similar case. (*c*) Where there is any reasonable doubt in the mind of the candidate as to the exact diagnosis he is to give the alternatives, with his reasons for making the selection. (*d*) A commentary upon the case as a whole, pointing out the symptoms which may be considered typical and those which appear to be unusual or only accidental complications. (*e*) Suggestions as to treatment, both immediate and possibly necessary at a later date. (*f*) A forecast of the progress and probable termination of the case.

After passing this examination the successful candidates will be granted about a month's leave and will then be required to attend two successive courses of two months each at Aldershot and at the Royal Army Medical College, Millbank.

The course at Aldershot will include instruction in (1) internal economy, (2) Indian military la stretcher and ambulance drill, (5) c

The course at the Royal Army M (2) military and tropical medicine, logy of diseases and injuries incidental to military and tropical service.

From the day on which the result of the examination is announced lieutenants on probation will receive an allowance of 14*s*. per diem, with quarters (where quarters are not provided, with the usual allowances of a subaltern in lieu thereof), to cover all costs of maintenance, and he will be required to provide himself with uniform (viz., the regulation undress uniform and mess dress of a Lieutenant of the Indian Medical Service, as described in Indian Army Regulations, Vol. VII., with Sam Browne belt, but without the sword).

A lieutenant-on-pr pletion of his course c receive furlough pay sick leave.

Candidates will be required to conform to such rules of discipline as may from time to time be laid down.

At the conclusion of the course candidates will be required to pass an examination on the subjects taught during the course of instruction.

Officers appointed to the Indian Medical Service will be placed on one list, their position on it being determined by the combined results of the preliminary and final examinations. They will be liable for military employment in any part of India, but in view to future transfers to civil employment, they will stand posted to one of the following civil areas:—(1) Madras and Burma; (2) Bombay with Aden; (3) Upper Provinces—i.e., United Provinces, Punjab, and Central Provinces; and (4) Lower Provinces—i.e., Bengal, and Eastern Bengal and Assam. The allocation of officers to these areas of employment will be determined upon a consideration of all the circumstances, including, as far as possible, the candidate's own wishes. Officers transferred to civil employment, though ordinarily employed within the area to which they may have been assigned, will remain liable to employment elsewhere according to the exigencies of the service.

The prizes formerly open to competition in the old Army Medical School at Netley have been transferred to the Medical Staff College in London and at present they are re-distributed as follows (but the arrangements as regards all the prizes are to be re-made now that all the course is to be attended in London): The Herbert Prize, the Parkes Memorial Bronze Medal, and the de Chaumont prize are

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[3] In our opinion as long as the lieutenants-on-probation of the Indian Medical Service receive their instruction at the College, the post of Professor of Medicine in the College should be held by a distinguished officer of the Indian Medical Service and not as at present by an officer of the Royal Army Medical Corps who has had no training as a teacher and does not possess any special knowledge of tropical diseases. The lectures on Military Medicine treat of tropical and other diseases to which soldiers are exposed in the course of their service, the mortality and invaliding by disease, in peace and war, at home and abroad, the management of lunatics under the conditions of military service, &c. The lieutenants-on-probation of both services will attend the New Millbank Hospital where they will be taught practically the details of the management of patients in a military hospital, and the registration of their diseases, the duties of invaliding, the modes of filling up the regulation statistical returns, and other service documents. No provision for instruction in lunacy has as yet been made in London. While in London the lieutenants-on-probation for both services now reside at the St. Ermin's Hotel, Westminster. The candidate's commission as lieutenant will bear the date on which the result of the examination is announced, but his ank will not be gazetted until he has passed the final examination.

officers of the Indian Medical Service. Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment. The principal appointments, together with the salaries attached to each, are stated in the following table:—

Description of appointment.	Approximate number of appointments in each class.	Salary per mensem.			
		When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
		Rs.	Rs.	Rs.	Rs.
Inspectors-General of Civil Hospitals	6	2250–2500	—	—	—
Sanitary Commissioner with Government of India	1	2000–2500	—	—	—
Inspectors-General of Prisons	8	1500–2000	—	—	—
Principals of Medical Colleges	2	1650–1800	1200–1300	—	—
Professorial Appointments	23	1500–1650	1050–1150	800–950	750
Sanitary Commissioners ...	6	1500–1800	—	—	—
Deputy Sanitary Commissioners...	13	1350–1500	900–1000	650–800	600
Bacteriological Appointments	5	1500–1600	1050–1150	700–900	650
Superintendents of Central Lunatic Asylums	6	1400–1550	1050–1150	700–900	650
Superintendents of First Class Central Jails	5	1400–1550	950–1050	700–850	650
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Civil Surgeoncies (Second Class)	171	1200–1350	750–850	500–650	450
Probationary Chemical Examiner	1	—	—	600–750	550

There are also six Chemical Examiners with Rs. 800–1650 per mensem and a number of Port Health Officers with Rs 750–1950 per mensem. Other appointments of Resident Surgeons and Physicians at hospitals, &c., are on salaries ranging from Rs. 700 to 1650 per mensem. There are also a certain number of appointments under the Political Department on salaries ranging from Rs. 450 to 1450 per mensem, exclusive of local allowances.

23. Qualified officers of the Medical Service are also eligible for appointments in the Assay and Mint Departments. The salaries of these appointments are from Rs. 600–2250 per mensem.

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The tenure of office of Surgeon-Generals and Colonels is limited to five years. Colonels, if not disqualified by age, are eligible either for employment for a second tour of duty in the same grade or for employment in the higher grade of Surgeon-General by promotion thereto.

Absence on leave in excess of eight months during a five years' tour of duty involves forfeiture of appointment.

Surgeon-Generals and Colonels, on vacating office at the expiration of the five years' tour of duty, are permitted to draw *in India* an unemployed salary of Rs. 1350 per mensem in the former, and Rs. 1000 in the latter case, for a period of six months from the date of their vacating office, after which they are placed while unemployed on the following scale of pay:—

—	Surgeon-General. Per diem.	Colonel. Per diem.
	£ s. d.	£ s. d.
After 30 years' service on full pay	2 5 0	1 14 0
" 25 " " "	2 5 0	1 10 0
" 20 " " " or on promotion, should this period of service not be completed...	2 0 0	1 8 0

A Surgeon-General or Colonel who has completed his term of service and has reverted to British pay may reside in Europe, at the same time qualifying for higher pension.

RETIRING PENSIONS AND HALF-PAY.

Officers of the Indian Medical Service will be allowed to retire on the following scale of pension on completion of the required periods of service:—

After 30 years' service for pension ...	£700 per annum + £350 after three years' active employment in India as a Surgeon-General, or + £250 per annum after five years' active employment as a Colonel or £125 after three years as a *Colonel*. Eight months' absence on leave is allowed to count towards actual service in those grades.
" 25 " " "	£500 per annum.
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" 17 " " "	£300 "

Service for pension reckons from date of first commission and includes all leave taken under the leave rules.

Time (not exceeding one year) passed on temporary half-pay reckons as service for promotion and pension, in the case of an officer placed on half-pay on account of ill-health contracted in the performance of military duty.

Officers of the Indian Medical Service are liable after retirement on pension before completing 30 years' service to recall to military duty in case of any great emergency arising up to 55 years of age.

All officers of the rank of Lieutenant-Colonel and Major are placed on the retired list at the age of 55, and all Surgeons-General and Colonels at the age of 60, but the Director-General is allowed to serve until he has attained the age of 62 years. If a Lieutenant-Colonel has been especially selected for increased pay and he attains the age of 55 years before he becomes entitled to the pension of 30 years' service he may be retained until the completion of such service, and in any special case, where it would appear to be for the good of the Service that an officer should continue in employment, he may be so continued, subject in each case to the sanction of the Secretary of State for India in Council.

Officers placed on temporary or permanent half-pay are granted half-pay at the following rates.

—	Rates of Half-pay.*	
	Per diem.	Per annum.
	£ s. d.	£ s. d.
Under 5 years' service	0 6 0	109 10 0
After 5 "	0 8 0	146 0 0
" 10 "	0 10 0	182 10 0
" 15 "	0 13 6	246 7 6
Lieutenant-Colonel, under 3 years' service as such	1 0 0	365 0 0
Lieutenant-Colonel, over 3 years' service as such	1 7 6	501 17 6

* Officers cannot retire *in India* on half-pay (No. 45, Feb. 28th, 1865).

An officer of less than three years' service, although he may be transferred to the half-pay list under the general conditions of transfer, will not be granted any half-pay unless his unfitness has been caused by service.

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An officer who has become incapacitated for further service in India on account of unfitness caused by duty may, after he has been two years on temporary half-pay, be granted an Invalid Pension on the following scale:—

	Per annum.
After 16 years' pension service	£272
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Officers are entitled to the same allowances on account of wounds received in action and injuries sustained through the performance of military duty as are granted to combatant officers of His Majesty's Indian Military Forces holding the corresponding military rank.

FAMILY PENSIONS.

The claims to pension of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India, except in the case of natives of India, for whom it is optional.

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Officers of the Indian Medical Service are eligible for the military distinction of the Order of the Bath and for other Orders, British and Indian, and for good service pensions. Six of the most meritorious officers are named Honorary Physicians and six are named Honorary Surgeons to His Majesty. On appointment as Honorary Physician or Surgeon an officer below the rank of Colonel is promoted to that rank, remaining supernumerary until absorbed. A retired officer appointed Honorary Physician or Surgeon to the King is granted the honorary rank of Colonel, if on retirement he had not attained to that rank.

NOTE.—The following is a list of recognised Civil Hospitals.—England and Wales.—London: St. Bartholomew's Hospital, Charing Cross Hospital, Guy's Hospital, King's College Hospital, London Hospital, Middlesex Hospital, St. George's Hospital, St. Mary's Hospital, St. Thomas's Hospital, University College Hospital, and Westminster Hospital. Birmingham: General Hospital and Queen's Hospital. Bristol: Royal Infirmary and General Hospital. Cambridge: Addenbrooke's Hospital. Cardiff: Cardiff Infirmary. Leeds: General Infirmary. Liverpool: Royal Infirmary and Southern Infirmary. Manchester: Royal Infirmary. Newcastle-on-Tyne: Royal Infirmary. Oxford: Radcliffe Infirmary. Sheffield: Royal Infirmary and Royal Hospital. Scotland.—Aberdeen: Royal Infirmary. Dundee: Royal Infirmary. Edinburgh: Royal Infirmary. Glasgow: Royal Infirmary and Western Infirmary. Ireland.—Belfast: Royal Victoria Hospital. Cork: North Infirmary and South Infirmary. Dublin: the Adelaide Hospital, the City of Dublin Hospital, the Jervis Street Hospital, the Mater Misericordiæ Hospital, the Meath Hospital, Mercer's Hospital, the Richmond, Whitworth, and Hardwicke Hospital, St. Vincent's Hospital, Sir Patrick Dun's Hospital, and Dr. Steeven's Hospital. Galway: The County Hospital and the Union Hospital.

The Royal Army Medical Corps is at the present time, we believe, a contented service, though the Director-General A.M.S. is excluded from the Army Council, before which he will, however, be summoned whenever his advice and specialist knowledge are required. The relationship of the Director-General to the War Council should be direct and

Service and the Royal Army Medical Corps on first arrival in the country. The nature of the diseases to be combated, the social and religious customs and prejudices of the various races, and the limited resources of money and material make large modifications from European methods necessary. Lieutenants of both services are now posted on arrival either to Rawal Pindi, Poona, Lucknow, or Bangalore for one month for this course, which is carried out under the supervision of the senior medical officer and sanitary officer. The instructors are medical officers nominated by the principal medical officer, India, and demonstrations on various subjects have been given by other officers, staff, engineer, and medical. The course consists of demonstrations and inspections in all parts of the lines of British and Indian troops, bazaars, Government dairies, bakeries, slaughter-houses, trade premises of dairymen, bakers, butchers, and aerated water manufacturers and hobies' houses, market and water-supplies, methods of washing clothes, surface drainage, removal and disposal of sewage and refuse, antimalarial measures, disinfection, cantonment hospitals, control of venereal diseases, plague prevention, methods of hospital administration, &c. The officers under instruction thus have an opportunity of learning something of native customs and are encouraged to learn the vernacular, so as to be less dependent upon their subordinates when first put in responsible positions.

A Lieutenant may be promoted to the rank of Captain on completing three years' full-pay service from the date of first commission, but after completing 18 months' service and before promotion to the rank of Captain he will be required to pass an examination in military law and military medical organisation, the result of which may affect his promotion. With reference to the extract from the *Gazette of India*, Medical Department, No. 1047, dated Oct. 24th, 1903, paragraph 4, it is notified that the Government of India has decided that the scope of the examination which lieutenants of the Indian Medical Service will be required to pass after completion of 18 months' service will be as follows: Subject (*h*) Text-books, the relevant portions of the Army Regulations of India, vols. ii. and vi., and the Field Service Departmental Code (Medical). Subhead (*a*) (2): The duties of the subordinate *personnel* of native military hospitals and the preparation of returns and requisitions connected therewith. Subhead (3): The duties of executive medical officers of the Indian Medical Service. Subject (*d*), subhead (2): Indian military law and Indian articles of war as laid down for officers of the Supply and Transport Corps in G.O.C.C. 897 of 1902. One paper will be set in each of subheads (2) and (3) of subject (*h*). The time allowed for each paper will be three hours. The examinations will take place at district headquarters twice annually, on March 1st and Oct. 1st, simultaneously with those for other officers, commencing on Oct. 1st, 1904. The standard required will be for a pass 5 in (*h*) and 5 in law: for special certificate 8 in (*h*) and 8 in law. An officer may present himself for examination in the above subjects either separately or conjointly. The above rules apply only to officers appointed to the Indian Medical Service on or after Jan. 31st, 1900. The names of candidates for examination will be submitted by general officers commanding districts to the Director of Military Education in India so as to reach that officer by Sept. 1st and Feb. 1st annually. Captains are promoted to the rank of Major after 12 years' full-pay service, but this promotion is accelerated by six months in the case of officers who fulfil certain specified conditions. A Major is promoted to Lieutenant-Colonel on completion of of eight years' full-pay service in the rank of Major. All promotions to higher grades are given by selection for ability and merit. In case of distinguished service in the field a medical officer may receive substantive or brevet rank. The ages for compulsory retirement are the same as those for the Royal Army Medical Corps. Officers of the Indian Medical Service below the rank of Colonel may be granted: 1. Privilege leave under such regulations as may from time to time be in force. 2. Leave out of India for no longer period than one year, capable of extension to two years' absence from duty, on the following pay for officers in military employment (officers in civil employment are entitled to higher rates):—After arrival in India, on first appointment, £250 a year; after the commencement of the tenth year's service for pension, £300 a year; after the commencement of the fifteenth year's service for pension, £450 a year; after the commencement of the twentieth year's service for pension, £600 a year; and after the commencement of the twenty-fifth year's service for pension, £700 a year. 3. Leave in India, but for the period of one year only, on full military pay and half the staff salary of appointment. No extension of leave involving absence from duty for more than two years, whether taken in or out of India, can be granted except on specially urgent grounds and without pay. An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence, unless he is specially granted an extension of leave without pay, is placed on temporary half-pay or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on half-pay or the retired list should his health require an undue amount of leave, whether in or out of India. Leave may be granted at any time, but solely at the discretion of the civil or military authorities in India under whom an officer may be serving. Officers of the Administrative grades may be granted one period of leave not exceeding eight months during their tenure of appointment. Extra furlough may be granted to officers desirous of pursuing special courses of study at the rate of one month's furlough for each year's service up to 12 months in all. During such leave the ordinary furlough pay will be given with lodging allowances of 4*s.*, 6*s.*, and 8*s.* a day for Lieutenants, Captains, and field officers respectively. An officer on leave is required to join at once on being recalled to duty unless certified by a medical board *as unfit to do so.*

PAY AND ALLOWANCES.

The rate of pay drawn by Lieutenants of the Indian Medical Service previous to arrival in India is 14*s.* a day, but a Lieutenant (1) who has been permitted by the Secretary of State to hold a hospital appointment will receive no pay while holding it; (2) who is detained by illness in this country will be paid at the rate of £250 a year from the date on which he would otherwise have embarked until the date of embarkation, and at the rate of 14*s.* a day during the voyage to India.

Pay at the above rate is issued in this country up to the date of embarkation, and an advance of two months' pay at the same rate is also made prior to embarkation, which is adjusted in India.

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service from the date of their arrival in India:—

Rank.	Unemployed pay.	Grade pay.	Staff pay.	In officiating medical charge of a regiment.	In permanent medical charge of a regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	475	550
,, after 5 years' service ...	475	450	150	525	600
,, after 7 years' service ...	—	500	150	575	650
,, after 10 years' service ...	—	550	150	625	700
Major	—	650	150	725	800
,, after 15 years' service ...	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1075	1250
,, ,, after 25 years' service ...	—	900	400	1100	1300
,, ,, specially selected for increased pay	—	1000	400	1200	1400

NOTES.—(*a*) Unemployed pay is drawn by officers of less than seven years' service who are not holding officiating or substantive charge of native regiments. Officers of more than seven years' service draw grade pay alone when unemployed. Staff pay is the pay of a command and is drawn in addition to grade pay.

(*b*) Horse allowance is granted to officers in charge of cavalry regiments at the rate of Rs. 90 a month to Lieutenant-Colonels and Majors, and Rs. 60 a month Captains and Lieutenants.

Note to paras. 16 to 20.—Under present arrangements, officers of the Indian Medical Service who are not statutory natives of India receive exchange compensation allowance to compensate them for the fall of the value of the rupee. The allowance consists of an addition to their salaries (subject to certain limitations) equal to half the difference between their salaries converted at (1) 1*s.* 6*d.* the rupee, and (2) the standard Government rate, which has been fixed at 1*s.* 4*d.* the rupee until further notice.

Officers holding the principal administrative appointments and substantive military charges of the Indian Medical Service receive at present the following consolidated salaries:—

	Rs. per mensem.
Colonel, 16 (some in civil employ) from	1800 to 2500
Surgeon-General, 1 @	2200
,, 2 @	2500
,, (the Director-General I.M.S.) 1 @	3000

Specialist pay at the rate of Rs. 60 a mont below
the rank of Lieutenant-Colonel who may be

Qualified officers of the Medical Service
ments in the Assay Department. The sal
are from Rs. 600 to Rs. 2250 per mensem.

Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment.

Except in the administrative grades and in certain special appointments officers are not debarred from taking private practice as long as it does not interfere with their proper duties.

POSTS IN CIVIL EMPLOY.

A large number of posts in civil employ are ordinarily filled up from

officers of the Indian Medical Service. Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment. The principal appointments, together with the salaries attached to each, are stated in the following table:—

Description of appointment.	Approximate number of appointments in each class.	Salary per mensem. When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
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PAY AND ALLOWANCES.

The rate of pay drawn by Lieutenants of the Indian Medical Service previous to arrival in India is 14*s.* a day, but a Lieutenant (1) who has been permitted by the Secretary of State to hold a hospital appointment will receive no pay while holding it; (2) who is detained by illness in this country will be paid at the rate of £250 a year from the date on which he would otherwise have embarked until the date of embarkation, and at the rate of 14*s.* a day during the voyage to India.

Pay at the above rate is issued in this country up to the date of embarkation, and an advance of two months' pay at the same rate is also made prior to embarkation, which is adjusted in India.

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service from the date of their arrival in India:—

Rank.	Unemployed pay.	Grade pay.	Staff pay.	In officiating medical charge of a regiment.	In permanent medical charge of a regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	475	550
" after 5 years' service ...	475	450	150	525	600
" after 7 years' service ...	—	500	150	575	650
" after 10 years' service ...	—	550	150	625	700
Major	—	650	150	725	800
" after 15 years' service ...	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1075	1250
" " after 25 years' service ...	—	900	400	1100	1300
" " specially selected for increased pay	—	1000	400	1200	1400

NOTES.—(*a*) Unemployed pay is drawn by officers of less than seven years' service who are not holding officiating or substantive charge of native regiments. Officers of more than seven years' service draw grade pay alone when unemployed. Staff pay is the pay of a command and is drawn in addition to grade pay.

(*b*) Horse allowance is granted to officers in charge of cavalry regiments at the rate of Rs. 90 a month to Lieutenant-Colonels and Majors, and Rs. 60 a month Captains and Lieutenants.

Note to paras. 16 to 20.—Under present arrangements, officers of the Indian Medical Service who are not statutory natives of India receive exchange compensation allowance to compensate them for the fall of the value of the rupee. The allowance consists of an addition to their salaries (subject to certain limitations) equal to half the difference between their salaries converted at (1) 1*s.* 6*d.* the rupee, and (2) the standard Government rate, which has been fixed at 1*s.* 4*d.* the rupee until further notice.

Officers holding the principal administrative appointments and substantive military charges of the Indian Medical Service receive at present the following consolidated salaries:—

	Rs. per mensem.
Colonel, 16 (some in civil employ) from	1800 to 2500
Surgeon-General, 1 @	2200
" 2 @	2500
" (the Director-General I.M.S.) 1 @	3000

Specialist pay at the rate of Rs. 60 a month is granted to officers below the rank of Lieutenant-Colonel who may be appointed to certain posts.

Qualified officers of the Medical Service are also eligible for appointments in the Assay Department. The salaries of these appointments are from Rs. 600 to Rs. 2250 per mensem.

Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment.

Except in the administrative grades and in certain special appointments officers are not debarred from taking private practice as long as it does not interfere with their proper duties.

POSTS IN CIVIL EMPLOY.

A large number of posts in civil employ are ordinarily filled up from

officers of the Indian Medical Service. Officers are required to perform two years' regimental duty in India before they can be considered ligible for civil employment. The principal appointments, together ith the salaries attached to each, are stated in the following table:—

Description of appointment.	Approximate number of appointments in each class.	Salary per mensem.			
		When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
		Rs.	Rs.	Rs.	Rs.
Inspectors-General of Civil Hospitals	6	2250–2500	—	—	—
Sanitary Commissioner with Government of India	1	2000–2500	—	—	—
Inspectors-General of Prisons	8	1500–2000	—	—	—
Principals of Medical Colleges	2	1650–1800	1200–1300	—	—
Professorial Appointments	23	1500–1650	1050–1150	800–950	750
Sanitary Commissioners ...	6	1500–1800	—	—	—
Deputy Sanitary Commissioners...	13	1350–1500	900–1000	650–800	600
Bacteriological Appointments	5	1500–1600	1050–1150	700–900	650
Superintendents of Central Lunatic Asylums	6	1400–1550	1050–1150	700–900	650
Superintendents of First Class Central Jails	5	1400–1550	950–1050	700–850	650
Superintendents of Second Class Central Jails	5	1300–1450	850–950	600–750	550
Civil Surgeoncies (First Class)	37	1300–1450	850–950	600–750	550
Civil Surgeoncies (Second Class)	171	1200–1350	750–850	500–650	450
Probationary Chemical Examiner	1	—	—	600–750	550

There are also six Chemical Examiners with Rs. 800–1650 per mensem and a number of Port Health Officers with Rs. 750–1950 per mensem. Other appointments of Resident Surgeons and Physicians at hospitals, &c., are on salaries ranging from Rs. 700 to 1650 per mensem. There are also a certain number of appointments under the Political Department on salaries ranging from Rs. 450 to 1450 per mensem, exclusive of local allowances.

23. Qualified officers of the Medical Service are also eligible for appointments in the Assay and Mint Departments. The salaries of these appointments are from Rs. 600–2250 per mensem.

Tenure of Office in Administrative Grades.

The tenure of office of Surgeon-Generals and Colonels is limited to five years. Colonels, if not disqualified by age, are eligible either for employment for a second tour of duty in the same grade or for employment in the higher grade of Surgeon-General by promotion thereto.

Absence on leave in excess of eight months during a five years' tour of duty involves forfeiture of appointment.

Surgeon-Generals and Colonels, on vacating office at the expiration of the five years' tour of duty, are permitted to draw *in India* an unemployed salary of Rs. 1350 per mensem in the former, and Rs. 1000 in the latter case, for a period of six months from the date of their vacating office, after which they are placed while unemployed on the following scale of pay:—

—	Surgeon-General. Per diem.	Colonel. Per diem.
	£ *s.* *d.*	£ *s.* *d.*
After 30 years' service on full pay	2 5 0	1 14 0
,, 25 ,, ,, ,, ...	2 5 0	1 10 0
,, 20 ,, ,, ,, or on promotion, should this period of service not be completed...	2 0 0	1 8 0

A S[illegible] Colonel who has completed his term of service [illegible] pay may reside in Europe, at the same time [illegible] ion.

Retiring Pensions and Half-pay.

Officers of the Indian Medical Service will be allowed to retire on the following scale of pension on completion of the required periods of service:—

After 30 years' service for pension ...	£700 per annum + £350 after three years' active employment in India as a Surgeon-General, or + £250 per annum after five years' active employment as a Colonel or £125 after three years as a Colonel. Eight months' absence on leave is allowed to count towards actual service in those grades.
,, 25 ,, ,, ,,	£500 per annum.
,, 20 ,, ,, ,,	£400 ,,
,, 17 ,, ,, ,,	£300 ,,

Service for pension reckons from date of first commission and includes all leave taken under the leave rules.

Time (not exceeding one year) passed on temporary half-pay reckons as service for promotion and pension, in the case of an officer placed on half-pay on account of ill-health contracted in the performance of military duty.

Officers of the Indian Medical Service are liable after retirement on pension before completing 30 years' service to recall to military duty in case of any great emergency arising up to 55 years of age.

All officers of the rank of Lieutenant-Colonel and Major are placed on the retired list at the age of 55, and all Surgeons-General and Colonels at the age of 60, but the Director-General is allowed to serve until he has attained the age of 62 years. If a Lieutenant-Colonel has been especially selected for increased pay and he attains the age of 55 years before he becomes entitled to the pension of 30 years' service he may be retained until the completion of such service, and in any special case, where it would appear to be for the good of the Service that an officer should continue in employment, he may be so continued, subject in each case to the sanction of the Secretary of State for India in Council.

Officers placed on temporary or permanent half-pay are granted half-pay at the following rates.

—	Rates of Half-pay.*	
	Per diem.	Per annum.
	£ *s.* *d.*	£ *s.* *d.*
Under 5 years' service	0 6 0	109 10 0
After 5 ,, ...	0 8 0	146 0 0
,, 10 ,, ...	0 10 0	182 10 0
,, 15 ,, ...	0 13 6	246 7 6
Lieutenant-Colonel, under 3 years' service as such	1 0 0	365 0 0
Lieutenant-Colonel, over 3 years' service as such	1 7 6	501 17 6

* Officers cannot retire *in India* on half-pay (No. 45, Feb. 28th, 1865).

An officer of less than three years' service, although he may be transferred to the half-pay list under the general conditions of transfer, will not be granted any half-pay unless his unfitness has been caused by service.

Invalid Pensions.

An officer who has become incapacitated for further service in India on account of unfitness caused by duty may, after he has been two years on temporary half-pay, be granted an Invalid Pension on the following scale:—

	Per annum.
After 16 years' pension service	£272
,, 15 ,, ,, ,, ...	252
,, 14 ,, ,, ,, ...	232
,, 13 ,, ,, ,, ...	212
,, 12 ,, ,, ,, ...	192

Wound Pensions.

Officers are entitled to the same allowances on account of wounds received in action and injuries sustained through the performance of military duty as are granted to combatant officers of His Majesty's Indian Military Forces holding the corresponding military rank.

Family Pensions.

The claims to pension of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India, except in the case of natives of India, for whom it is optional.

Honours and Rewards.

Officers of the Indian Medical Service are eligible for the military distinction of the Order of the Bath and for other Orders, British and Indian, and for good service pensions. Six of the most meritorious officers are named Honorary Physicians and six are named Honorary Surgeons to His Majesty. On appointment as Honorary Physician or Surgeon an officer below the rank of Colonel is promoted to that rank, remaining supernumerary until absorbed. A retired officer appointed Honorary Physician or Surgeon to the King is granted the honorary rank of Colonel, if on retirement he had not attained to that rank.

Note.—The following is a list of recognised Civil Hospitals.—England and Wales.—London: St. Bartholomew's Hospital, Charing Cross Hospital, Guy's Hospital, King's College Hospital, London Hospital, Middlesex Hospital, St. George's Hospital, St. Mary's Hospital, St. Thomas's Hospital, University College Hospital, and Westminster Hospital. Birmingham: General Hospital and Queen's Hospital. Bristol: Royal Infirmary and General Hospital. Cambridge: Addenbrooke's Hospital. Cardiff: Cardiff Infirmary. Leeds: General Infirmary. Liverpool: Royal Infirmary and Southern Infirmary. Manchester: Royal Infirmary. Newcastle-on-Tyne: Royal Infirmary. Oxford: Radcliffe Infirmary. Sheffield: Royal Infirmary and Royal Hospital. Scotland.—Aberdeen: Royal Infirmary. Dundee: Royal Infirmary. Edinburgh: Royal Infirmary. Glasgow: Royal Infirmary and Western Infirmary. Ireland.—Belfast: Royal Victoria Hospital. Cork: North Infirmary and South Infirmary. Dublin: the Adelaide Hospital, the City of Dublin Hospital, the Jervis Street Hospital, the Mater Misericordiæ Hospital, the Meath Hospital, Mercer's Hospital, the Richmond, Whitworth, and Hardwicke Hospital, St. Vincent's Hospital, Sir Patrick Dun's Hospital, and Dr. Steeven's Hospital. Galway: The County Hospital and the Union Hospital.

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POSTS IN CIVIL EMPLOY.

A large number of posts in civil employ are ordinarily filled up from

personal. The limitation of the number of lieutenant-colonels has, of course, affected adversely some officers who are well worthy of promotion to the highest ranks, and we look to the Director-General to arrange that really deserving officers may not suffer through the introduction of a regulation which would rob the service of officers who have done some of the best work for the Royal Army Medical Corps.

The blots on the present regulations for the Indian Medical Service are as follows :—

1. That no officer, however employed, can receive any staff allowance unless he has passed the lower standard examination in Hindustani.

2. That an officer who enters the service after his 25th birthday forfeits almost to a certainty his chance of ever reaching a higher pension than £500 per annum.

3. The order of the present Government of India that an officer of the Indian Medical Service must refer the question of the amount of his fees when above a certain low limit to the civil authority. The recent orders might necessitate the violation of professional secrecy.

4. The neglect of the rule that the office of principal medical officer to His Majesty's forces may be held by an officer of the Indian Medical Service.

SPECIALIST PAY FOR OFFICERS OF THE ROYAL ARMY MEDICAL CORPS AND INDIAN MEDICAL SERVICE IN INDIA.

The Government of India has just approved of revised rules in connexion with specialist appointments in India. 55 of '' will be allotted to the Royal Army Medical Corps anc Medical Service in military employment The Speci month) is an allowance to officers below the rank of Lieutenant-Colonel for special sanitary, surgical, or medical work done for the State. The following is a list of appointments :—

	Rs.
(a) Prevention of disease (including parasitology, bacteriology, and preventive inoculation	40
(b) Dermatology (including the prophylaxis, treatment of, and instructional measures in connexion with, venereal diseases)	10
(c) Advanced operative surgery	20
(d) Ophthalmology	10
(e) Electrical science (including skiagraphy)	10
(f) Mental science	2
(g) Otology, laryngology, and rhinology	3
(h) Midwifery and diseases of women and children ...	10

Selections for appointments and the distribution throughout the several divisions and brigades will be made under the orders of His Excellency the Commander-in-Chief, the guiding principle, however, being that *officers will be located in those stations where their services* are likely to be of the greatest utility to the army.

It does not appear probable to us that the above rules will attract many men to the rank of the so-called specialist or that the Government can regard with much esteem a status for which it can frame such regulations.

PUBLIC HEALTH.

INSTRUCTION FOR DIPLOMAS IN STATE MEDICINE.

THE following resolutions, designed with a view of ensuring "the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health," were adopted by the General Medical Council from 1902 to 1905. The regulations require that—"(1) A period of not less than twelve months shall elapse between the attainment of a registrable qualification in Medicine, Surgery, and Midwifery and the examination for a diploma in Sanitary Science, Public Health or State Medicine; (2) every candidate shall produce evidence of having attended, after obtaining a registrable qualification, during a period of six months, practical instruction in a laboratory, British or foreign, approved of by the body granting the diploma and in which chemistry, bacteriology, and the pathology of diseases of animals transmissible to man are taught; (3) every candidate shall produce evidence that, after having obtained a registrable qualification, he has for six months (of which at least three months shall be distinct and separate from the period of laboratory instruction) practically studied the duties, routine and special, of Public Health administration either under a whole-time medical officer of health or a medical officer of health who is also a teacher in public health in a recognised school, or in England and Wales under the medical officer of health of a county or of a single sanitary district of 50,000, or in one or more districts of 30,000 in Scotland or Ireland, or under a sanitary staff officer of the Royal Army Medical Corps having charge of an army corps, district, or command recognised by the General Medical Council, provided that the six months may be reduced to three if a candidate produces evidence that after obtaining a registrable qualification he has for three months attended a course of recognised instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on Public Health administration; (4) every candidate shall produce evidence that after having obtained a registrable qualification he has attended *during* three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration; (5) the examination shall have been conducted by examiners specially qualified, and shall comprise laboratory work as well as written and oral examination; (6) the rules as to study shall not apply to medical practitioners registered, or entitled to be registered, on or before Jan. 1st, 1890." It was enacted by Section 18 (2) of the Local Government Act [England and Wales], 1888, that after Jan. 1st, 1892, no such appointment (that of medical officer of health) may be made in any county, or in any district or combination of districts with a population of 50,000 or upwards, *unless the officer—having, of course, qualifications* in Medicine, Surgery, and Midwifery—is registered as the holder of a diploma in Sanitary Science, Public Health, or State Medicine under Section 21 of the Medical Act, 1886, or has during any three consecutive years pre- 1892 been medical officer of a district or combina- f districts with a population of 20,000 at least, or has for three years previously to August 13th, 1888, been a medical officer or inspector of the Local Government Board With the sanction of the Local Government Board the same person may be appointed medical officer for two or more districts.

The regulations in question as to study may be procured at the office of the General Medical Council in London.

University of London.—Sanitary Science is included under the head of State Medicine in the M.D. degree, and a certificate *has to be produced showing* that a course of practical instruction has been attended for the prescribed period, and *that* the course has *included such* chemical, microscopical, and meteorological work and exercises as more especially relate to sanitation. The attendance includes six months' practical instruction in a laboratory and six months' instruction in public health administration under the supervision of a medical officer of health, and three months' attendance on the practice of a hospital for infectious diseases.

University of Oxford.—An examination, conducted partly in writing, *partly vivâ voce, and in each* subject partly practical, is held in Michaelmas Term in the following subjects :—*General Hygiene, General* Pathology (with special relation to Infectious Diseases), the Laws relating to Public Health, Sanitary Engineering, Vital Statistics. The examination is in two parts, which may be taken together or separately; but Part I. must be passed either before, or at the same examination as Part II. The fee for admission to the examination is £5 for each part. Successful candidates are entitled to receive the Diploma in Public Health. Any person whose name is on the Medical Register is admissible as a candidate for this examination provided (1) a period of not less than twelve months shall have elapsed between *the* attainment of *registrable* qualification and the time when he presents himself for either part of the examination; (2) he *produce* evidence of having, after obtaining a registrable qualification, attended during *three months* the *practice of a hospital* for infectious diseases at which opportunities are afforded for the study *of methods of* administration; (3) he produce evidence of having, after obtaining a registrable qualification, *attended during* a period *of six months on one* or more courses, approved by the Syndicate, of practical laboratory instruction in Chemistry, *Bacteriology, and the Pathology* of those diseases of animals that are transmissible to man; and (4) he produce evidence of *having, after obtaining* a registrable qualification, for *six* months (of which at least three months shall be distinct and *separate from the period* of laboratory instruction) been associated day by day in the duty, routine and special, of *public health administration* under the supervision of: (*a*) in England and Wales either the medical officer of health *of* a county or of a *single* sanitary district having a population of not less than 50,000 or a medical officer of health *devoting* his whole *time to*

Guy's Hospital; Samuel Lewis Trevithan, Middlesex and National Dental Hospitals; John Eric Wheeler, Charing Cross and Royal Dental Hospitals; and William Frederick White [illegible], Guy's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (Johns Hopkins University)*: Dr. Joseph T. Smith has been appointed to the chair of Midwifery.—*Cincinnati*: Dr. Archibald Carson has been appointed Professor of Anatomy in succession to Dr. Oliver V. Holt.—*Cleveland (Western Reserve University)*: Dr. Hadley W. Blackmann has been appointed Lecturer on Histology.—*Jena*: The present professor of zoology, Dr. Ernst Haeckel, is resigning the chair which he has held for more than 40 years. He is making over to the university on the occasion of the 350th anniversary of its foundation his unique "Phylogenetic Museum." The collection of the materials for it has been his [illegible] and he proposes to employ his leisure after his retirement in completing it. The professorship is to be offered to Professor Lang of Zürich.—*Kharkoff*: Dr. V. Voskresenski has been promoted to the chair of Operative Medicine.—*Kiel*: The title of Professor has been granted to Dr. H. Piper, privat-docent of Physiology.—*Munich*: Dr. John Seemann, formerly of Giessen, has been recognised as privat-docent of Physiology.—*Nantes*: Dr. M. Duran, Professor of Therapeutics, has been transferred at his own request to the chair of Hygiene and Forensic Medicine in place of Dr. Mirallié.—*Odessa*: Dr. V. [illegible] of Moscow has been appointed Extraordinary Professor of General Pathology.—*Paris*: Dr. Unna of Hamburg and Dr. Pick of Prague have been elected foreign corresponding members of the Academy of Medicine. Dr Quénu, Professor of Surgical Operations and Appliances, has been transferred by his own request to the chair of Clinical Surgery and has been elected a member of the Academy of Medicine.—*Prague (Bohemian University)*: The title of Extraordinary Professor has been granted to Dr. Karl Svehla, privat-docent of Children's Diseases, and to Dr. Wenzel Mayr, privat-docent of Ophthalmology. *German University*: Dr. Karl Kreibich, Extraordinary Professor of Dermatology, has been promoted to an Ordinary Professorship.—*St. Petersburg (Women's Medical Institute)*: Dr. L. T. Levin has been recognised as privat-docent of Laryngology and Otology.—*Vienna*: The College of Professors has at last decided to fill up the chair to which the Third Medical Clinic is attached, which has been vacant since the death of Professor Nothnagel. Although several of the members were very anxious to obtain a colleague of Austrian nationality—such as Dr. von Jaksch of Prague, Dr. Ortner of Innsbruck, Dr. Chvostek or Dr. Pal of Vienna, whose names have been proposed—the final choice has fallen upon a non-Austrian, Dr. Adolf von Strümpell, now Professor of Medicine in the University of Breslau, who has accepted the invitation. He will not, however, take up his new duties until after the conclusion of the winter semester. At the Jubilee Hospital Dr. Linsmayer has been appointed Director, Dr. Paponac Director of the Surgical Department, and Dr. Maresch Prosector. Dr. Rudolf Maresch has been recognised as privat-docent of Pathological Anatomy.

INFRINGING THE PHARMACY ACT.—The Council of the Pharmaceutical Society of Great Britain proceeded against Mrs. R. J. Johnson, of High-street, Selsey, in the Chichester county court, on Dec. 8th, for an infringement of the Pharmacy Act. Mrs. Johnson traded under the name of "R. J. Johnson and Sons, photographic and dispensing chemists," while on the fanlight of her shop was "Roberts, Drug Stores." On Sept. 14th threepennyworth of paregoric was purchased and on being analysed was found to contain one grain of opium. The defendant was thus liable under the provisions of the Pharmacy Act, and, moreover, she was not registered as a member of the Pharmaceutical Society. The defence was that only a technical offence had been committed, that Mrs. Johnson did at one time employ a properly qualified chemist, but that latterly she had arranged with a gentleman living at Selsey to do her dispensing, not realising that by so doing she was infringing the law. The Pharmacy Act, however, is very clear: the person controlling the business, it says, must be duly qualified. His honour Judge Scully, in giving judgment for the Pharmaceutical Society for the amount claimed, namely £10—£5 for having kept open a shop for retailing, dispensing, or compounding a poison, and £5 for taking, using, and exhibiting the title of chemist, contrary to the provisions of the Pharmacy Act—said that the mischief which the Act was intended to remedy was very serious indeed, for it was a most dangerous thing to allow anyone who was not qualified to sell poisons which were often sold in the form of an elixir, mostly intended for the use of children. His honour allowed costs on the higher scale on the ground that the case was one of general public importance.

LONDON HOSPITAL MEDICAL CLUB.—The annual meeting of this club was held at the Café Royal on Dec. 11th. Dr. F. J. Smith, physician to the hospital, occupied the chair at the dinner which followed. The speeches were few and short and several of the guests favoured the company with music, songs, and short stories. The club is one of the oldest of the medical clubs in the metropolis and has now a benevolent fund in connexion with it.

LIVINGSTONE COLLEGE.—The annual report and statement of accounts, which were presented at the annual general meeting of the members of Livingstone College on Dec. 8th, were of a very satisfactory nature. Livingstone College gives elementary medical training to missionaries without reference to denominational or national prejudice. The number of students who entered during the past year is by far the largest on record, being an average of 30 for each of the three terms. The financial statement is particularly satisfactory, the year commencing with a deficiency of £444, which has all been paid off with the exception of £28, and in addition to the ordinary receipts a legacy of £50 has been placed to the capital account. The working expenses of the year have been practically met by the fees of students. Contributions are, however, still needed for the general fund or to pay off the mortgage of £2500 which still exists upon the property. Contributions will be gratefully acknowledged by the Principal, Dr. C. F. Harford, Livingstone College, Leyton, E.

MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND (LIMITED).—The annual general meeting of the union was held in Glasgow on Nov. 5th in the registered office. Sir Hector C. Cameron (Glasgow) occupied the chair and there was a large attendance of members. In moving the adoption of the annual report and statement of accounts the chairman remarked that the accounts disclosed more marked progress than in any previous year. He referred to the statement submitted by the council that a large proportion of threatened actions on being taken up by the union were departed from, and expressed the view that this illustrated the benefit of such an association. He pointed out that the number of claims against dentists by dissatisfied patients was more in proportion to relative numbers than in the case of medical men. The membership at the close of the previous year was 958, and 240 new members were admitted during the year under review, being an increase of one-fourth. The union had invested funds amounting to £1234 and the income for the year was £553, with an expenditure of only £270. Reference was made to the printed forms issued by the union for the use of practitioners, being an indemnity form to be granted by friends of patients in respect of lunacy certificates and an agreement for use between a practitioner and his assistant. The chairman commented upon the usefulness of these documents to members of the professions interested. Dr. J. Crawford Renton seconded the adoption of the report and statement of accounts and this was unanimously agreed to. Sir A. R. Simpson (Edinburgh), Professor W. Stephenson (Aberdeen), Sir Hector Cameron (Glasgow), and Professor J. A. C. Kynoch (Dundee), were re-elected presidents of the union, and a number of medical and dental practitioners were re-elected as vice-presidents. Dr. John Gordon (Aberdeen), Professor Kynoch, and Dr. G. Balfour Marshall (Glasgow) were unanimously re-elected as members of the general council. The present auditors were re-elected and the meeting closed with a vote of thanks to the chairman. The sixth annual report of the union prints a number of illustrative cases showing the varied manner in which advice and legal assistance have been afforded to its members. The value of such societies is shown in one sentence of this report, "but of the large number of cases presented to the council, involving the

was shown in recent years by his vigorous opposition to the "fish hypothesis" of Sir Jonathan Hutchinson. The absolute non-existence of the disease in Catholic Ireland, along the borders of which badly kept and badly cooked fish are so largely consumed, gave him a strong weapon of controversy ready to hand. His general and specialised activities were shown by work as physician to the Dublin Throat and Ear Hospital, and papers on Lesions of the Throat in Leprosy and Tuberculous Laryngitis. He was an ex-vice-president of the British Laryngological Society and his high attainments in general culture procured his election to membership of the Royal Irish Academy—a body which severely scrutinises the attainments of medical men. Mr. Hillis was twice married and leaves a widow (and two families) to deplore their loss.

HUGH MAYER MONTGOMERIE, M.D., C.M. EDIN.,

SENIOR PHYSICIAN, WEST CORNWALL DISPENSARY AND INFIRMARY, PENZANCE.

Dr. Hugh Mayer Montgomerie died at his residence, 5, Clarence-place, Penzance, on Dec. 12th, from angina pectoris in his forty-fifth year. The deceased was the only son of Dr. James Barclay Montgomerie and was educated at Winchester School. He received his medical education at the University of Edinburgh, graduating M.B. and C.M. in 1887, and two years later he obtained the M.D. He also studied at St. Bartholomew's Hospital, London, and at Vienna, Prague, and Paris. Dr. Montgomerie shortly after graduating commenced practice at Penzance and was elected on the honorary staff of the West Cornwall Dispensary and Infirmary, following his grandfather and father, who were both members of the honorary medical staff of that institution. He was sole physician to the dispensary for 19 years and since the rebuilding of the institution he has been the senior physician. Dr. Montgomerie was a member of the Penzance Antiquarian Society, being the secretary from 1897 to 1900, and he became President the following year. In 1898 he was the President of the South-Western Branch of the British Medical Association. He was a good sportsman, a great football player in his younger days, and at one time he was an all-the-year-round bather. Dr. Montgomerie was extremely popular and highly respected in Penzance and the news of his sudden death was received with sincere regret by all classes, but particularly by the poor to whom he was most generous. The greatest sympathy is felt in Penzance and the district with his aged father and mother.

JAMES HARRISON, M.R.C.S. ENG., L.R.C.P. EDIN.

THE death occurred at East Grinstead, Sussex, on Dec. 13th, after an illness extending over a few days only, of Mr. James Harrison, Warden of Sackville College, to which he was appointed in 1893. Educated at Rossall School, the Owens College, the London Hospital, and Edinburgh, he took the L.R.C.P. Edin. diploma in 1881, and in the same year became M.R.C.S. Eng. For a time he was senior house surgeon at the Manchester Royal Infirmary and proceeded from there to Devonport, where he was for a number of years medical attendant to His Royal Highness the Duke of Edinburgh and his household and also assistant surgeon at the Royal Albert Hospital, Devonport. He was also a Fellow of the Royal Institute of Public Health. At East Grinstead Mr. Harrison was very popular. He held a large number of public appointments, including the post of medical officer of the High Grove Sanatorium, while his private practice not only in the town but in a large area around was a large one. His demise at a comparatively early age is deeply regretted. He was a prominent Freemason, having been Worshipful Master of the Sackville Lodge at East Grinstead in 1900, and was given provincial honours four years later.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Geisthövel, chief of the Franciscus Hospital, from blood poisoning contracted in the course of his duties.—Dr. B. L. Billet, formerly *medecin-inspecteur* in the French Military Medical Service.—Dr. M. N. Popoff, professor of nervous and mental diseases in the University of Tomsk.—Dr. D. I. Kurayeff, extraordinary professor of medical chemistry in the University of Kharkoff.—Dr. Béla Weiss of Vienna, an author of considerable repute in literary circles and formerly editor of the *Wiener Medi Presse*, aged 70 years.—Dr. Dudon, formerly surgeon Bordeaux hospitals.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLA

At an ordinary meeting of the Council of the Royal C of Surgeons on Dec. 10th the diploma of Fellow conferred upon 28 gentlemen who passed the Final mination which was held on Nov. 20th, 23rd, 24th, 26th, and 27th and for which 68 candidates presented selves. The following are the names of the successful didates:—

Hermann Balean, M.D., B.S. Lond., L.R.C.P., M.R.C.S., L
Hospital; John McCallum Anderson Macmillan, Captain I
M.B. Edin., L.R.C.P., M.R.C.S., Edinburgh University an
Bartholomew's Hospital; Robert Ainslie Ross, M.B., Ch.B. E
L.R.C.P., M.R.C.S., Edinburgh University and St. Thomas's
pital; William Haywood Hamilton, Captain I.M.S., L.R.C
M.R.C.S., St. Bartholomew's Hospital; Athelstan Jasper Blaxla
M.B.,
pital; .C.S., University College
M.R.C. , M.B., B.C. Cantab., L.R.C
pital; and St. Bartholomew's
L.R.C. Coventon, M.A., B.C. Cant
University and St. Bartholome
Hospital; William Harold Hey, M.B., Ch.B. Vict., *L.R.C.P.*, *M.R.C.*
Manchester University; Charles William Menelaus Hope, M.
B.S. Durh., L.R.C.P., M.R.C.S., Durham University and
Bartholomew's Hospital; James Elrick Adler, L.R.C.P., M.R.C.
London Hospital; Walter Welchman, M.B., B.S. Lond., L.R.C.
M.R.C.S., Guy's Hospital;

Stephen Fenwick, M.B., B.S., B.Sc. Lond., L.R.C.
M.R.C.S., Charing Cross Hospital; Godfrey Martin Huggin
L.R.C.P., M.R.C.S., St. Thomas's Hospital; Kenneth Macfarla
Walker, B.A. Cantab., L.R.C.P., M.R.C.S., Cambridge Universi
and St. Bartholomew's Hospital; William Elliott Carswell, M.B
Ch.B., New Zealand, L.R.C.P., M.R.C.S., New Zealan
ospital; Henry John Nightingal
M.R.C.S., St. Thomas's Hospital
B., Ch.B., New Zealand, *L.R.C.P*

tals; David McCrae Aitken
University and St. Thomas'
M.B., B.Ch., B.A.O. R.U.I.
Queen's College, Belfast, and London Hospital; Bryden Glen
dining, M.B., B.S. Durh., Durham
Thomas Killen, B.A., M.B., B.Ch.,
Belfast, and London Hospital; Jo
B.C. Cantab., Cambridge Universit
pital; and Robert Townley Slinger, M.B., Ch.B. Vict., Manchester
University and London Hospital.

The diploma of Member was conferred upon the following gentleman who has previously passed the Final Examination of the Conjoint Examining Board and has now complied with the by-laws:—

Robert William Walter Vaughan, Liverpool and University College Hospital.

Licences to practise Dental Surgery were conferred by the Council upon the undermentioned 33 gentlemen who have passed the resquisite examinations and complied with the by-laws of the College:—

Stammers Henry Alabaster, Charing Cross and Royal Dental Hospitals; Frederick George Hayward Armin, Charing Cross and Royal Dental Hospitals; Walter Pigott Barfoot, Charing Cross and Royal Dental Hospitals; Arthur Henry Bridges, Charing Cross and Royal Dental Hospitals; Stephen Wilson Charles, Guy's Hospital; Leonard Marshall Crockett, Charing Cross and Royal Dental Hospitals; George Leslie Curnock, Charing Cross and Royal Dental Hospitals; Norman Malcolm McArthur Douglas, Liverpool University; Max D
Hospital; Leona
Guanziroli, Cha
Edwin Guilding
Royal Dental Ho
versity; Ernest
Royal Dental H
Frederick Oscar
Hospital; Fred
William Stocks
Leeds University,
Edward Southcon
Harold Matthew
Pounds, Charing
Pugh, Guy's Hosp
Dental Hospitals;
Dental Hospitals;
Tibbalds, Guy's Hospital; Edgar Arthur Tomes.

The first part of the examination will comprise the following subjects. The elements of chemistry and physics: methods of chemical analysis and in particular the analysis of air and water. The laws of heat and the elements of pneumatics, hydrostatics, and hydraulics in their application to warming, ventilation, water-supply, and drainage. The geological and other conditions determining the healthiness of sites for dwellings. Sources, storage, and purification of water-supply. The elements of meteorology in relation to health. Principles of building construction in their application to dwellings, hospitals, and schools. The disposal of sewage and refuse and the general principles of sanitary engineering. Disinfectants, their chemistry and use. The chemical and microscopical examination of foods and the detection of the commoner forms of contamination. The methods of bacteriological investigation and analysis. The bacteriology of air, water, food, and soil. The general pathology of infection and of the diseases of animals that are transmissible to man. The second part of the examination will have reference to State Medicine and to the applications of Pathology and Sanitary Science, and will comprise the following subjects. Laws and Statutes relating to Public Health.[1] The model by-laws of the Local Government Board. Sanitation of dwellings, schools, factories, and workshops, and of villages and towns. Inspection of slaughter-houses, cowsheds, &c. Inspection of meat and other articles of food. General epidemiology, with special reference to the origin, pathology, symptoms, propagation, geographical distribution, and prevention of the epidemic, endemic, and other infective diseases both of temperate and of tropical climates. The methods applicable to the medical investigation of epidemics. Effects on health of overcrowding, vitiated air, impure water, polluted soils, and bad or insufficient food. Unwholesome trades and occupations and the diseases to which they give rise. Nuisances injurious or dangerous to health. The effects on health of season and climate. The principles and methods of vital statistics in relation to public health. (N.B.—The foregoing schedule is not to be understood as limiting the scope of the examination, which will include every branch of sanitary science. No candidate will be approved by the examiners who does not show a high proficiency in all the branches of study, scientific and practical, which bear upon the duties of medical officers of health.) The examinations in both parts will be oral and practical, as well as in writing. One day at least will be devoted to practical laboratory work and one day to oral and practical examination in, and reporting on, subjects connected with outdoor sanitary work. Candidates may present themselves for either part separately or for both together at their option; but the result of the examination in the case of any candidate will not be published until he has passed to the satisfaction of the examiners in both parts. Every candidate will be required to pay a fee of £6 6*s.* before admission or re-admission to *either part* of the examination, but candidates who have presented themselves before the year 1896 will be re-admitted to either part on payment of a fee of £5 5*s.* Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a diploma testifying to his competent knowledge of what is required for the duties of a medical officer of health. All applications for information respecting this examination and the courses of study in the University should be addressed to Dr. Anningson, Walt-ham-sal, Barton-road, Cambridge, Secretary to the Syndicate. Candidates who desire to present themselves for the examination must send in their applications on forms supplied for the purpose and transmit them with the fees to Mr. J. W. Clark, Registrary, University of Cambridge, for the April examination on or before March 17th and for the October examination on or before Sept. 15th. The prescribed certificate must be sent to the Registrary so as to reach him not later than 10 A.M. on March 30th and Sept. 28th respectively. Cheques should be crossed "Barclay and Co., Ltd." The fee for either part of the examination cannot be returned to any candidate who fails to present himself; but he will be entitled, without an additional fee, to be a candidate on one subsequent occasion. Candidates must before admission to either part of the examination produce evidence of having satisfied provisions (1), (2), and (3), and before admission to Part II. having satisfied provision (4), above mentioned. The following is a list of colleges and schools of medicine at which the courses of laboratory instruction have, for the purposes of this examination, been already approved by the State Medicine Syndicate: The University Laboratories, Cambridge; London Hospital Medical College; St. Bartholomew's Hospital Medical College; King's College, London; University College, London; the Royal Army Medical College, London; the Victoria University of Manchester; the University of Durham Medical School, Newcastle-on-Tyne; University of Birmingham; University of Liverpool; St. Mary's Hospital Medical College; Charing Cross Hospital College; Westminster Hospital Medical School; University College, Bristol; the University of Leeds; Guy's Hospital Medical School; St. Mungo's College, Glasgow; Edinburgh University; *Middlesex Hospital Medical School*; Royal Southern Hospital, Liverpool; Royal Colleges, Edinburgh; Surgeons' Hall, Edinburgh; Trinity College, Dublin; Queen's College, Belfast; St. Thomas's Hospital Medical School; University College, Cardiff; University College, Sheffield; Medical School, Catholic University, Dublin; St. George's Hospital Medical School; University of Glasgow; University of Aberdeen; Anderson's College, Glasgow; and the Royal Institute of Public Health.

University of Durham.—Sanitary Science is the special object of the degrees in Hygiene. Candidates for the degree of Bachelor in Hygiene (B.Hy.) must be at least twenty-two years of age, registered, and a graduate in Medicine of a recognised university, and at least twelve months shall have elapsed after the date when the candidates obtained their first registrable qualification in Medicine, Surgery, and Midwifery before presenting themselves for examination. They shall spend six months at Newcastle-upon-Tyne studying Comparative Pathology, Practical Bacteriology, Outdoor Sanitary Work, Infectious Diseases, Sanitary Chemistry, and Physics. They have to pass an examination in Sanitary Chemistry, Physics, Comparative Pathology, Sanitary Legislation, Vital Statistics, *Nosology*, Climatology, Meteorology, Distribution of Health and Disease, Sanitary Medicine and Practical Hygiene. The fee for the examination for the degree of B Hy. is 10 guineas and for the degree £6 6*s.* The examination is divided into two parts and candidates *may present themselves for either part* or both together at their option. Candidates for the degree of Doctor *of Hygiene (D.Hy.) must have acquired* the degree of Bachelor in Hygiene, must for two years subsequently have been engaged in practice as a medical officer of health, and must write an essay upon some practical hygienic subject. The fee for the examination for the degree of D.Hy. is £5 and for the degree £6 6*s.* The regulation for education and examination for the Diploma in Public Health (D.P.H.) are the same as those for the degree of Bachelor of Hygiene, except that the candidate is not required to be a graduate in Medicine of a recognised University and the course of study *need not be passed at Newcastle-upon-Tyne.* The fee for the examination and Diploma in Public Health is 10 guineas.

Victoria University of Manchester.—An examination in Public Health is held twice yearly under the following regulations: The examination is in two parts and is written, oral, and practical. Candidates before entering for either part of the examination must have held for not less than twelve months a registrable qualification in Medicine, Surgery, and Midwifery, and must present satisfactory certificates of having attended courses of instruction in Public Health in the University, or in a college or medical school recognised for this purpose by the University; of having attended, after obtaining a registrable qualification, during at least six months, practical instruction in a laboratory approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those diseases of animals which are communicable from animals to man; of having, after obtaining a registrable qualification, attended for three months the *clinical practice of a hospital for infectious* diseases; of having, after obtaining a registrable qualification, practically studied the duties of outdoor sanitary work for not less than six months under the medical officer of health of a county or of a large urban district. Candidates macy Act, 1868, provided that such preparations be sold in closed pers bearing in legible characters the name of a pharmaceutical nist or of a chemist and druggist registered under the Pharmacy , 1868, as a compounder of the preparation." Mr. SAMUEL, who in charge of the Bill, firmly refused to assent to any proposal ch would allow those preparations to be sold by tradesmen all r the country. Accordingly the amendment was not accepted. the motion of Mr. SAMUEL belladonna plasters were excepted from t I. of the schedule.

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[1] All candidates will be examined in the provisions of the English Statutes relating to public health, but any candidate will be given an opportunity of showing a special knowledge of other sanitary laws in operation within the British Empire, provided that, *when applying for admission to the examination, he give notice* of his desire and indicate the special law he proposes to offer.

The Fate of Bills.

Ir. ASQUITH in announcing the intentions of the Government on dnesday, Dec. 9th, with regard to its programme for the remainder the session, indicated the Bills which he hoped would be carried s year. Amongst these he mentioned the Poisons and Pharmacy l. However, if opposition to the Tuberculosis Prevention (Ireland) l developed more than was anticipated the Government would not e effective steps to press it through its remaining stages this sion. The Housing and Town Planning Bill was not to be further anced this session but the Prime Minister promised that it would reintroduced at an early period of next session when its committee ge would be curtailed within as narrow dimensions as was reasonly possible.

Lotteries and Indecent Advertisements.

he Home Office has promised to introduce legislation next session the subject of Lotteries and Indecent Advertisements.

The Housing and Town Planning Bill.

The order for the consideration on report of the Housing and Town anning Bill has been discharged and the Bill withdrawn.

HOUSE OF COMMONS.

THURSDAY, DEC. 10TH.

The Analyst for County Cavan.

Mr. VINCENT KENNEDY asked the Chief Secretary to the Lord ieutenant of Ireland to state who was the analyst for county Cavan, hen he was appointed, where his laboratory was situated, what staff as employed there, for how many counties did he act as analyst, how nany samples were submitted to him in the years 1905-06-07, how many f these samples did he personally analyse, and what was the total salary paid him, distinguishing the amount paid by county Cavan.—Mr. BIRRELL replied: The analyst for county Cavan is Sir Charles Cameron who was appointed in 1878. His laboratory is in *Castle-street, Dublin*, but I have no means of knowing what staff he employs in it. He acts as public analyst for 24 counties and the salary paid to him by county councils, including £60 from county Cavan, amounts to £1005. *He* also receives £385 per annum as analyst for eight boroughs. There is no official record of the number of samples submitted to him in 1905-06-07, but the county council might be able to supply the honourable Member with the information.

The Milk Bill.

Mr. COURTHOPE asked the President of the Local Government Board when the Milk Bill would be printed.—Mr. BURNS answered: It would not be practicable for the Bill to make any progress this year, and it will, I think, be best to defer its introduction until next session.

The Sanitary Condition of Tin Works.

Mr. JOHN WILLIAMS asked the Secretary of State for the Home De-
had been drawn to the badly ventilated
rly the whole of the tin works situate at
ad whether he was aware that the conditions under which work was carried on at those works were conducive to sickness, severe illness, and, in some cases, consumption; and whether, if such conditions existed, he would cause instructions to be given to the owners thereof to make the work and to carry out the improvements necessary for the preservation of the health of the workmen thereat.—Mr. GLADSTONE (by written *answer) replied*. I have no information as to any specific cases of illness at the works in question, but I am aware that, not only at these works but in tinplate works generally, the conditions as *regards* ventilation need considerable improvement, and the question of the best means to secure the removal of fumes and dust has been receiving special attention from the Factory Department. During the last three months a large number of works have been visited by the inspector and special
rried out at
known, the

MONDAY, DEC. 14TH.

The Medical Inspector of Estates' Hospitals, British Guiana.

Sir HENRY COTTON asked the Under Secretary of State for the Colonies whether his attention had been drawn to the fact that the Governor of British Guiana did, by his casting vote against the almost unanimous objection of the elected members of the Combined Court of the Colony, decide, on Nov. 3rd last, on the abolition of the office of medical inspector of estates' hospitals; whether the salary of that office, which was instituted for the protection of Indian immigrants indentured for service on sugar plantations, was secured *by* the law of the colony; whether the Government of India had been consulted and had agreed to the abolition of this office; and whether the Secretary of State proposed to take any action in the matter.—Colonel SEELY *replied: The* facts stated in the first part of my honourable friend's question are, generally correct, and the action of the Governor was in accordance with the law which expressly provides that he shall have *both* an original and a casting vote, but I may explain that if, as is proposed, the separate office of medical inspector is abolished, arrangements will be made for the efficient discharge of the duties hitherto attached to it, experience having shown that they are not sufficient to occupy the whole time of one officer. It has not in the circumstance been considered necessary to consult the Government of India. The law of the colony imposes no obligation to appoint a separate officer for the sole purpose of medical inspection, although it empowers the Governor to appoint such an officer at a salary not exceeding £1000 per annum. At the Governor's instance, the whole matter has been deferred for the present, pending further discussion in the Combined Court.

Quarantine Regulations in Spain.

Mr. M'ARTHUR asked the Secretary of State for Foreign Affairs whether his attention had been called to the periods for which vessels arriving in Spain from Liverpool had been *detained in quarantine* on account of recent cases of plague in Liverpool; whether he was aware that the detention had amounted to as much as 20 days, although the *International Sanitary Convention of 1903 (to which all European* countries, except Spain, Greece, and Norway, were parties) decided that a period of five days' quarantine, computed from the date of isolation of the last-known case of plague at the infected port, was sufficient; and whether he would make representations to the Government of Spain with a view of bringing the usage of that country into accord with that prevailing in other European countries, so as to minimise the loss and inconvenience to which British shipowners and merchants were subjected.—Mr. MCKINNON WOOD (on behalf of Sir EDWARD GREY) replied: The answer to the first part of the question is in the affirmative. I am not aware that detention in *quarantine* in Spanish ports has amounted to as much as 20 days. 12 days was the period fixed in the first instance by the Spanish Sanitary Regulations; but representations were *made by His Majesty's Ambassador at Madrid* and subsequently the Spanish Government gave free pratique to healthy vessels arriving from Liverpool, subject to certain reservations in accordance with the Venice Sanitary Convention *to which Spain is a* party. His Majesty's Government recognises the importance of securing uniformity and a common standard of regulations, as provided by the Paris Convention, and will do all in its power *to facilitate* its general application.

Christmas Gifts in the Hospitals of the Metropolitan Asylums Board.

Mr. MYER asked the President of the Local Government Board *whether he was aware that subscription lists* were presented to the nurses in the hospitals of the Metropolitan Asylums Board, whose salaries ranged from £24 to £25 per annum, soliciting subscriptions for *Christmas gifts to the matron* and assistant matron, and day and night sisters, and also that the nurses were expected to give presents to the day and night servants, to the nurses rooms' servants and the gate porters; and whether he would communicate with the Asylums Board immediately, so that notices might be posted before the ensuing Christmas, discountenacing the system of the receipt of gifts by any of *their officials*.—Mr. BURNS answered: I have communicated with the Asylums Board with regard to this matter, and I find that inquiries with regard to it have been made by them at all their hospitals. I understand that the replies received show that in the large majority of cases nothing of the kind mentioned in the question took place, but that *in one* instance the practice referred to appears to have prevailed, and that in two or three *others* there has been some such practice, although of a more limited and partial character. I am glad to say, however, that instructions were given on Saturday last to the medical superintendent in each of these cases to the effect that the practice should be discontinued forthwith.

TUESDAY, DEC. 15TH.

The Indian Medical Service.

Mr. KETTLE asked the Under Secretary of State for India whether he was aware of the difficulties in the path of capable Indians *desirous of* presenting themselves at the competitive examination for the Indian Medical Service held in England and of the disadvantages under which they were placed as compared with *the people of this country*; and what steps he proposed to take in order to remove these disabilities *from the* people of India and to afford them reasonable opportunities *for rising* in the medical service of their country. The *honourable* gentleman further asked whether the professors of the Medical College and the physicians and surgeons at the General Hospital, Madras, were military officers attached to the Indian Medical Service and lent to the civil authorities; whether medical gentlemen outside the ranks of this Service were debarred from filling those posts and were allowed to serve only in subordinate ranks; whether he was aware of the discontent amongst members of the subordinate service owing to their being shut off *from the higher appointments* for want of a commission in the army; and whether he proposed to make any recommendations to the Government of India on the subject.—Mr. BUCHANAN said in *reply: Perhaps the honourable* Member will permit me to answer his two questions together. The professors of the Medical College and the physicians and surgeons of the General Hospital, Madras, are at present officers of the Indian Medical Service, which is recruited for both military and civil duty. Medical officers outside that service are not shut off from higher appointments, although *in practice* they seldom attain the highest posts. The Secretary of State does not consider the present condition of the matter to be satisfactory and is in communication with the *Government of India* as to the desirability of promoting the growth of an independent medical profession in India and of extending the employment of civil medical practitioners recruited in India.

Medical Inspection of School Children.

Mr. GEORGE ROBERTS asked the President of the Board of Education whether steps had yet been taken to carry into effect the promise of his predecessor in office, made to a deputation from the County Councils' Association in February last, to give financial aid *to local* education authorities in respect *of the cost of organising* and carrying out medical inspection in schools; and, if so, whether he would state the nature of the proposals and when they would *come* into operation.—Mr. RUNCIMAN replied: My predecessor's *statement* referred to the additional money proposed to be provided in connexion with the Education Bill. *I am not in a position* to make any statement as to the possibility of giving an increased Exchequer grant in aid of elementary education.

The Administration of Anæsthetics.

Mr. BRAMSDON asked the Secretary of State for the Home Department whether his attention had been called to certain deaths under anæsthetics; whether he had yet received the contemplated reply from the President of the General Medical Council *to* the communication addressed to him and the *nature* of such reply; and whether, having regard to the number of deaths that were constantly

The first part of the examination will comprise the following subjects. The elements of chemistry and physics: methods of chemical analysis and in particular the analysis of air and water. The laws of heat and the elements of pneumatics, hydrostatics, and hydraulics in their application to warming, ventilation, water-supply, and drainage. The geological and other conditions determining the healthiness of sites for dwellings. Sources, storage, and purification of water-supply. The elements of meteorology in relation to health. Principles of building construction in their application to dwellings, hospitals, and schools. The disposal of sewage and refuse and the general principles of sanitary engineering. Disinfectants, their chemistry and use. The chemical and microscopical examination of foods and the detection of the commoner forms of contamination. The methods of bacteriological investigation and analysis. The bacteriology of air, water, food, and soil. The general pathology of infection and of the diseases of animals that are transmissible to man. The second part of the examination will have reference to State Medicine and to the applications of Pathology and Sanitary Science, and will comprise the following subjects. Laws and Statutes relating to Public Health.[1] The model by-laws of the Local Government Board. Sanitation of dwellings, schools, factories, and workshops, and of villages and towns. Inspection of slaughter-houses, cowsheds, &c. Inspection of meat and other articles of food. General epidemiology, with special reference to the origin, pathology, symptoms, propagation, geographical distribution, and prevention of the epidemic, endemic, and other infective diseases both of temperate and of tropical climates. The methods applicable to the medical investigation of epidemics. Effects on health of overcrowding, vitiated air, impure water, polluted soils, and bad or insufficient food. Unwholesome trades and occupations and the diseases to which they give rise. Nuisances injurious or dangerous to health. The effects on health of season and climate. The principles and methods of vital statistics in relation to public health. (N.B.—The foregoing schedule is not to be understood as limiting the scope of the examination, which will include every branch of sanitary science. No candidate will be approved by the examiners who does not show a high proficiency in all the branches of study, scientific and practical, which bear upon the duties of medical officers of health.) The examinations in both parts will be oral and practical, as well as in writing. One day at least will be devoted to practical laboratory work and one day to oral and practical examination in, and reporting on, subjects connected with outdoor sanitary work. Candidates may present themselves for either part separately or for both together at their option; but the result of the examination in the case of any candidate will not be published until he has passed to the satisfaction of the examiners in both parts. Every candidate will be required to pay a fee of £6 6*s*. before admission or re-admission to *either part* of the examination, but candidates who have presented themselves before the year 1896 will be re-admitted to either part on payment of a fee of £5 5*s*. Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a diploma testifying to his competent knowledge of what is required for the duties of a medical officer of health. All applications for information respecting this examination and the courses of study in the University should be addressed to Dr. Anningson, Walt-ham-sal, Barton-road, Cambridge, Secretary to the Syndicate. Candidates who desire to present themselves for the examination must send in their applications on forms supplied for the purpose and transmit them with the fees to Mr. J. W. Clark, Registrary, University of Cambridge, for the April examination on or before March 17th and for the October examination on or before Sept. 15th. The prescribed certificate must be sent to the Registrary so as to reach him not later than 10 A.M. on March 30th and Sept. 28th respectively. Cheques should be crossed "Barclay and Co., Ltd." The fee for either part of the examination cannot be returned to any candidate who fails to present himself; but he will be entitled, without an additional fee, to be a candidate on one subsequent occasion. Candidates must before admission to either part of the examination produce evidence of having satisfied provisions (1), (2), and (3), and before admission to Part II. having satisfied provision (4), above mentioned. The following is a list of colleges and schools of medicine at which the courses of laboratory instruction have, for the purposes of this examination, been already approved by the State Medicine Syndicate: The University Laboratories, Cambridge; London Hospital Medical College; St. Bartholomew's Hospital Medical College; King's College, London; University College, London; the Royal Army Medical College, London; the Victoria University of Manchester; the University of Durham Medical School, Newcastle-on-Tyne; University of Birmingham; University of Liverpool; St. Mary's Hospital Medical College; Charing Cross Hospital College; Westminster Hospital Medical School; University College, Bristol; the University of Leeds; Guy's Hospital Medical School; St. Mungo's College, Glasgow; Edinburgh University; Middlesex Hospital Medical School; Royal Southern Hospital, Liverpool; Royal Colleges, Edinburgh; Surgeons' Hall, Edinburgh; Trinity College, Dublin; Queen's College, Belfast; St. Thomas's Hospital Medical School; University College, Cardiff; University College, Sheffield; Medical School, Catholic University, Dublin; St. George's Hospital Medical School; University of Glasgow; University of Aberdeen; Anderson's College, Glasgow; and the Royal Institute of Public Health.

University of Durham.—Sanitary Science is the special object of the degrees in Hygiene. Candidates for the degree of Bachelor in Hygiene (B.Hy.) must be at least twenty-two years of age, registered, and a graduate in Medicine of a recognised university, and at least twelve months shall have elapsed after the date when the candidates obtained their first registrable qualification in Medicine, Surgery, and Midwifery before presenting themselves for examination. They shall spend six months at Newcastle-upon-Tyne studying Comparative Pathology, Practical Bacteriology, Outdoor Sanitary Work, Infectious Diseases, Sanitary Chemistry, and Physics. They have to pass an examination in Sanitary Chemistry, Physics, Comparative Pathology, Sanitary Legislation, Vital Statistics, Nosology, Climatology, Meteorology, Distribution of Health and Disease, Sanitary Medicine and Practical Hygiene. The fee for the examination for the degree of B.Hy. is 10 guineas and for the degree £6 6*s*. The examination is divided into two parts and candidates may present themselves for either part or both together at their option. Candidates for the degree of Doctor of Hygiene (D.Hy.) must have acquired the degree of Bachelor in Hygiene, must for two years subsequently have been engaged in practice as a medical officer of health, and must write an essay upon some practical hygienic subject. The fee for the examination for the degree of D.Hy. is £5 and for the degree £6 6*s*. The regulation for education and examination for the Diploma in Public Health (D.P.H.) are the same as those for the degree of Bachelor of Hygiene, except that the candidate is not required to be a graduate in Medicine of a recognised University and the course of study need not be passed at Newcastle-upon-Tyne. The fee for the examination and Diploma in Public Health is 10 guineas.

Victoria University of Manchester.—An examination in Public Health is held twice yearly under the following regulations: The examination is in two parts and is written, oral, and practical. Candidates before entering for either part of the examination must have held for not less than twelve months a registrable qualification in Medicine, Surgery, and Midwifery, and must present satisfactory certificates of having attended courses of instruction in Public Health in the University, or in a college or medical school recognised for this purpose by the University; of having attended, after obtaining a registrable qualification, during at least six months, practical instruction in a laboratory approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those diseases of animals which are communicable from animals to man; of having, after obtaining a registrable qualification, attended for three months the clinical practice of a hospital for infectious diseases; of having, after obtaining a registrable qualification, practically studied the duties of outdoor sanitary work for not less than six months under the medical officer of health of a county or of a large urban district. Candidates possibility of action at law, …… *only a comparatively small* number have found their way into the courts." The name of the union has been found a powerful deterrent in threatened action for malpraxis.

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[1] All candidates will be examined in the provisions of the English Statutes relating to public health, but any candidate will be given an opportunity of showing a *special* knowledge of other sanitary laws in operation within the British Empire, provided that, *when applying for admission to the examination, he give notice* of his desire and indicate the special law he proposes to offer.

DONATIONS AND BEQUESTS. — Mr. Matthew George Megaw has left £1000 to St. Bartholomew's Hospital for the building fund and £1000 to Guy's Hospital for general purposes. The late Mr. J. L. Perrin of Bristol has bequeathed £500 each to the following institutions: the Royal Ear Hospital, Soho, London; the Swansea General Hospital; Bristol General Hospital; Bristol Royal Infirmary; Bristol Dispensary; Bristol Eye Hospital; and Bristol Hospital for Women.

REUBEN HARVEY MEMORIAL PRIZE.—The ninth award of this triennial prize will be made on July 1st, 1909. The competition for the prize is open to all students of the various schools of medicine in Dublin which are recognised by the medical licensing bodies in Ireland and also to graduates or licentiates of these bodies of not more than three years' standing at the time of the award. The prize, value £25, will be awarded to the writer of the best essay, on a subject to be selected by the candidate, evidencing original research in animal physiology or pathology, the essay to be illustrated by drawings or preparations. The essays, bearing fictitious signatures, are to be lodged with the Registrar of the Royal College of Physicians, Kildare-street, Dublin, on or before June 1st, 1909.

THE INCORPORATED SOCIETY FOR THE DESTRUCTION OF VERMIN: THE QUESTION OF RAT VIRUS.—A meeting of the scientific committee of the Incorporated Society for the Destruction of Vermin, at which Dr. W. Collingridge, medical officer of health of the City of London, was present by invitation, convened to discuss the possible danger attending the use of rat virus, was held at the offices of the society, 95, Wigmore-street, W., on Dec. 10th. Sir Lauder Brunton presided and the following gentlemen were among those present: Dr. H. E. Annett, Dr. Louis W. Sambon, and Dr. F. M. Sandwith, also Mr. W. R. Boelter, Mr. Fletcher Barrett, Mr. F. V. Theobald, and Mr. A. E. Moore, secretary. It was resolved, on the motion of Sir Lauder Brunton, seconded by Dr. Sambon, that—

> In view of the great importance of the matter to the public urgent representations be made to the Government that suitable experiments be instituted to determine whether the various bacteriological preparations used for the destruction of rats and mice are, or may be likely to become, capable of producing disease in man and domesticated animals.

LITERARY INTELLIGENCE.—Messrs. Baillière, Tindall, and Cox have been authorised on behalf of the Department of Education of the Soudan Government to undertake in future the issue of the reports of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. Up to the present two volumes have been issued, covering a period from the foundation of these laboratories in 1903 to 1906. The third report will be issued at the beginning of next year, bringing the work up to 1908. The Soudan Department of Education has taken this step to meet the considerable demand for these reports which has arisen amongst medical men and other scientific workers interested in tropical research. Hitherto only a limited number of copies has been issued and these reports have been sent gratuitously to Government departments and to various medical, sanitary, and other institutions interested as well as to a few leading authorities on the subjects dealt with. The work of these laboratories has so far extended that the forthcoming third report will contain some 475 pages of detailed records of many interesting experiments and researches, principally connected with tropical medicine. The book will be illustrated and will include many coloured plates. Simultaneously with the third report, and as a supplement to it, will be issued a review of the progress made in tropical medicine during recent years, compiled by Dr. Andrew Balfour, director of the laboratories, and Dr. R. C. Archibald. The great cost of production of these reports, especially in their present voluminous dimensions, necessitates making a charge for them henceforth. The price fixed will be as moderate as is consistent with the cost of publication and any profit made on them will be devoted by the Soudan Department of Education to a special fund to be applied to future publications of the laboratories. All applications for current publications and for reprints of the first and second reports of the Wellcome Research Laboratories, Khartoum, should dressed to Messrs. Baillière, Tindall, and Cox, London.

SOCIETY OF MEMBERS OF THE ROYAL COLLEGE SURGEONS OF ENGLAND.—The annual meeting of t members of this society was held at Frascati's Restaura on Dec. 8th. Expressions of regret were made at t continued opposition of the Council of the Royal College Surgeons in refusing to accede to any of the repeated applic tions for more efficient representation and also pointing o that under the Midwifery, Factory, and Vaccination Act as well as the examinations of the Territorials, much bett fees could have been obtained if the professional units cou have relied upon the support of those who are pledged to d so. The officers were elected for the coming year and t funds were reported to be in a prosperous condition, no withstanding the heavy expense of the poll of the membe of the society caused by the recent action of the Colleg Several new members were elected and a hearty vote thanks was accorded to Mr. Joseph Smith, J.P., for presidin during the past year.

RESEARCH DEFENCE SOCIETY.—A meeting was held on Dec. 11th, at St. William's College, York under the chairmanship of Mr. W. F. H. Thompson, J.P., to inaugurate a York branch of the Research Defence Society. A large and representative company included the Hon. Mrs. Maclagan, the Dean and sub-Dean of York, Canon Argles, Canon Robinson, and many other clergymen. After the chairman had asked for an open-minded consideration of the case, Mr. Stephen Paget delivered an address in which he demonstrated the necessity to science of experiments on animals, using the arguments which we have published on previous similar occasions. Other speeches followed, which included two striking vindications of the experimental method by Canon Watson and the Dean of York. The latter said that "he was the chairman of a vivisection institution in that city, where vivisection was going on constantly and was going on that day. He meant the county hospital." With regard to Mr. Paget's remarks, the Dean said that "they had his statements on such testimony that they could not refuse to believe it. They could not believe that these men were palming off on them a quantity of fables that were untrue." Mr. W. Hood testified to the value of diphtheria antitoxin. The Rev. C. Owen and Mr. W. H. Jalland also spoke in favour of the society's aims. The Rev. J. Brighting and Miss Ansell put a certain number of hostile questions which were answered by Mr. Paget whom Miss Ansell is reported to have interrupted so frequently in the process that she had to be called to order by the chairman. Mr. H. V. Scott moved a vote of thanks to the lecturer and to the chairman, and Dr. P. Macdonald in seconding it remarked that at a recent lecture in York much had been made of the removal of the stomach and entrails of a dog. He knew a parallel case in which a somewhat similar rearrangement had been made in an "animal's" internal economy. That "animal" was a man whose life had been saved by the operation which had been done two years ago. He was likely to live to be an old man. This unanswerable illustration of the humane lessons to be learnt from animal experiment was warmly acclaimed by the audience. Dr. G. S. Hughes is the secretary of the new branch and we may remind our northern readers that the objects of the society are best served by recruiting non-medical members. It now numbers some 1800 persons.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Poisons and Pharmacy Bill.

THE Poisons and Pharmacy Bill has passed through its committee stage in one of the Standing Committees of the House of Commons. The principal alteration made in the measure was the adaptation of Clause 3 to embody the compromise between the pharmaceutical chemists and the drug store companies, which was explained by Mr. H. SAMUEL during the debate on the motion for the second reading of the Bill. The drug store companies under this arrangement must appoint a superintendent to manage the poisons department. There was some discussion on the clause to regulate the sale of certain poisonous substances for agricultural and horticultural purposes. An amendment was proposed to extend the regulations to "medical preparations containing any of the poisons from time to time comprised in Part II. of Schedule A to the

Health. The fees are £3 3*s.* for the First and £3 3*s.* for the Second B.Sc. Examinations, and £10 10*s.* for the degree of D.Sc.

University of Aberdeen.—The Diploma in Public Health (D.P.H.) is conferred only on graduates in Medicine of a University in the United Kingdom; and a period of not less than 12 months must elapse between medical graduation and entrance to the examination for the diploma. Every candidate must produce evidence of having attended, after graduation in Medicine, during a period of six months, practical instruction in Hygiene and Bacteriology in laboratories approved of by the University, together with having during six months (whereof three months must be distinct from the period of laboratory instruction) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health administration under the medical officer of health of a county or large urban district. He must have regularly attended for three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration. He must also have obtained practical instruction in the drawing and interpretation of plans. Every candidate who is not a graduate in Medicine of this University must have attended a course of instruction in the University in one or more of the subjects embraced in the examination for the diploma. The diploma is conferred after an examination in Public Health held in March and July of each year. Candidates must send in their names, with the necessary fee, to the Secretary of the Medical Faculty a fortnight before the examination. The fee is £5 5*s.* The examination is conducted by specially qualified examiners appointed by the University. Candidates may enter for the whole examination at one period or they may enter for Part I. at one period and for Part II. at another and subsequent period.

Royal University of Ireland.—This University grants a Diploma in Public Health. It is conferred only on graduates in Medicine of the University. Candidates are not admitted to this examination until the lapse of 12 months from the time of obtaining the M.B., B.Ch., B.A.O. degrees; they must give notice in writing to the Secretaries of their intention to present themselves and must pay the fee, £2, at least one month previously to the examination. Candidates are required to produce a certificate of having, after obtaining the degrees of M.B., B.Ch., B.A.O., attended six months' practical instruction in a laboratory approved by the University, and also of having for six months practically studied the duties of outdoor sanitary work under the medical officer of health of a county or large urban district, and also of having attended for a period of three months the practice of a hospital for infectious diseases. Candidates at this examination must answer in the following subjects: (1) Physics, (2) Chemistry, (3) Meteorology, (4) Sanitary Engineering and Architecture, (5) Bacteriology, and (6) Hygiene, Sanitary Law, and Vital Statistics.

University of Dublin.—The Diploma in Public Health is conferred, after examination, on the following conditions. The candidate must be a Doctor in Medicine or a graduate in Medicine, Surgery, and Midwifery of Dublin, Oxford, or Cambridge. The candidate must have obtained a registrable qualification at least 12 months before the examination. The candidate must have completed (unless registered as a practitioner on or before Jan. 1st, 1890), subsequently to obtaining a registrable qualification, six months' practical instruction in a chemical and bacteriological laboratory or laboratories approved by the University, must have studied practically outdoor sanitary work for six months under an approved officer of health (at least three months of this period being distinct from the time spent in laboratory work), and must have spent three months in a fever hospital where opportunities are afforded for the study of methods of administration. The subjects of examination are:—Part I.: Chemistry, Bacteriology, Hygiene, Pathology (including methods of post-mortem examinations), Physics, and Meteorology. Part II.: Hygiene and Epidemiology, Vital Statistics, Public Health Law, and Sanitary Engineering and Reports.

Royal College of Physicians of London and the Royal College of Surgeons of England.—The following are the regulations for obtaining the Diploma in Public Health: Section 1: Candidates must be registered under the Medical Act. The examination consists of two parts. The fee for each part is £6 6*s.* A candidate intending to present himself must give 14 days' written notice to the Secretary at the Examination Hall, Victoria Embankment, W.C. A candidate registered under the Medical Act on or before Jan. 1st, 1890, will be admissible to Part I. of the examination on producing evidence of being at least 23 years of age, and to Part II. on producing evidence of being at least 24 years of age. A candidate registered under the Medical Act after Jan. 1st, 1890, will be admissible to examination in Part I. on producing evidence (1) of having been in possession of a registrable qualification in Medicine, Surgery, and Midwifery for at least 12 months; (2) of having attended, after obtaining such registrable qualification, practical instruction in a laboratory recognised by the Examining Board in England during a period of six months; and (3) of being at least 23 years of age. A candidate will be admitted to Part II. of the examination on producing evidence (1) of having been associated day by day in the duty, routine and special, of Public Health administration during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Par. 2 for Part I.) under the supervision of a medical officer of health who fulfils certain conditions which can be ascertained on application to the secretary[2]; (2) of having attended the clinical practice of a hospital for infectious diseases recognised by the Examining Board in England, after obtaining his registrable qualification in Medicine, Surgery, and Midwifery; and (3) of being at least 24 years of age.

The Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons, of Glasgow.—All candidates for the Diploma in Public Health must have been qualified for at least one year. Those qualified before 1890 do not require to produce evidence of attendance on any special courses. All other candidates must have attended, after qualifying, six months' practical instruction in a recognised laboratory or laboratories, and must have studied for six months the duties of outdoor sanitary work under the medical officer of health of a county or large urban district or a medical officer of health who is also a teacher of Sanitary Science in a Medical School, or a sanitary staff officer of the Royal Army Medical Corps having charge of an Army Corps District or command. There are two examinations, and candidates may enter for both at one period or for either separately. The First Examination includes (*a*) Laboratory Work (Chemistry and Bacteriology), (*b*) Physics, and (*c*) Meteorology; and the Second Examination embraces (*a*) Report on Premises visited, (*b*) Examination at Fever Hospital, (*c*) Examination at Public Abattoir, (*d*) Written and Oral Examinations on Epidemiology and Endemiology, (*e*) Vital Statistics and Sanitary Law, and (*f*) Practical Sanitation. The fee is 12 guineas for both examinations, or 6 guineas for either of them. A fee of 3 guineas is payable by rejected candidates for either examination. The examination is held twice yearly, in May and October. The published regulations provide detailed synopses of the subjects of examination. The Registrar for Edinburgh is Mr. James Robertson, solicitor, 54, George-square, and for Glasgow Mr. Alexander Duncan, LL.D., 242, St. Vincent-street.

Royal College of Physicians and Royal College of Surgeons in Ireland.—Stated examinations for the Diploma in Public Health are held in the months of February, May, July, and November. A special examination for the diploma may, at the discretion of the Committee of Management (except during the months of August and September), be obtained on payment of £15 15*s.*, in addition to the ordinary fees mentioned below, and on giving notice at least one fortnight before the date of the proposed examination. Every candidate for the Diploma in Public Health must be a registered medical practitioner. (Candidates registered or entitled to be registered prior to January, 1890, are exempt from the rules as to study.) He must subsequently to qualification (1) receive six months' laboratory instruction in Chemistry, Bacteriology, and the Diseases of Animals

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[2] Provided that the period of six months may be reduced to a period of three months (which shall be distinct and separate from the period of laboratory instruction required under Regulation 2) in the case of any candidate who produces evidence that after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on public health administration given by a teacher or teachers in the department of public health of a recognised medical school.

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AND MANSFIELD, THE CELTIC PRESS, 43, Chancery-lane,
, W.C.

ted Ears. (Intrameatal Treatment.) By F. Faulder White,
C.S. Eng., Hon. Surgeon, Coventry and North Warwickshire
tal and to the Ear and Throat Department. Price 5s. net.

Appointments.

pplicants for Vacancies, Secretaries of Public Institutions,
thers possessing information suitable for this column, are
d to forward to THE LANCET *Office, directed to the Sub-*
r, not later than 9 o'clock on the Thursday morning of each
such information for gratuitous publication.

ondon, L.D.S.Eng., has been appointed Honorary Dental
n to St. John's Hospital, Twickenham.
H. R., M.B. Cantab., has been appointed Lecturer in Diseases
ldren in the University of Manchester.
ray, H. S., F.R.C.S. Eng., has been appointed Additional
ner in Surgery at the University of Cambridge.
d, DIGBY S., M.R.C.S., L.R.C.P. Lond., has been appointed
al Superintendent at St. George's Infirmary, Hanover-
. W.
Miss Z. M., M.B., B.S. Lond., has been appointed Resident
al Officer at the Jenny Lind Infirmary for Children, Norwich.
LABOLD, M.B., Ch.B. Vict., has been appointed Honorary
cian to the Pendleton Branch Dispensary of the Salford Royal
tal.

Vacancies.

r information regarding each vacancy reference should be
made to the advertisement (see Index).

AM, QUEEN'S HOSPITAL.—House Surgeon for six months.
at rate of £80 per annum, with board, lodging, and washing.

L, COUNTY BOROUGH OF.—School Medical Officer (female).
£200 per annum.

, SUSSEX COUNTY HOSPITAL.—Assistant Pathologist. Salary
r annum, with board, residence, and laundry.

CITY MENTAL HOSPITAL, Whitchurch.—Junior Assistant
al Officer, unmarried. Salary £170, with quarters and all

LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.
strars.

HOSPITAL FOR WOMEN, Fulham-road, S.W.—House Surgeon,
ried. Salary £30 per annum.

UNION WORKHOUSE HOSPITALS, Withington, Manchester.—
r Resident Medical Officer. Salary £100 per annum, with
, apartments, and attendance.

LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria
E.—House Physician for six months. Salary at rate of
r annum, with board, washing, and residence.

ER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80
num, with board, residence, and washing.

AND WARWICKSHIRE HOSPITAL.—Senior House Surgeon
£120 per annum, with rooms, board, washing, and attend
Also Honorary Medical Officer.

RE ROYAL INFIRMARY.—Two House Surgeons, One House
cian, and One Assistant House Surgeon. Salary of three
r £100 per annum, with apartments, board, &c., and of latter
e of £80 per annum, with apartments, board, &c.

ND CORNWALL SANATORIUM FOR CONSUMPTIVES, Didworthy
Brent.—Resident Medical Superintendent. Salary £250, with
nce, board, and laundry.

ER, ROYAL ALBERT HOSPITAL.—Resident Medical Officer, un-
al. Salary £100 per annum, with apartments, board, &c.

DR. STEEVENS' HOSPITAL.—House Surgeon. Salary £100 per
, with apartments, fire, and light.

DON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN,
well, E.—House Physician. Salary at rate of £75 per annum,
board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road,
n, S.E.—Aural Surgeon, also Clinical Assistants.

ER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE
TION.—Assistant Physician. Also Assistant House Surgeon
months. Salary at rate of £80 per annum, with board,
nce, and washing.

ORTHERN GENERAL HOSPITAL.—Physician.

ARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary
er annum, with board, lodging, and washing.

FOR SICK CHILDREN, Great Ormond-street, London, W.C.—
Physician, unmarried, for six months. Salary £30, with
and residence.

L DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100
num, with board and apartments.

L INFECTIOUS DISEASES HOSPITAL.—Three Assistant Resident
al Officers, unmarried. Salary £120 per annum each, with
washing, and lodging.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon and House Physician for six months. Salary in each case £80, with board and residence.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—House Physician. Salary £80 per annum, with board and residence.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing.

MERTHYR TYDFIL EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £250, rising to £300 per annum.

MIDDLESEX HOSPITAL, W.—Second Assistant to the Director of the Bacteriological and Clinical Laboratories. Salary £100 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Resident Medical Officer. Salary £80 per annum, with board and residence.

NEWCASTLE-UPON-TYNE, CITY LUNATIC ASYLUM, Gosforth.—Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, &c.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, &c.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £160 per annum, with apartments, attendance, light, and fuel.

NOTTS CONSUMPTION SANATORIUM.—Resident Medical Officer (female). Salary £100 per annum.

PAISLEY, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar.—Honorary Surgeon.

QUEEN ALEXANDRA'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Assistant Resident Medical Officer. Salary £75 per annum, with board, residence, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer. Salary at rate of £80 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Also Assistant House Surgeon. Salary of former £110 per annum and of latter £80 per annum, with rooms, commons, and washing in each case.

RHONDDA URBAN DISTRICT COUNCIL.—Medical Examiner of Elementary School Children. Salary £250 per annum, with travelling expenses.

ROYAL EAR HOSPITAL, Soho.—House Surgeon for six months. Salary at rate of £40 per annum.

ST. GEORGE'S HOSPITAL, Hyde Park-corner, S.W.—Resident Anæsthetist. Salary at rate of £100 per annum, with board and residence.

ST. HELENS COUNTY BOROUGH.—Assistant Medical Officer. Salary £250 per annum, rising to £300.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Clinical Assistants.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, lodging, and washing.

SOUTHPORT, COUNTY BOROUGH OF, EDUCATION DEPARTMENT.—School Medical Officer. Salary £250 per annum.

TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £30, with board, lodging, and laundry.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, &c.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants. Also Casualty Officers.

Births, Marriages, and Deaths.

BIRTHS.

BURGESS.—On Nov. 30th, 1908, at Secunderabad, India, the wife of J. Hay Burgess, M.B., F.R.C.S., Captain, I.M.S., of a daughter.

CARR.—On Dec. 11th, at 19, Cavendish-place, W., the wife of J. Walter Carr, M.D., F.R.C.P., of a son.

DICKIE.—On Dec. 10th, at Ryedale-terrace, Middlesbrough, the wife of W. S. Dickie, F.R.C.S., of a daughter.

DICKSON.—On Dec. 8th, to Dr. and Mrs. F. H. Dickson, 57, Holywell, Oxford, a daughter.

WHITE.—On Dec. 13th, at Moscow-court, W., the wife of C. T. R. White, L.R.C.P., L.R.C.S. Edin., of a son.

WOLFE.—On Dec. 10th, at Seward-road, Hanwell, W., the wife of John Henry Wolfe, M.R.C.S. Eng., L.R.C.P. Lond., a daughter.

MARRIAGES.

BALEAN—TERRELL.—On Dec. 1st, at St. Peter's, Bayswater, Hermann Balean, M.D., B.S. Lond., F.R.C.S. Eng., to Isabel, only daughter of Mr. Thomas Terrell, K.C.

COUTTS—WHITE.—On Dec. 12th, at St. James's, Spanish-place, W., David Kirkpatrick Coutts, F.R.C.S., &c., of Norwich, to Eleanor Kate, second daughter of the late Thomas John White, Esq., of Amana, Tulse Hill, S.W.

DEATHS.

JACKSON.—On Dec. 8th, 1908, Arthur Molyneux Jackson, M.D. Oxon., M.R.C.S., Medical Superintendent of Notts County Asylum at Radcliffe-on-Trent.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

12 months. 6. Of having attended at a recognised hospital the practice of Surgery and Clinical Lectures on Surgery for twelve months during the ordinary sessions. 7. Of being 21 years of age. The certificates of professional study will be required to show that students have attended the courses of professional study to the satisfaction of their teachers. Candidates may present themselves for the Second Professional Examination after the completion of four years' professional study from the date of registration as a dental student and after the lapse of not less than six months from the date of passing the First Professional Examination. The Second Professional Examination consists of: Part I., General Anatomy and Physiology, General Surgery and Pathology; Part II., Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery. The written examination in Part I. comprises General Anatomy and Physiology, General Pathology and Surgery, and in Part II., Dental Anatomy and Physiology, and Dental Pathology and Surgery. At the Practical Examination candidates may be examined (*a*) on the treatment of Dental Caries and may be required to prepare and fill cavities or to do any other operation in Dental Surgery (candidates must provide their own instruments); (*b*) on the Treatment of the various irregularities of Children's Teeth. There is also an Oral Examination. Candidates may take the two parts of the examination together or separately. Candidates must pass Part I. before proceeding to Part II. If they fail in Part I. they are not allowed to proceed with Part II. Exemption from the Preliminary Science Examination is granted to candidates who have passed an Examination in Chemistry and Physics for a degree in Medicine at a University in the United Kingdom, in India, or in a British colony. Exemption from Examination in Anatomy and Physiology is granted to candidates who have passed the Second Examination of the Examining Board in England or the corresponding Examination for any degree or qualification in medicine or surgery registrable under the Medical Act of 1886. Exemption from Examination in General Surgery and Pathology is granted to candidates who have passed the Examination in Surgery of the Examining Board in England or the corresponding Examinations of the Colleges and Universities above mentioned. The fee for the diploma is 20 guineas and is payable as follows:—Preliminary Science Examination, 3 guineas; First Professional Examination, 2 guineas; Second Professional Examination, 5 guineas; the balance to be paid on the completion of the Examinations. The Preliminary Science Examination is held in January, March, or April, July, and October in each year. The First and Second Professional Examinations are held in May and November in each year. Candidates must give 21 clear days' notice of their intention to present themselves for examination.

Royal College of Surgeons, Edinburgh.—For the Licence in Dental Surgery all candidates must pass a Preliminary Examination in General Knowledge and have their names inscribed in the Register of Dental Students of the General Medical Council. A copy of regulations giving a list of Preliminary Examinations recognised for obtaining this Licence, as well as of the subjects of the Professional Examinations, may be obtained from Mr. D. L. Eadie, Clerk to the Royal College of Surgeons, at 54, George-square, Edinburgh. Students who commenced their professional education by apprenticeship or attendance on lectures before July 22nd, 1878, are exempt from the Preliminary Examinations. Candidates must produce certificates of having, subsequently to the date of registration, been engaged for four years in professional studies and of three years' instruction in Mechanical Dentistry from a registered dental practitioner, except in the case of previously registered medical practitioners, when two years will be considered sufficient. Candidates who have commenced their studies after Oct. 31st, 1898, must have attended the following curriculum: Anatomy, one course of six months; Practical Anatomy, twelve months; Chemistry, with Laboratory Instruction, one course of six months; Physics, with Laboratory Instruction, three months; Physiology, with Laboratory Instruction, one course of six months; Surgery, including Surgical Pathology, one course of six months; Medicine, including Medical Pathology, one course of six months; and attendance on the practice of a recognised general hospital, with Clinical Instruction on Surgery and Medicine, twelve months. These courses must have been attended at a University or in an established school of medicine or in a provincial school specially recognised by the College as qualifying for the diploma in Surgery. In addition to these courses candidates will be required to have attended in a recognised dental hospital, or with teachers recognised by the College, the following special courses of lectures and instruction: Dental Anatomy and Physiology (Human and Comparative) (not less than 24 lectures), with Practical Dental Histology, three months; Dental Surgery and Pathology (not less than 20 lectures), with the Materia Medica and Therapeutics applicable to Dental Surgery, three months; Dental Mechanics (not less than 12 lectures), Theoretical and Practical, with Dental Metallurgy, three months—one course each; two years' attendance at a dental hospital or the dental department of a general hospital recognised by the College. Practical instruction in Mechanical Dentistry from a registered Dentist, or in the Mechanical Department of a recognised dental hospital and school, as apprentices or otherwise, either before or after registration, for three years. Certificates of attendance on such of these courses as may be respectively required will entitle candidates to appear either for the First Dental Examination or for the First and Second Examinations for the Triple Qualification, as they may select, and subject to the existing regulations for each qualification. Candidates who have passed the First and Second Examinations for the Triple Qualification will be exempt from the First Dental Examination and will have the advantage of being admissible either to the Final Dental Examination or to the subsequent Examination for the Triple Qualification, or to both. But the First Dental Examination will not be held as equivalent to the First and Second Triple Examinations and will admit to the Final Dental Examination only. Candidates who are Licentiates of this College or who may be registered medical practitioners will be required to produce certificates of attendance on the special subjects only and will be examined in these only for the dental diploma. First Professional Examination: The candidate must have attended the courses on Anatomy, Physiology, Chemistry, and Physics. The examination embraces Anatomy, Physiology, Chemistry, and Physics. The fee for those candidates who began study after Oct. 1st, 1896, is £5 5*s*. Second Examination: The candidate must have attended the remaining courses of the curriculum, must produce certificates showing that he is 21 years of age, and must pay a fee of £10 10*s*. The examination embraces Surgery, Medicine, Therapeutics, and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics with Dental Metallurgy, with a Practical Examination. Candidates who claim exemption from the First Dental Examination on the ground of having passed the First and Second Triple Qualification Examinations will, before being admitted to the Second Dental Examination, be required to pay the total fee of £15 15*s*. payable for the dental diploma. The fee payable by candidates who began study before Oct. 1st, 1896, shall be £10 10*s*., £4 4*s*. of which are payable on entering for the First Examination and £6 6*s*. on entering for the Second Examination.

Faculty of Physicians and Surgeons of Glasgow.—The regulations as to certificates, curriculum, number, and subjects of examinations, fees, &c., are in effect similar to those of the Royal College of Surgeons of Edinburgh, but embrace Dental Bacteriology. Special provision is made for candidates who intend to qualify both in Medicine and in Dentistry. Candidates can enter for the First Examination in three divisions, the first embracing Physics and Chemistry, the second Dental Metallurgy and Dental Mechanics and the third Anatomy and Physiology. There is also an examination in Practical Dentistry conducted in a dental hospital.

Royal College of Surgeons in Ireland.—All information concerning the licence in Dental Surgery may be obtained from the Registrar of the College, who will receive the applications of candidates for permission to be examined. The bank receipt for fees, together with all certificates, &c., are to be lodged with him at least seven days prior to the day fixed for the commencement of the examination. The Primary Dental Examinations commence on the second Monday in the months of February, May, and November. The Final Dental Examinations commence on the Thursdays immediately following the Primary Dental Examinations. Candidates are required to pass three examinations—viz., Preliminary (in occurring in all parts of " whilst under anæsthetics, he would consi recommending the appointment of a Royal ...quire into the matter.—Mr. GLADSTONE (by written answer) replied: My attention has not been called to the cases mentioned, except by my honourable friend's question. I have now received, through the Lord President of the Council, a reply from the General Medical Council. The Council does legislation to make practical training in the pulsory part of medical education, but it is the several licensing bodies as to how far they have given effect to the Council's recommendations on this subject.

WEDNESDAY, DEC. 16TH.

Tuberculosis Prevention (Ireland) Bill.

The House considered the Tuberculosis Prevention (Ireland) Bill on report.

Part I. of this measure provides for the notification of Tuberculosis in Ireland.

Mr. BIRRELL moved a new clause to make Part I. of the Bill adoptive. The clause was in the following terms:—

"1. This part of this Act shall extend to any urban or rural sanitary district in Ireland after the adoption thereof.

2. The sanitary authority of any such urban or rural sanitary district may, subject to the approval of any county council in which the district is situated, adopt this part of this Act by a resolution passed at a meeting of the authority.

3. Fourteen clear days at least before the meeting a summons to attend the meeting, specifying the business to be transacted, and signed by the clerk of the sanitary authority, shall be sent by post to, or delivered at the usual place of abode of, every member of the sanitary authority.

4. A resolution *adopting this part of this Act shall be published by* advertisement in local newspapers and by handbills."

This new clause was agreed to. Other amendments of less importance were also embodied in the Bill. When the report stage was completed the Bill was read a third time.

BOOKS, ETC., RECEIVED.

ALLMAN AND SON, LIMITED, 67, New Oxford-street, London, W.C.

The Voice and its Control. By Churchill Sibley, Mus.D. Price 2*s.* 6*d.* net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, Oxford House, Great Titchfield-street, London, W.

The Bradshaw Lecture on Massive Collapse of the Lung. By W. Pasteur, M.D., F.R.C.P., Physician to the Middlesex Hospital and Consulting Physician to the Queen's Hospital for Children. Price not stated.

BLACK, A. and C., Soho-square, London, W.

Who's Who, 1909. Price 10*s.* net.
Who's Who Year-book, 1909. Price 1s. net.
The Writers' and Artists' Year-book, 1909. Price 1s. net.
The Englishwoman's Year Book and Directory, 1909. Edited by G. E. Mitton. Price 2*s.* 6*d.* net.

BURROUGHS, WELLCOME, AND CO., London.

Wellcome's Photographic Exposure Record and Diary. 1909. Northern Hemisphere. Price 1s.

CASSELL AND COMPANY, LIMITED, London, Paris, New York, Toronto, and Melbourne.

Letts's Medical Diary for the year 1909. Space for 54 patients' names daily, prices, cloth, 2*s.* 6*d.*; tuck, 3*s.* 6*d.*; elastic band, 4*s.* Space for 108 patients' names daily, prices, cloth, 4*s.*; tuck, 5*s.*; elastic band, 5*s.* 6d.
Letts's Pocket Diary for 1909. No. 111. Limp cloth, gilt edges, Price 2*s.* net.
Letts's Diary for 1909. No. 69. Limp cloth, price 6*d.* net. (For waistcoat pocket.)
Letts's No. 31 Rough Diary. With a Week in an Opening. 1909. Price 1*s.* 6*d.*, or with blotting, 2*s.* 6*d.*
Letts's No. 34 Rough Diary. With a Week on a page. 1909. Price 1*s.* Interleaved with blotting.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.

The Country Home. Volume I., May to October, 1908. Price 5s. net.

FISCHER, GUSTAV, Jena.

Untersuchungen uber das menschlichen Herzen. Von Privatdoz I. Assistent am Patholog.-anatom. Instit Price M.25.
Notwendigste Angaben fur die Kostordnung Diabetischer. Zum Handgebrauch der Aerzte zusammengestellt. Von B. Naunyn. Price Pf.60.
Die Wurmfortsatzentzundung. Eine pathologische-histologische und Pathogenetische Studie. Von L. Aschoff, Professor der Allg. Pathologie und Patholog. Anatomie, Freiburg i.B. Price M.15.

GOVERNMENT PRINTING OFFICE, Washington.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. XIII., *Periodicity*–Prussia. Price not stated.

HEALTH RESORTS GUIDES, 42A, Westbere-read, London, N.W.

Continental Health-Resorts, Spas, Hydropathics, Sanatoria, Climatic Resorts, and Seaside Places. A Handbook for the Traveller on the Continent. Price 1s. net.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, Dryden House, 43, Gerrard-street, London, W.

The International Scientific Series. Edited by F. Legge. Human Speech. A Study in the Purposive Action of Living Matter. By N. C. Macnamara, F.R.C.S., Fellow of King's College, London, Surgeon-Major, Indian Medical Service, Retired; "Author of History of Asiatic Cholera," &c. Price 5*s.*

MARHOLD, CARL, Halle a.S.

Sammlung zwangloser Abhandlungen aus dem Gebiete dauungs und Stoffwechsel-Krankheiten. Herausg Professor Dr. A. Albu in Berlin.
Das Indikationsgebiet des Alkohols bei der Behandlung Krankheiten. Von Professor Dr. Georg Rosenfeld, (I. Band, Heft 5.) Price M.1.20.
Die Atonische und die Spastische Obstipation. Ihre diagnose und Behandlung. Von Privatdozent Dr. G Primararzt am k.k.Krakenhause "Rudolf-Stiftung" (I. Band, Heft 6.) Price M.1.
Das Koma Diabeticum und Seine Behandlung. Von D Levy, Berlin. (I. Band, Heft 7.) Price M.1.40.

REYNOLDS-BALL'S GUIDES, 27, Chancery-lane, London, W.C.

The Levantine Riviera. A *Practical Guide to* all the W from Genoa to Pisa. By W. T. Beeby, M.D., and Reynolds-Ball, F.R.G.S. Price 2*s.* 6*d.* net.

SANITARY PUBLISHING COMPANY, LIMITED, 5, Fetter-lane, E.C.

Guide to the Examination of School Children for the Use Medical Officers. By C. J. Russell McLean, M.D., D.P.H., Officer of Health, Doncaster Rural *and Tickhill* Urban Price 6*d.* net.

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

Saunders' Question-Compends, No. 20. Essentials of Bacte Being a Concise and Systematic Introduction to the S Bacteria and Allied Microorganisms. By M. V. Ball Member of the Academy of Natural Sciences of Phila Consulting Ophthalmologist and Aurist to the State Ho Warren, Pa. Sixth edition, thoroughly revised. Price 4s
A Manual of Clinical *Diagnosis.* By James Campbell Todd M.D., Associate Professor of Pathology, Denver and Gross of Medicine (*University of Denver*), Pathologist and Microscopist to Mercy, St. Anthony's, and the Denver C County Hospitals. Price 10*s.* net.
Principles and Practice of Physical Diagnosis. By John C. I Jr., M.D., Associate *in Clinical* Medicine, Jefferson College, Chief of Medical Clinic and Assistant Visiting Ph Jefferson Hospital. Price 15*s.* net.
A Text-book of General Bacteriology. By Edwin O. Jordan, Professor of Bacteriology in the University of Chicago Rush Medical College. Price 13*s.* net.

SCHWEIZERBART'sche (E.) VERLAGSBUCHHANDLUNG (E. N Stuttgart.

Die Topographie des Lymphgefässapparates des mensc Körpers und ihre Beziehungen zu den Infektionswe Tuberkulose. Von Dr. August Most, dirigierendem A chirurgischen Abteilung des St. Georg-Krankenhauses in und korrespondierendem Mitgliede der internationalen gung gegen die Tuberkulose (Bibliotheca Medica, Abteilu Price M.12.

VIGOT FRÈRES, 23, *Place de l'Ecole-de-Médecine*, Paris.

Indications Opératoires dans les Affections de l'Estomac. Dr. A. Delangre, de Tournai. Price Fr.5.
Les *Colloïdes* en *Biologie* et en Thérapeutique. Le Colloïdal Électrique. Par G. Stodel, Préparateur au Lab de Physiologie de la Sorbonne. Price Fr.6.
L'Examen le Régime d'Épreu Applicati et ses Résultats Diagnosti le Dr. Adolphe S de l'Université de Halle. Traduit par le Dr. Robert S. Ko Châtel-Guyon), des Facultés de Paris, Lausanne et Buenos Price Fr. 5.

VOGEL, F. C. W., Leipzig.

Pathologie und Therapie der Bearbeitet von Dr. Eduard Sonnen an Krankenhauses Moabit in Price M.6.

WALKER, JOHN, AND CO., LIMITED, Farringdon House, Warwic London, E.C.

Walker's Diaries for the Year 1909:—No. 3, crocodile, pri Binding No. 83 (solid pigskin), "back-loop" and pen pockets. Price 2*s.* 6*d.* No. 4, back-loop and pencil, no p Binding No. 74. American Russia. Price 3*s.* 9*d.* No. bound, no pencil, no pockets. Binding No. 127. Solid p Price 2*s.* 6*d.* No. 15, "Small Graphic." Fast bound, no Binding No. 425. Solid pigskin. Price 1*s.* 6*d.* No. 17, " Graphic." Fast bound, no pencil. Binding No. 317. grain leather. Price 1*s.* 6*d.* Quarterly Pocket Diary. In Parts. Binding No. 621. Long grain leather. Price Ruby Diary. Prices 6*d.* and 1*s.*
Calendars for Waistcoat Pocket:—"Happy Months" Cal Prices 6*d.*, 1*s.*, and 1*s.* 6*d.* "Golden Thoughts" Cal Prices 4*d.* and 6*d.* Vest-pocket Calendar. Printed on silk and black. Price 6*d.*

WERTHEIMER, LEA, AND CO. (printed by), 46 and 47, London London. (**THE TIMES BOOK CLUB** (to be obtained at), 376 Oxford-street, London, W.)

Mrs. Horace Dobell at Home: A Life Sketch. Illustrat Selections from her Works, Portraits, and Other Plates. 2*s.* 6*d.* net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. **SIMPKIN, MARS HAMILTON, KENT, AND CO., LIMITED**, London.

Wright's Improved Physicians' and Surgeons' and Consult Visiting List. Compiled by Robert Simpson, L.R.C.P., L.R Form A. 1909. Sixteenth edition. Prices, for 40 or 80 pati 5*s.*; for 120 or 160, 5*s.* 6*d.*; for 200, 6*s.* 6*d.*; for 240, 7*s.*

and the systematic courses in Dental subjects will be held in the School of Medicine of the University in Thoresby-place. The systematic instruction in the School of Dentistry will be given by the following:—Anatomy: Professor T. W. Griffith. Physiology: Professor de B. Birch. Pathology: Professor A. S. Grünbaum. Medicine: Professor A. G. Barrs. Surgery: *Professor H. Littlewood. Dental Surgery*: Mr. A. G. G. Plumley. Operative Dental Surgery: Mr. T. S. Carter. Dental Anatomy and Physiology: Mr. A. Alan Forty. Dental Mechanics: Mr. C. Rippon. Dental Metallurgy: Mr. W. Lowson. Dental Materia Medica: Mr. J. H. Gough. *The clinical instruction will be given in the* Dental Department of the Leeds Public Dispensary, which is recognised by the University and by the Royal College of Surgeons. Applications for the prospectus should be made to the Dean of the Faculty of Medicine.

University of Liverpool (Liverpool Dental Hospital and School of Dental Surgery).—The University grants a diploma in Dental Surgery (L.D.S.) and degrees in Dental Surgery (B.D.S. and M.D.S.). The courses of systematic instruction are given in the University buildings, five minutes' walk from the Dental Hospital. The two institutions are now closely associated and the management of the curriculum is in the hands of the Board of Dental Studies. At the Dental Hospital recent alterations have been made, and as it now stands this school offers advantages to students which are not excelled anywhere. The ground floor of the building contains the following: *Extraction room, with all needful appliances*; anæsthetic room, specially reserved, with every convenience; and large waiting-room for patients. The first floor has a large board-room and a very comfortable students' room set apart exclusively for the use of students. The whole top *floor of the building has been thrown into one fine, airy, and* well-ventilated operating room. This room will accommodate upwards of 30 operating chairs, which are of the "Morrison pattern," and each of which has a special electric light suspended before it. In the basement a very convenient workroom has been fitted up containing the necessary requirements, and there are commodious lavatories for students. A new Laboratory for practical mechanical work has also been constructed so as to meet the requirements of the curriculum. It is adequately furnished with all the modern appliances of a dental workshop. A skilled dental mechanic has been engaged and students are able to undertake at the hospital the whole of their training in Mechanical Dentistry. The times of the lecture at the University are arranged to meet the convenience of students, *thus allowing the maximum time for attendance upon Dental* Hospital practice. The staff of the hospital includes 12 honorary Dental Surgeons, a Demonstrator, two Anæsthetists, two House Surgeons, and a Curator. Fees for two years' hospital practice, £21. Apprenticeship.—A limited number of apprentices are admitted annually. Fees for three years, £105. Further information may be had from the Warden, Mr. W. H. Gilmour. The various medical and dental lectures are given at the University of Liverpool. The Anatomical Department has been removed to a new building, comprising a spacious *dissecting* room and a *museum* which contains an excellent collection of skulls illustrative of human and comparative dental anatomy. Fees: The composition fees are as follows: Diploma course (L.D.S.): Composition fee £58 10*s*., for diploma course of other licensing bodies £61 10*s*., payable in two equal instalments the first on entry, the second 12 months later. Two years' instruction in Mechanical Dentistry (pupilage) and two years' Dental Hospital Practice £100. *Degree course (B.D.S.): £67 10s.* for all lectures (including Chemistry, Physics, and Zoology) in three instalments. Two years' dental hospital, £21; general hospital practice, £10 10*s*.; three years' mechanical instruction (pupilage), £105.

University of Manchester.—In the University of Manchester the Dental Department forms an integral part of the Faculty of Medicine. This contains a series of laboratories, lecture rooms, and museums which will bear comparison with those of any other school in the kingdom, and the fullest opportunities for study are offered to students preparing for any of the professional examinations. Instruction adapted to the requirements of students preparing for the B.D.S. Degree and the Dental Diplomas of the University, the Royal College of Surgeons of England, and of other licensing bodies is given *during* the Winter and Summer sessions both at the University and at the Dental Hospital of Manchester in Oxford-street. The required general hospital practice is taken at the Manchester Royal Infirmary. Women students are admitted to the classes in the Dental Department and for them a separate laboratory for Practical Anatomy and common rooms are provided. The composition fee for candidates for the University degree of Bachelor of Dental Surgery is 60 guineas, payable in two equal instalments at the beginning of the first and third years of studentship. The composition fee for candidates for the University Diploma in Dentistry is 55 guineas, payable in two equal instalments at the beginning of the first and third years of studentship. The composition fee for candidates for the L.D.S. of England is 60 guineas, payable in two equal instalments at the beginning of the first and third years of studentship. Students who have already served their apprenticeship with a private practitioner, and who propose to complete the final portion of their attendance at the University and at an approved dental hospital, will be required to pay the composition fee in two equal instalments at the commencement of the first and second years of studentship. The payment of any of the above composition fees will entitle the student to attend all the classes in the following list which are required for their respective examinations. The composition fee does not include the hospital fees, the *examination* fees, the fee for the conferment of the degree or the diploma, the registration fee, nor the fees for chemicals and chemical apparatus (£1 1s.).

TEACHING INSTITUTIONS IN DENTISTRY.

See also under Universities of Birmingham, Leeds, Liverpool, and Manchester above.

LONDON.

Royal Dental Hospital of London and School of Dental Surgery, Leicester-square.—The school provides the special dental education required by the Royal College of Surgeons for the Licence in Dental Surgery. The general part of the curriculum may be taken at any general hospital. The hospital is open from 9 A.M. to 4 P.M., there being one staff for the morning and *another for the* afternoon of each day. Pupils are received for the mechanical training recognised by the curriculum. The demonstrators at the commencement of each session give a course of *lectures* on *Operative* Dental Surgery. The five house surgeoncies are held for six months each and are open to all qualified students. The lecturers, in addition to their lectures, give special demonstrations on the Microscopy of Dental Anatomy and Dental *Surgery. The lecturer on Dental* Mechanics also gives practical demonstrations in the mechanical laboratory. One Entrance Scholarship of the value of £20. The Saunders Scholarship awarded to second year students. The Storer Bennett Research Scholarship for Scientific Research in any branch of Dental Surgery, value *£50, is* awarded triennially. The Alfred Woodhouse Scholarship of £35 and the Robert Woodhouse Prize of £10 for Practical Dental Surgery. Prizes and certificates are awarded by the lecturers for the best examinations in the subjects of their respective courses, at the end of the summer and winter sessions. A prize of the value of 5 guineas is given by Messrs. Ash and Sons for the best essay on some surgical subject connected with Dental Surgery. Consulting *Physician*: Sir Richard Douglas Powell, Bart. Consulting Dental Surgeons: Mr. T. Arnold Rogers, Mr. Morton Smale, and Mr. C. S. Tomes, F.R.S. Dental Surgeons: Mr. J. F. Colyer, Mr. C. F. Rilot, Mr. W. H. Dolamore, Mr. G. Hern, Mr. J. G. *Turner, and Mr. N. G. Bennett. Assistant Dental* Surgeons: Mr. D. P. Gabell, Mr. A. Hopewell Smith, Mr. H. Austen, Mr. R. McKay, and Mr. W. W. James. Anæsthetists: Dr. Dudley Buxton, Dr. R. J. Probyn-Williams, and Mr. H. Hilliard. Demonstrators: Mr. A. L. Whitehouse, Mr. L. C. Ball, Mr. J. G. Atkinson Fairbank, Mr. F. Butler, Mr. G. H. Curtis, and Mr. H. C. Colyer. Lecturers:—Dental *Anatomy* and *Physiology (Human* and *Comparative)*: Mr. A. Hopewell *Smith. Dental Surgery* and *Pathology*: Mr. J. G. Turner. Operative Dental Surgery: Mr. W. H. Dol. Mechanical Dentistry: Mr. W. J. May. Metallurgy in its application to Dental Purposes: *Mr. P. Ellis* Richards. Dental Bacteriology: Mr. Howard Mummery. Dental Materia Medica: Mr. H. A. Austen. During the sessions the surgeons of the day will give demonstrations at stated hours. The house surgeons attend daily while the hospital is open. Fee for two years' *hospital practice* required by the curriculum, including lectures, £53 3*s*. in one payment, or £55 13*s*. in

al Diary for the ensuing Week.

RES, ADDRESSES, DEMONSTRATIONS, &c.

AST LONDON POST-GRADUATE COLLEGE, Prince of
eneral Hospital, Tottenham, N.

Y.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans).
P.M., Medical Out-patient (Dr. T. R. Whipham); Nose.
oat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical
patient (Dr. A. J. Whiting)

Y.—Clinic: 10 Auld).
P.M., Operat Out-
ient (Mr. W. I Giles).
P.M., Lecture-Demon Thera-
utic Uses of X Rays in General Practice.

SDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R.
ipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).
P.M., Dr. S. J. Gilfillan: Demonstration of Cases of Mental
ease at the Colney Hatch Asylum, N.

OPERATIONS.

METROPOLITAN HOSPITALS.

(21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St.
s's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.),
sex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.),
tan (Gynæcological, by Physicians, 2 P.M.), Soho-square
, City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.),
London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free
), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.),
rk's (2.30 P.M.).

(22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St.
s's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West-
r (2 P.M.), West London (2.30 P.M.), University College
), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's
M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat
M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-
(9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central
n Throat and Ear (2 P.M.), Children, Gt. Ormond-street
and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

DAY (23rd).—St. Bartholomew's (1.30 P.M.), University College
), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross
), St. Thomas's (2 P.M.), London (2 P.M.), King's College
), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.),
al Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan
M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), West-
r (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.),
(2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.),
Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt.
d-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham
halmic, 2.30 P.M.), West London (2.30 P.M.).

AY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's
P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St.
e's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex
P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West
n (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.),
politan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan
A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's
P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children,
rmond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological,
), West London (2.30 P.M).

[illegible]

ern Central (2.30 P.M.), West London (2.30 P.M.), London
t (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat,
n-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square
M.), Central London Throat and Ear (2 P.M.), Children, Gt.
nd-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St.
's (2 P.M.).

AY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex
P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.),
ing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.),
at, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt.
nd-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic
, the Royal Westminster Ophthalmic (1.30 P.M.), and the
London Ophthalmic Hospital operations are performed daily.

EDITORIAL NOTICES

most important that communications relating to the
al business of THE LANCET should be addressed
ely "TO THE EDITOR," and not in any case to any
nan who may be supposed to be connected with the
al staff. It is urgently necessary that attention should
n to this notice.

pecially requested that early intelligence of local events
ing a medical interest, or which it is desirable to bring
ler the notice of the profession, may be sent direct to
office.

es, original articles, and reports should be written on
side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 17th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade	Min Temp.	Wet Bulb	Dry Bulb.	Remarks.
Dec. 11	29 78	N.W.	0·11	61	45	40	40	41	Cloudy
" 12	29 42	N.W.	...	62	45	40	40	44	Fine
" 13	29 49	W.	0·13	63	53	40	47	47	Cloudy
" 14	29·54	S.	0·06	54	51	46	49	49	Overcast
" 15	29 36	S.W.	0·30	65	51	46	45	47	Cloudy
" 16	29 60	S.	...	51	50	45	45	45	Overcast
" 17	29 41	S.W.	0·06	56	52	45	46	47	Raining

The General Courses required for the Dental Diploma may be taken in the Medical School of the Royal Colleges of Physicians and Surgeons or in the University schools. The hospital attendance and clinical instruction are taken at the Royal Infirmary. The University, Medical Schools, and Royal Infirmary are within three minutes' walk of the Dental Hospital. The special courses are taken in the hospital. The Dental Hospital practice, extending over two years, affords a student ample opportunity for a full acquaintance with every branch of dentistry. The hospital admits a limited number of indentured pupils. They receive their instruction in Mechanical Dentistry concurrently with the general and special courses. A premium of 60 guineas is payable with each such pupil. The practice and lectures of the hospital are recognised by, and qualify for, all the Licensing Boards. For the special classes, both theoretical and practical, required by dental students the directors have secured the services of an efficient staff of dental officers and lecturers. There will also be a course of demonstrations in Mechanical Dentistry. Students will receive instruction in Practical Dental Mechanics under the mechanician. The cost of the hospital outfit of instruments is included in the Dental Hospital fee of £31 10*s*. The minimum cost of classes and Diploma for the whole course of dental instruction amounts to £90 7*s*. Those students who desire to take a Medical and Surgical Diploma in addition to the L.D.S. have in this school admirable facilities for so doing. The triple qualification of the Royal College of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow is recommended. The minimum cost of the Professional Education Triple Qualification and Licence in Dental Surgery amounts to £169 7*s*. The mechanical department is large and airy and furnished with all modern tools and appliances. The winter session commences Oct. 1st. The Museum is open to students for study. Further particulars can be obtained from the Dean, Mr. W. Guy.

Incorporated Glasgow Dental Hospital and School, 15, Dalhousie-street, Garnethill, Glasgow.—The winter session will begin in October and the lectures will be delivered as follows. In Dental Mechanics on Monday and Wednesday at 7 P.M., by Dr. Hugh McKay, and in Dental Metallurgy on Tuesday and Thursday at 7, by Mr. W. Bruce Hepburn, L.D.S. Fee for each of the above courses of lectures, £3 3*s*. The lectures and instruction at the Glasgow Dental Hospital and School are recognised by all the licensing bodies in the United Kingdom. The fees for two years' hospital practice are £15 15*s*. Intending students before commencing to attend the lectures or hospital practice must produce evidence of having passed the preliminary examination prescribed by the regulations of the General Medical Council for registration of dental students. The hospital is opened daily from 5 to 7 P.M. (Saturdays excepted). Students may only enrol during the months of April or October. Summer session begins in April.

Glasgow Royal Infirmary (Dental Department).—Mr. Wm. Taylor attends at the Royal Infirmary at 3 P.M. on Mondays, Wednesdays, and Saturdays, and gives a course of instruction in Dental Surgery on these days in summer. The following course in the curriculum can be taken at St. Mungo's College: Anatomy, six months; Practical Anatomy, nine months; Physiology, six months; Chemistry, six months; Practical Chemistry with Metallurgy, three months; Surgery, six months; Medicine, six months; Materia Medica, three months; Clinical Surgery, six months; Dental Surgery, six months, and attendance for two years on the dental department of the hospital. The attendance on the Dental Clinic is free to students of the hospital. The winter session opens Thursday, Oct. 15th.

Ancillary Scientific Institutions.

Imperial College of Science and Technology, London (with which is incorporated the Royal School of Mines, and of which the City and Guilds College is a Constituent College).—Mechanics and Mathematics: Professor J. Perry, F.R.S., and Dr. A. R. Willis. Biology: (Zoology) Professor Dendy (temporary) and Professor J. B. Farmer, M.A., F.R.S. (Botany). Chemistry: Professor W. A. Tilden, F.R.S., and Dr. M. O. Forster, F.R.S. Physics: Professor H. L. Callendar, F.R.S., Dr. W. Watson, F.R.S., and Mr. A. Fowler. Geology: Professor W. W. Watts, F.R.S., and Dr. Cullis. Metallurgy: Professor W. Gowland. Mining: Professor S. H. Cox. The College reopens on Tuesday, Oct. 6th, 1908. Communications should be addressed to the Secretary, Imperial College, South Kensington, S.W.

Electrical Standardizing, Testing, and Training Institution, Faraday House, 62–70, Southampton-row, W.C. —Principal, Hugh Erat Harrison, B.Sc. Lond. Instructor in Mathematics and Physics: Alexander Russell, D.Sc. Glasg., M.A. Cantab. Instructor in Chemistry: Mr. J. Thomas, B.Sc. Lond. Instructor in Mechanical Engineering: Mr. Walter H. Bell, A.M.Inst.C.E. This institution, in addition to its ordinary course of training in electrical engineering, which occupies four years, also arranges for special instruction in all branches of electricity either by private tuition or by a specially arranged course at the College or at the works of the companies with which it is associated. There are Entrance Scholarships of the value of 150 and 100 guineas. Particulars may be obtained on application to the Secretary, Mr. Howard Foulds, Faraday House, Southampton-row, W.C. Session begins Sept. 21st.

School of the Pharmaceutical Society of Great Britain.—Chemistry and Physics: Professor Arthur W. Crossley (Dean of the school). Botany: Mr. H. J. Jeffery, A.R.C.Sc. Pharmaceutics: Professor Greenish. The session commences on Wednesday, Sept. 30th. Medical students, or pupils intending to enter the medical profession, are admitted to the lectures and laboratory work in any or all the courses. Certificates of instruction in this school are received by the Conjoint Board of the Royal Colleges. Application for admission to the school, or for further information, may be made to the Registrar, 17, Bloomsbury-square, London, W.C.

Royal Sanitary Institute (with which is incorporated the Parkes Museum), Parkes Museum, Margaret-street, Regent-street, W.—The objects of the Royal Sanitary Institute are to promote the advancement of sanitary science in all or any of its branches and to diffuse knowledge relating thereto. It was founded in 1876 and incorporated in 1888. Sessional meetings are held in London and in various provincial centres from time to time for the reading of papers and for discussions upon subjects connected with sanitary science, and lectures and demonstrations are arranged for sanitary officers; in sanitary science as applied to buildings and public works, suitable for foremen of works, builders, and those engaged in the allied trades; for army officers and professional men on food and meat inspection; for meat inspectors; and for school teachers. Examinations are held in London, provincial, and colonial centres and certificates of competency in sanitary knowledge are granted. The Parkes Museum, which is maintained by the institute, contains a great variety of the most approved forms of apparatus and appliances relating to health and domestic comfort. Professors and teachers of hygiene are allowed the use of the museum for demonstrations to their students on application to the committee. The museum is open daily from 9.30 A.M. to 5.30 P.M. and on Mondays to 8 P.M. and is free of charge except when lectures or meetings are being held. There are also a large library of sanitary literature which contains, in addition to standard works on sanitary science, a collection of reports of medical officers of health over the whole country, and a reading room supplied with the principal sanitary periodicals, both home and foreign. The institute is under the patronage of the King, and the officers are: President, the Duke of Northumberland; chairman of council, Mr. H. D. Searles Wood, F.R.I.B.A.; treasurer, Mr. Thomas W. Cutler, F.R.I.B.A.; registrar, Mr. A. Wynter Blyth, M.R.C.S.; and secretary, Mr. E. White Wallis. The lecturers are Dr. J. Priestley, Dr. A. Wellesley Harris, Dr. E. J. Steegmann, Dr. E. Petronell Manby, Professor H. R. Kenwood, M.B., Professor A. Bostock Hill, M.D., M.Sc., Dr. P. Boobbyer, Dr. James Kerr, Colonel J. Lane Notter, R.A.M.C., Mr. J. Osborne Smith, F.R.I.B.A., Mr. W. C. Tyndale, M.Inst.C.E., Mr. Henry Adams, M.Inst.C.E., Mr. J. E. Worth, M.Inst.C.E., Mr. J. Wright Clarke, Major J. A. Meredith, F.R.C.V.S., Mr. James King, M.R.C.V.S. For members the annual subscription is £2 2*s*. and for associates £1 1*s*., but members and associates holding certain qualifications only pay half the ordinary rate of subscription.

The Royal Institute of Public Health.—The Royal Institute of Public Health, 37, Russell-square, W.C., was founded in the year 1886 with the object of obtaining the registration of public health diplomas and the further statutory requirement that all medical officers of health

Notes, Short Comments, and Answers to Correspondents.

THE TURVEY TREATMENT.

WE observe that the Turvey treatment is still alive and still possesses or states that it possesses the services of a highly-qualified English physician. The following is an advertisement which recently appeared in the *Morning Post*:—

> THE TURVEY TREATMENT for Home Cure of DRINK and DRUG HABITS. CONSULTING ROOMS open 10.30 to four. ADVICE FREE. Highly qualified English physician in attendance.—133 and 135, Regent-street, W. (side entrance), five minutes from Piccadilly-circus. Treatise sent post free. Telephone, 5,494 Gerrard.

It would be interesting to know the name of the highly qualified English physician associated with the treatment.

MNEMONICS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 12th you remark in reply to "Curious" that mnemonics in connexion with medicine (and anatomy) are best when they are home-made. One of the best I know is the following, which in a way "explains itself." It gives the order of the structures in the eyelid from without inwards: Skin O pal! ten (p)tar-mi-*con* (suggesting the word "ptarmigan")—i.e., skin, orbicularis (palpebrarum), palpebral ligament, tendon of the levator palpebræ, tarsal cartilage, Meibomian glands, conjunctiva. I know it was "home-made."

I am, Sir, yours faithfully,
HERBERT W. G. MACLEOD, M.D. Edin., M.R.C.P. Lond.
Upper Wimpole-street, W., Dec. 14th, 1908.

SUPERSTITION.

The Cure for the White Plague
and other disease given by GOD
to Man, 1490 B.C.; revealed to a
Woman, A.D. 1907.

WE have received, in common, no doubt, with many others, a booklet with this title announcing this marvellous revelation. The texts on which it is founded are from Exodus and Leviticus, and we leave it to our readers to search the Pentateuch for them. But if and when they are found we are sure that they will not perceive their application, for to do this requires the faith not only of a little child but of a little idiot, coupled with an ignorance of elementary physiology which in these days is remarkable.

CHANTECLAIR.

IN THE LANCET of June 6th we commented upon two caricatures published in an advertising periodical called *Chanteclair*. The caricatures in question purported to represent Professor Richet and Dr. Héricourt engaged in research. The pictures were such as might well have been treated by a rabid antivivisectionist as a representation of realities, and the fact that the two medical men concerned treated the publication with good humoured contempt made it all the more possible for the fanatics to say, "They do not deny this, therefore it must be true." The number for December now before us contains a brief biographical notice of Professor Gaucher who is, as is well known, an authority on syphilis and the mercurial treatment of the disease. He is represented by "Moloch," the caricaturist, in the act of administering a gluteal intra-muscular mercurial injection to a lady with a blue face—the cyanosis, we suppose, being caused by her position. The caricature might have come from the brush of Gilray, but manners have changed since his day, and coarseness is not nowadays synonymous with wit.

HEALTH MATTERS IN BARBADOS.

ACCORDING to the Blue-book of this colony for the year 1907–08, the estimated population is 194,518, but the figures are not considered to be trustworthy. During 1907 the birth-rate was 33·2 per 1000 of the estimated population, as against 37·2 for 1906 and 39·8 for 1905. The percentage of illegitimate births continues to be a high one, being 56·9 per cent. of the births recorded. The burials registered numbered 5236, which was less by 2330 than in the previous year. The death-rate per 1000 was 26·9. The death-rate of children of one year old and under was 302 per 1000. This heavy mortality seems to be due to improper feeding of infants, for which ignorance is partly responsible and partly circumstances of deeper origin. The matter has been under careful consideration and it is hoped that the circulation of carefully prepared instructions as to the proper treatment of infants will do something to mitigate the evil pending more radical measures. Towards the latter end of 1907 and the beginning of 1903 a few cases of yellow fever were reported, but these were of a somewhat abnormal type, and consequently there was some difference of opinion among medical men as to the correctness of the diagnosis.

The health of the island was otherwise excellent. There hospital in Barbados; it is situated in Bridgetown and i exclusively by the Government, although not dir Government control. 4489 persons were treated in pital during the year, of whom 355 died. 21,906 were treated during the same period. The number of patients in residence at the lunatic 359. During the year 14 were discharged as cured an relieved, while 53 died. In the lazaretto at the beginning inmates were in residence. During the year 14 new admitted. 20 died during the year. 55 patients anæsthetic leprosy, while 58 were tubercular. It has no practice to discharge patients because the disease is patients escaped to neighbouring colonies during the was repatriated and re-confined. As lepers are not gated unless they come on the rates, the above figures do exact idea of the prevalence of the disease in the island. lazaretto no leper can leave except by order of the Governor tive Committee.

WELLCOME'S PHOTOGRAPHIC EXPOSURE RECOR DIARY.

WE have just received the 1909 edition of this interesting pocket-book which contains information upon many connected with photography. Plates, exposure, develop printing, toning, fixing, and mounting are all hints are given. Exposure is especially considered, as correct is held to be the essence of success in photography. A ment called "Wellcome's Exposure Calculator" is the back cover of the book, and it is claimed for it that it correct exposure under any condition by one turn of Instructions are given for its use and the instrument is not to understand. The price of the book is 1*s*. net.

PORTABLE BUILDINGS FOR OPEN-AIR

THE success of the open-air treatment has made popular the shelter, the verandah, and the porch both for the treatmen and for purposes of health and pleasure in connexion dwelling-house. Structures of this kind, however, are than useless if they are not built of well-seasoned wood structed on right plans. We have recently had placed in the catalogue of Messrs. Boulton and Paul of Norwich. This also large importers of timber, which is stacked on their until it is thoroughly seasoned before employment in various structures. Among these are revolving shelters quite easily turned in any direction so as to take sunshine, and one measuring only 8 feet by 6 feet, 7 feet and 10 feet to ridge, struck us as being very useful. This gives room for two patients, allowing for a table between them, and is sold at the price of £20, but structure a little less artistic in shape and ap be obtained for £12 10*s*. Verandahs are made so that be purchased at so much (about 16*s*.) per foot, and having to the infinite varieties of measurement that may be wanted useful idea. The usual form of verandahs which covers a s ground floor may also be used as balconies on upper floors, are many institutions where the addition of such balc reasonable figure would be a very proper improvement. The also contains illustrations and ground plans of buildings which erected at very short notice, with pictures of certain such already in existence. Among these we noticed pictures of the little sanatorium which has been erected at Mundesley, the hospital buildings at Devonport constructed for the Gov and of the Alton, Hants, Hospital which was built as the the *Daily Mail* "Absent-Minded Beggar Fund." Examples of hospitals are also shown as well as temporary structures municipal authorities are sometimes called upon to erect ceptional occasions. The catalogue is in this way made into a book of reference.

◆

Semper paratus.—Our correspondent's question is too vaguely and deals with too complicated matters to be answered o Most bacilli are killed by exposure to the temperature of boiling (100° C.) for half an hour, but spores are much more resistant. heat of roasting" is too indefinite a term for anything to be defi laid down as to its bactericidal qualities.

China.—There will be no objection to our correspondent addressin official in question but if he prefers to wait until we can recei answer from our local representative we will submit the que for him.

COMMUNICATIONS not noticed in our present issue will receive att in our next.

During the week marked copies of the following newspa have been received:—*Manchester Guardian, Liverpool Post, News, Star, Yorkshire Post, Glasgow Herald, Pall Mall Ga Daily Chronicle, Hull Eastern Morning News, Sheffield W Telegraph, Daily Telegraph, Liverpool Mercury, Birmingham Irish Independent, Scotsman, Army and Navy Gazette, &c.*

désireux d'obtenir le diplôme d'etat: ils doivent tous produire le baccalauréat." The simplicity and clearness of this statement make translation unnecessary. This exclusive attitude was not, however, wholly maintained. While withdrawing nothing of the exclusiveness of 1896, the Minister could grant leave to foreigners to possess themselves of a formal academic medical degree which, while it entitled the possessor to call himself docteur en médecine de la Faculté de Paris (de Montpelier, Nancy, Bordeaux, Lille, Lyon, or Toulouse), gave him no right whatever to practise on French territory. To obtain this degree the postulant must formulate his request to the Minister on *papier timbré*, inclosing a copy of his birth certificate, his diplomas, and class certificates, formally translated. This honorary degree is readily obtained and from English candidates it is probable that an appearance in so-called "final" subjects would alone be required.

Up to Dec. 29th, 1906, it was possible to transform the university or academic diploma into a Government degree by becoming a naturalised French subject. On account of the large number of young Russian girls who married in France and thereby became French and claimed the State diploma it has been decided to insist upon the possession by foreigners of the *licence-ès sciences* before this transformation can be granted. The fees for this degree amount to between £60 and £70.

ITALY.

Some years ago the British and American consuls at the great centres of Italian population and commerce combined to form an estimate of the money brought annually into the kingdom and spent within its borders by the English-speaking world. That estimate, an approximate one necessarily, which they carefully checked by every qualifying consideration conceivable, amounted to £20,000,000 sterling, about one-third of Italy's whole revenue at that time. Since then the yearly influx of English and especially of American visitors has greatly increased, so that were a similar calculation to be made now the estimate would doubtless be still larger. This is a fact of great importance from whatever side it is contemplated, and it implies a large and continuous demand for English-speaking practitioners. It is true that of late years an active agitation, having for its object the expulsion of all foreign practitioners from the country, has been carried on by a section of the medical profession in Italy, but the movement has proved only partly successful, the public at large being well aware of the injury which the adoption of such a measure would inflict upon its interests. The British medical men and their American *confrères* form a prominent reason for Italy continually to attract that portion of the travelling public from which she derives so much of her annual revenue. There are therefore excellent reasons why every facility should be offered to them for exercising their calling freely in her cities and health resorts, and we may state at once that the regulations which still exist in Italy with respect to the foreign practitioner are most liberal and fair, it being open to anyone possessing a medical qualification recognised as legal in the country of its origin to engage in practice amongst the foreign visitors and residents within her borders. The restrictions ruling in Switzerland, France, and, indeed, nearly every other European country, do not exist in the Italian kingdom. The medical man's qualification, certified by ability to produce his diploma, is quite sufficient. He has, therefore, (*a*) no examination to pass; (*b*) no fees to pay; (*c*) no Government forms to comply with; and (*d*) requires no previous residence in the country as a "condition precedent" to practise. All the same it will be to his advantage to graduate at an Italian school—Rome, Turin, Pavia, Padua, Bologna, Siena, Pisa, indeed all Italian Universities, grant degrees to duly qualified practitioners who can pass the examination these Universities require. On the other hand, in a country compelled by its financial requirements to impose taxes in every possible direction the English-speaking practitioner has to pay the heavy income-tax ("ricchezza mobile" it is called) of nearly 13½ per cent., besides being liable to the comparatively mild "tassa di famiglia" (tax on domestic servants, &c.), levied on foreign and native residents alike.

As to the career Italy offers it is in some respects better, in other respects worse, than it was some years ago. It is better inasmuch as Italian medicine and surgery have greatly improved of late years, and the foreign practitioner, particularly in those cities which are the seat of medic schools, is not in danger, as he used to be, of getting out touch with the advance of the profession. Indeed, th British medical man may keep himself *au courant* with th latest accession to medical doctrine as conveniently in th Italian as in any other kingdom. By graduating at one o other of the many Italian schools he can obtain the *entrée* t the medical societies, the congresses (provincial and national), the hospitals, the class-rooms open to the native practitioners, and also become entitled to the reduced railway and steamboat fares conceded on occasion to all duly qualified Italians. Indeed, he is generally welcome to them on th ground of professional *fratellanza* (brotherhood), but th graduation above indicated gives him a right to what h would otherwise owe merely to courtesy. On the other hand, the career is less favourable than formerly on account of the larger number of English-speaking competitors whom it now attracts and who comprise not only Englishmen and Americans, but Swiss, Germans, and other nationalities as well. Their harvest (generally limited to three or four months of the "season") entails immense, almost excessive, activity, compensating the comparative idleness of the months before and after it. Upon this short period of remunerative work the practitioner must therefore rely to carry him through the entire year, and with heavy expenses to meet for housekeeping, house rent, servants' wages, taxes, &c., it becomes a serious matter for him when the "season," as often happens, turns out a poor one He may certainly be able to supplement his winter's income by taking up practice at one or other of the summer resorts, but such practices are difficult to find and with few exceptions are of little value. Failing this he will find nearly the whole summer on his hands, for it is useless to remain at his post during the hot season while his patients have all left to seek the cooler air of the Alps and the Tyrol or have returned to their own country. Nothing is then left for him but to follow their example and thus to incur the heavy expense of moving somewhere else with his whole family. Nevertheless, for a well-qualified man with sufficient private means to tide him over the first years, and who is possessed of good social introductions, there are always openings where he can still find a profitable *clientèle*, although his possible income at any of the smaller health or pleasure resorts will necessarily be limited.

One word of warning in conclusion. Let anyone who is tempted to buy a practice in Italy proceed with even more caution than he would in negotiating in his own country. In the first place, the foreign population of nearly all Italian towns is largely a floating one, composed chiefly of people who remain for but a few weeks, often for only a few days in one resort, and many of whom never come back again. The vendor of a practice in a place of this sort will have many patients on his books whom he cannot possibly introduce in any way to his successor, and a good many others whom he may introduce but who will never return to the locality, or at best do so only at long intervals, and can therefore form no permanent or profitable part of his successor's *clientèle*. His hold upon the practice is, in fact, of a peculiarly personal kind and cannot, in the nature of things, be easily transferred to another. Secondly, the purchaser himself must be a man fitted for this particular class of work, or he may discover too late that he cannot make it pay and that the capital which he has expended has been spent to no purpose. A similar remark is doubtless true with regard to all such transactions, but it applies with special force in the circumstances now under consideration, where the physician has to deal with patients of such varying types and diverse characteristics as are to be met with amongst the travelling public in an Italian health or pleasure resort. To achieve a full measure of success the foreign practitioner in Italy must not only be a man of good all-round attainments, conversant with all branches of his profession, but should be possessed of an unusual share of sympathy and tact, for the exercise of which he will have daily scope amongst patients on whom illness falls with peculiar sadness, alone, as they so often are, and helpless in a foreign land.

GERMANY.

Foreign diplomas are not legally recognised in Germany as entitling their holders to practise medicine, so that British medical men desiring to settle in that country have to attend all the classes and pass all the examinations. A

ical Diary for the ensuing Week.

RES, ADDRESSES, DEMONSTRATIONS, &c.

EAST LONDON POST-GRADUATE COLLEGE, Prince of
General Hospital, Tottenham, N.

AY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans).
.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose.
hroat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical
n-patient (Dr. A. J. Whiting).

DAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld).
.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-
atient (Mr. W. Edmunds); Gynaecological (Dr. A. E. Giles).
.30 P.M., Lecture-Demonstration.—Dr. A. H. Pirie: The Thera-
eutic Uses of X Rays in General Practice.

NESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R.
Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).
30 P.M., Dr. S. J. Gilfillan: Demonstration of Cases of Mental
Disease at the Colney Hatch Asylum, N.

OPERATIONS.

METROPOLITAN HOSPITALS.

(21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St.
s's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.),
sex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.),
tan (Gynaecological, by Physicians, 2 P.M.), Soho-square
, City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.),
London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free
.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.),
rk's (2.30 P.M.).

(22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St.
s's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West-
r (2 P.M.), West London (2.30 P.M.), University College
.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's
M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat
M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-
(9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central
n Throat and Ear (2 P.M.), Children, Gt. Ormond-street
and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

DAY (23rd).—St. Bartholomew's (1.30 P.M.), University College
.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross
.), St. Thomas's (2 P.M.), London (2 P.M.), King's College
.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.),
al Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan
M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), West-
er (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.),
(2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.),
Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt.
d-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham
halmic, 2.30 P.M.), West London (2.30 P.M.).

AY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's
P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St.
e's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex
P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West
n (2 P.M.), Gt. Northern Central (Gynaecological, 2.30 P.M.),
politan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan
A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's,
P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children,
Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynaecological,
.M.), West London (2.30 P.M.).

(25th).—London (2 P.M.),
as's (3.30 P.M.), Guy's (1.30
(3 P.M.), St. George's (1 P.M.), [illegible]
.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt.
hern Central (2.30 P.M.), West London (2.30 P.M.), London
at (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat,
en-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square
M.), Central London Throat and Ear (2 P.M.), Children, Gt.
ond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St.
's (2 P.M.).

DAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex
P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.),
ing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.),
at, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt.
ond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic
, the Royal Westminster Ophthalmic (1.30 P.M.), and the
London Ophthalmic Hospital operations are performed daily.

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most important that communications relating to the
al business of THE LANCET should be addressed
ely "TO THE EDITOR," and not in any case to any
nan who may be supposed to be connected with the
al staff. It is urgently necessary that attention should
en to this notice.

*specially requested that early intelligence of local events
ring a medical interest, or which it is desirable to bring
der the notice of the profession, may be sent direct to
s office.*

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e side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 17th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Dec. 11	23 78	N.W.	0·11	61	45	40	40	41	Cloudy
" 12	29 42	N.W.	...	62	45	40	40	44	Fine
" 13	29·49	W.	0·13	63	53	40	47	47	Cloudy
" 14	29·54	S.	0·06	54	51	46	49	49	Overcast
" 15	29 36	S.W.	0·30	65	51	46	45	47	Cloudy
" 16	29 60	S.	...	51	50	45	45	45	Overcast
" 17	29 41	S.W.	0·06	56	52	45	46	47	Raining

The only academical degree for medical men known in Denmark is the degree of M.D. It is granted exclusively by the University of Copenhagen, and only to those who have submitted to the faculty an original investigation of undoubted scientific value, the consequence being that only a comparatively small number of Danish practitioners possess the degree in contradistinction to what is customary, for example, in Germany. In fact, the Danish degree of M.D. must be considered as equal to the German title of *privat-docent* or the French title of *professeur agrégé*, as it authorises its possessor to teach publicly in the university.

The only portion of Danish territory where a foreign medical man is permitted to make use of his diploma are the Danish islands in the West Indies, the Governor being empowered to grant such permissions; but he is not likely to do so except during epidemics or when other abnormal conditions obtain.

NETHERLANDS.

A medical practitioner holding British qualifications cannot practise in the Netherlands without being also qualified in the Netherlands. For this purpose it is necessary to pass the medical examinations of one of the universities.

SWITZERLAND.

Foreign practitioners must pass the first, third, and fourth State Examinations. These examinations are held in either French (at Lausanne and Geneva) or German (at Bern, Basel, and Zürich). In addition to the British five years' curriculum practitioners would require one or two years' additional study. The examination fees amount to about £9.

SPAIN.

To practise in Spain or her colonies it is necessary for the holder of British qualifications to send his diplomas to the University of Madrid. After inquiries as to identity a diploma will be sent to the applicant who can then legally practise on the same conditions as a Spaniard—namely, the payment of certain duties.

PORTUGAL.

Holders of foreign diplomas must apply for examination at the schools of Lisbon or Oporto or the Faculty of Coimbra. The cost of the examination, including the diploma, is about £50. For the last examination the presentation of a *printed* dissertation is required.

TURKEY.

Every foreign medical practitioner desirous of settling in Turkey for the purpose of practising his profession must undergo the ordeal of the so-called "colloquium." This is a sort of professional examination very easy in itself but a source of annoyance and vexation to Europeans by the dilatory propensities of orientals and their habit of conducting business in an indolent and easy-going way. The "colloquium" itself takes about half an hour's time, whereas the preliminary steps and arrangements and the subsequent formalities necessary for the final obtainment of the medical permit lasts for weeks and even months. The "colloquium" must at the present time be passed either in French or Turkish without any interpreter, the choice of the language being left to the examinee. The possessor of a foreign diploma is tested, as a rule, in four subjects and the testing consists in three or four questions in each subject, which the candidate has to answer orally. It has not yet happened that a European physician failed to pass the "colloquium." The fee for it used to be about £8. Two or three years ago it was raised to £20. I am informed that this was done in order to increase the revenue of the rather inefficiently equipped Medical School at Haidar Pasha and to diminish the influx of the numerous medical men flocking to the Turkish metropolis from almost every country adjoining the Ottoman Empire. A far better means of effectively doing the latter would be to raise the rather low standard of the "colloquium." There are numbers of medical men in Constantinople and in other parts of Turkey whose qualification is doubtful. This is especially the case with regard to the so-called "surgical dentists."

RUSSIA.

The law relating to foreign medical practitioners desirous to practise in Russia is contained in the two following paragraphs of the *Vratchebny Ustav* or medical statute:—Section 93 (*a*): No one, whether a Russian subject or a foreigner, who has not a diploma or certificate from a university or from an Army Medical Academy, has the right to follow any branch of medical or veterinary practice in Russia; (*b*) foreign medical practitioners who wish to practise medicine in Russia must, without exception, know the Russian language. Section 94: Of foreign practitioners who shall be invited or who may come to Russia the right to decide which of them shall be permitted to free practice here and under what conditions is in the hands of the Medical Council of the Ministry of the Interior; some shall be permitted only after the usual examinations and consequent granting to them of a learned degree; others more distinguished after an oral examination in the Medical Council; lastly, others who have made a name in the scientific world by their writings or unusually successful practice, or who have occupied professorial chairs or other important medical appointments in other countries, may be permitted to practise without any examination, solely on the decision of the Medical Council, confirmed by the Minister of the Interior, as to the worthiness of such practitioners.[1] Previous residence in the country before practice would not be necessary except in the case of the first group mentioned, who would have to pass through the usual five years' course of a Russian medical curriculum. As to the prospects of a British practitioner in Russia, the country and the smaller towns can present no attraction to an English medical man, even if the fees obtainable would support him, which they would not. In the two capitals, Moscow and St. Petersburg, the field is wider. Competition is, however, great, fees are as a rule small, and bad debts many. The frequency of bad debts results from the unwritten law by which medical men do not send in accounts, but leave the patient to pay what he considers a suitable amount.

EGYPT.

Any person in possession of a diploma from a recognised school of medicine is allowed to practise his profession in Egypt after having presented his diploma to the Director-General of the Sanitary Department at Cairo for verification and paid a small fee of six piastres. From a recent report of the department it appears that the influx of medical men into Egypt of late years has been very great, so that it is difficult to understand how some are able to gain a livelihood from their profession. The effective control of diplomas which emanate from so many different foreign schools must be at times somewhat difficult, as the Public Health Department has no means of identifying the person who presents the diploma as the person who underwent the examinations which entitled him to it—e.g., there is nothing to prevent a person who has come into possession of a diploma by fraudulent means personifying the legitimate owner of the diploma and obtaining a licence to practise. It is true that in addition to the diploma a certificate of good conduct is necessary from the applicant's Consul before a licence to practise is granted, but in many cases the Consul finds himself in the same difficulty as the department with regard to ascertaining if the person in possession of the diploma is the rightful owner or not. We recommend any one of our readers who is attracted by the idea of medical practice in Egypt to obtain introductions to a resident in Egypt so that he may ascertain the chances of finding a remunerative opening and be provided with a witness to his identity. A knowledge of French or Italian and Arabic would be essential to any new-comer desirous of practising all the year round, for the tourist season only lasts from November to April.

JAPAN.

According to the regulations for medical licence "persons holding either diplomas of foreign universities, or medical schools, or foreign licences for practising medicine may be granted licences for practising medicine in Japan, without being subject to the usual medical examination, upon producing such diplomas or licences obtained in foreign countries to the satisfaction of the home authorities." English medical practitioners will therefore have no difficulty in obtaining a licence in Japan. The fee required for a licence is three yen (about 6*s.*) and with this exception there are no charges in respect of the medical licence. A local rate, which would be a small fee only, may have to be paid on opening a practice. A correspondent informs us that English practitioners in the foreign quarters of Japan are at some disadvantage for the reasons that the druggists, who are now nearly all Japanese, sell their drugs at a cheaper rate to native practitioners; and, moreover, living is cheaper for the native than for

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[1] This Section dates from 1836; it was amended in 1842, 1845, and 1857.

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Ardath Tobacco Co., Lond.; Mr. G. Augustin, New Orleans; A. H. S.; After-Care Association, Lond., Secretary of; Mr. A. J.

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Y.—Dr. Meredith

Z.—*Zeitschrift fur*
sikalische Medizin, Berl

Letters, each with enclosure, are also acknowledged from—

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B.—Dr. C. E. Baker, Lond.; Mr. F. A. Barth, Leipzig; Bhavnagar State, India, Chief Medical Officer of; Birmingham, &c., Skin Hospital, Secretary of; Captain J. H. Burgess, I.M.S., Secunderabad; British and Foreign School Agency, Manchester, Secretary of; Messrs. Bates, Hendy, and Co., Reading; B., Brighton; Mr. D. R. Bowen, Ashton-in-Makerfield; Miss C. M. Brown, Rome; Mr. E. J. Blackett, Lond.

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Secretary of the province. The application will be granted upon the approval of the Natal Medical Council and the fee for registration in Natal is one guinea.

Southern Rhodesia.—The admission fee for the practice of medicine in Rhodesia is £5 and application for the licence should be made to the Administrator of Rhodesia at Salisbury, Rhodesia. It would be well also to write to the Secretary of the British South Africa Company, London Wall, E.C.

Transvaal and the Orange River Colony.—The Transvaal Medical Council (Pretoria) and the Medical and Pharmacy Council of the Orange River Colony, Bloemfontein, grant a licence to practise on payment of £10 and £7 10*s.* respectively. Proof of registration by the General Medical Council of Great Britain must be supplied.

The Colonial Medical Service.

In the following countries there are medical departments regulated from the Colonial Office:—British Guiana, Jamaica, Trinidad, Tobago, Windward and Leeward Islands, British Honduras, Fiji, Ceylon, Straits Settlements, Federated Malay Straits, Hong-Kong, Mauritius, Seychelles, Gibraltar, St. Helena, Falkland Islands, Cyprus, Gambia, Sierra Leone, the Gold Coast, Northern and Southern Nigeria. The last four of the countries enumerated have been formed into the West African Medical Staff, a definite and well-organised service. The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poorhouse, asylum, or other institution and free attendance on the aged and children. Passage money is granted to medical officers on first appointment, an annual vacation on full pay is given not exceeding three months in two years, and there are pensions, as a rule, where private practice is not permitted.

British Guiana.—There are 42 appointments. After two years' probation at a salary of £200 per annum, when quarters are provided but private practice is not allowed, the officer is appointed to the permanent staff with a salary of £400 per annum, rising by annual increments to £700. He can carry on private practice and receives a travelling allowance varying with the range of the duties from £100 to £150 per annum. The governor of the colony can also make appointments to the service in favour of local practitioners who act as supernumeraries upon temporary agreements.

Jamaica.—There are 54 appointments, mainly district appointments with private practice allowed. The salary paid by Government varies from £100 to £250 per annum, and in most cases is £200. Newcomers may be attached temporarily to the public hospital in Kingston, on a salary of £200 per annum, private practice not being allowed.

Trinidad.—In Trinidad there are 32 appointments. After two years' probation at a salary of £250 per annum, with furnished quarters, during which time they are usually attached to the Government hospital, the surgeons obtain district appointments, to which they are promoted as vacancies occur. The pay is £300 per annum, which is increased to £400 and upwards by various allowances for horse, house, or other purposes. These posts carry the right to private practice. After every five years an officer is given an additional personal allowance at the rate of £50 per annum. In future there will be few appointments in Trinidad, as the Government is aiming at the introduction of a system by which the work shall be performed by private practitioners under temporary contracts. In these three colonies there is a Civil Service Widows' and Orphans' Fund established by law, to which all medical officers must contribute 4 per cent. of their salaries.

Tobago.—In the island of Tobago there are three district appointments with salaries of £250 per annum, with quarters.

Windward Islands (Grenada, St. Lucia, St. Vincent).—The 22 appointments are, with few exceptions, district appointments with the right to private practice attached. The salaries paid by Government vary from £250 to £400, with allowances in certain cases.

Leeward Islands (Antigua, St. Christopher and Nevis, Dominica, Montserrat, Virgin Islands).—The 25 appointments are of the same nature as in the Windward Islands. The Secretary of State reserves the power to transfer a medical officer from one island to another in each case. The medical officers receive fees for successful vaccinations, post-mortem examinations, attendance and giving evidence at courts of justice, certificates of lunacy, and, in the larger islands, for burial certificates. They are also allowed private practice.

British Honduras.—There are four medical appointments, besides the principal post of colonial surgeon, in all of which private practice is allowed if it does not interfere with the public duties of the officer. The pay varies from £150 to £250. Two of the medical officers are also district commissioners and receive £300 for the combined posts of medical officer and district commissioner.

Fiji.—The medical service has recently been reorganised and officers appointed in future will be styled Government medical officers and receive a salary of £300, rising by annual increments of £10 to £400. They will be allowed private practice so far as is consistent with the proper discharge of their duty and will have charge of hospitals or of districts at the discretion of the authorities. The posts will be pensionable but an allowance in lieu of free quarters will not be pensionable. There will be ultimately 15 Government medical officers in addition to a senior medical officer (who at present receives £450 and £50 allowance for house rent) and a chief medical officer who will have £600 a year. Government medical officers will be given free quarters or an allowance in lieu thereof. This privilege is non-pensionable.

Ceylon.—The pay of the 36 sub-assistant colonial surgeons and eight other subordinate medical officers is at the rate of from Rs.900 to Rs.1600 per annum. There are nine deputy assistant colonial surgeons, with salaries at the rate of from Rs.1500 to Rs.2500. The 23 assistant colonial surgeons are paid at the rate of from Rs.3000 to Rs.5000 per annum and the six colonial surgeons and three other superior medical officers at a rate of from Rs.5500 to Rs.8000 per annum. The principal civil medical officer receives Rs.15,000, rising by annual increments of Rs.500 to Rs.18,000 per annum. As might be inferred from the scale of payment private practice is allowed to the subordinate officers but the colonial surgeons may take only consultation practice. The medical service of Ceylon is mainly recruited from among gentlemen born in the island but possessing British diplomas.

Straits Settlements.—Two house surgeons in the General Hospital, Singapore, and one in the General Hospital, Penang, receive £300, rising to £360, with free quarters. There are ten other subordinate posts in the medical department with salaries varying from £300 (rising to £360) to £780 (rising to £900). Some of these posts have free quarters attached and the holders of some are allowed private practice within limits. The salary of the principal civil medical officer is £1000.

Federated Malay States.—There are 18 district surgeons on salaries varying from £480 (rising to £540) to £720 (rising to £840). There are two assistants in the Institute for Medical Research on salaries of from £360 to £420. These posts are non-pensionable and the holders are eligible for appointment as district surgeons. Medical officers have no claim to private practice, which is limited, and the enjoyment of it is strictly subject to the permission of the Government.

Hong-Kong.—The principal civil medical officer receives £800 per annum, rising to £1000. There are two health officers of the port, four medical officers of health, and four assistant surgeons with salaries of £480 rising to £720. Mo of these appointments are pensionable. Private practice i not allowed and free quarters are only given in a few cases.

Mauritius.—There are 24 medical appointments in all. Of these 14 are minor appointments, with salaries varying from Rs.500 to Rs.1500 per annum. The other 10 appointments have salaries varying from Rs.2000 to Rs.9000. Fre quarters are not given in most cases and private practice i not allowed in the best appointments. The service is mainl recruited from among persons born on the island. Officer in the service of Mauritius are required annually to contribute 2 per cent. of their salaries towards their pensions.

Seychelles.—There are four medical appointments. Th Government medical officer receives Rs.4000. The assistan Government medical officers receive Rs.3000. The holders o these latter appointments have free quarters. Privat practice is allowed.

Gibraltar.—There is a surgeon to the Colonial Hospit receiving £275 and an assistant surgeon receiving £96, i each case with quarters, fuel and light allowance, ar permission for private practice. The surgeon of the hospita as medical officer of the civil prison and lunatic asylu ublic health work; or (b) in Scotland or Ireland the edical officer of health of a county or of one or more anitary districts having a population of not less than 0,000; or (c) a medical officer of health who is a teacher n the department of public health of a recognised medical chool; or (d) a sanitary staff officer of the Royal Army Medical Corps having charge of an army corps or district; r (e) in the British dominions outside the United Kingdom medical officer of health of a sanitary district having a opulation of not less than 30,000 who himself holds a egistrable diploma in public health. A certificate of an ssistant officer of health of a county or a large sanitary istrict may be accepted, provided the medical officer of health of a county or district consents to the assistant officer giving such instruction. Any candidate who shall produce evidence that he has himself held an appointment as medical officer of health under conditions not requiring the possession of a special sanitary diploma shall be exempt from this regulation. A candidate who produces evidence that he has himself held, for a period of not less than three years, an appointment as medical officer of health of a sanitary district within the British dominions and having a population of not less than 15,000 shall be exempt from the provision of paragraph (4). The provisions as to previous study shall not apply to medical practitioners registered, or entitled to be registered, on or before Jan. 1st, 1890.

The First Part of the examination will comprise (*a*) a written paper of three hours in Chemistry and Physics; (*b*) a three hours' practical and *viva voce* examination in Chemistry and Physics. The Written Examination: the subjects will be: Air (Examination, Recognition and Determination of Impurities): Water (Rainfall. Sources and Characters of Waters. Purification and Softening, Methods of Analysis, Distribution and Supply); Soils; Ventilation and Warming; Removal and Disposal of Sewage, House Refuse, Trade Refuse; Offensive Trades in their Chemical and Physical Aspects; Disinfectants; and the Examination of Foods by Chemical and Microscopical Methods. The Practical Examination: Candidates will be expected to exhibit a practical acquaintance with the ordinary methods of analysis and examination used in investigations concerning the subjects of the Written Examination.

The Second Part of the examination will consist of the following parts:—(*a*) Two written papers, each of three hours, dealing with General Hygiene (including Sanitary Engineering, Vital Statistics, and the Laws relating to Public Health); (*b*) a practical and *viva voce* examination in General Hygiene; (*c*) a written paper of three hours in Pathology and Bacteriology; and (*d*) a three hours' practical and *viva voce* examination in Pathology and Bacteriology. The subjects of these examinations will be as follows:—General Hygiene.—The Written Examination: The construction, drainage, heating, and ventilation of dwellings, schools, hospitals, and other similar buildings; the general sanitation of villages and towns; influences which exercise or threaten to exercise an injurious effect on health and physical development; the etiology, symptoms, and methods of prevention of infectious and other preventable disease; the effects of food, season, soil, and climate upon health and disease; dangerous and offensive trades; the inspection of food; the principles and methods of Vital Statistics: the laws, statutes, memoranda, &c., relating to Public Health. The Practical and *viva voce* Examination: Candidates will be required to show a practical knowledge of outdoor sanitary work. Pathology.—The Written Examination: The general pathology of infection by any organism (including a general knowledge of parasitology and helminthology), immunity, the principles of prophylactic and curative inoculations, serum therapeutics; the special pathological characters of the common human infections; the pathology of the diseases of animals transmissible to man; the conditions affecting the existence of infective agents outside the animal body; the pathology of diseases dependent on occupation. The Practical *viva voce* Examination: Candidates will be expected (*a*) to be able to demonstrate the existence of infective agents in pathological material; (*b*) to recognise cultures of the ordinary pathogenetic bacteria; (*c*) to exhibit a knowledge of the ordinary methods of bacteriological investigation, and of the special methods applicable to the examination of air, water, food, soil, and sewage; (*d*) to be familiar with the appearances presented by food which for bacteriological reasons is considered unfit for consumption.

Candidates in Part I. of the examination will be required to produce a certificate (1) of Laboratory Work in Chemistry as applied to Hygiene.

Candidates in Part II. will produce the following further certificates: (2) of a Practical Knowledge of the Duties, Routine and Special, of Public Health Administration; (3) of having had Practical Instruction in Bacteriology, and the Pathology of the Diseases of Animals transmissible to Man; and (4) of having attended the practice of a Hospital for Infectious Diseases at which opportunities are afforded for the study of the Methods of Administration. The courses of instruction in Chemistry applied to Hygiene and in Pathology and Bacteriology may be taken in the laboratories of any University in the United Kingdom, of any school of the University of London, of the Royal Army Medical College, of University College, Bristol, of any extramural school in Edinburgh, of Anderson's College, Glasgow, The Royal Institute of Public Health, and in any such other laboratory as may, in the case of any particular candidate, be approved of by the Regius Professor of Medicine. In the cases of certificates (2) and (4), the certificates shall be given in such form as shall satisfy the secretary to the Boards of Faculties that the candidate has conformed to the rules of the General Medical Council. The names of candidates must be sent to the Assistant Registrar of the University, Clarendon Building, Oxford, to whom applications for any further information should be addressed.

University of Cambridge.—Two examinations in so much of State Medicine as is comprised in the functions of medical officers of health will be held during the year 1908-9 in Cambridge. Each examination will consist of two parts. Part I. will begin on the first Wednesday in April and October respectively; Part II. will begin on the Monday following in April and October respectively; and each part will end on the following Thursday. Any person whose name is on the Medical Register is admissible as a candidate for this examination provided (1) a period of not less than twelve months shall have elapsed between the attainment of registrable qualification and the time when he presents himself for either part of the examination; (2) he produce evidence of having, after obtaining a registrable qualification, attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration; (3) he produce evidence of having, after obtaining a registrable qualification, attended during a period of six months on one or more courses, approved by the Syndicate, of practical laboratory instruction in Chemistry, Bacteriology, and the Pathology of those diseases of animals that are transmissible to man; and (4) he produce evidence of having, after obtaining a registrable qualification, for six months (of which at least three months shall be distinct and separate from the period of laboratory instruction) been associated day by day in the duty, routine and special, of public health administration under the supervision of: (*a*) in England and Wales either the medical officer of health of a county or of a single sanitary district having a population of not less than 50,000 or a medical officer of health devoting his whole time to public health work; or (*b*) in Scotland or Ireland the medical officer of health of a county or of one or more sanitary districts having a population of not less than 30,000; or (*c*) a medical officer of health who is a teacher in the department of public health of a recognised medical school; or (*d*) a sanitary staff officer of the Royal Army Medical Corps having charge of an army corps or district; or (*e*) in the British dominions outside the United Kingdom a medical officer of health of a sanitary district having a population of not less than 30,000 who himself holds a registrable diploma in public health. A certificate of an assistant officer of health of a county or a large sanitary district may be accepted, provided the medical officer of health of a county or district consents to the assistant officer giving such instruction. Any candidate who shall produce evidence that he has himself held an appointment as medical officer of health under conditions not requiring the possession of a special sanitary diploma shall be exempt from this regulation. A candidate who produces evidence that he has himself held, for a period of not less than three years, an appointment as medical officer of health of a sanitary district within the British dominions and having a population of not less than 15,000 shall be exempt from the provisions of paragraph (4). The provisions as to previous study shall not apply to medical practitioners registered, or entitled to be registered, on or before Jan. 1st, 1890.

OUR CURRENT NUMBER

Being almost exclusively devoted to information especially interesting to Students we are necessarily compelled to defer the publication of communications on other important subjects.

We tender our best thanks to those gentlemen who have at considerable personal trouble kindly supplied us with the returns and prospectuses upon which the information given in this Students' Number of THE LANCET *relative to the various medical examining bodies, hospitals, and medical schools of the United Kingdom is based. We regret that in some cases, however, owing to proofs having been either not returned at all or too late, certain inaccuracies may be found.*

TO ADVERTISERS.

Owing to the pressure on our advertisement columns this week some announcements have unavoidably been held over.

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A.—Aymard Patent Steriliser Co., Ipswich; A. G. E.; A. J. B.

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University of Birmingham.—The University grants a degree of B.Sc. in Public Health and also a Diploma in the *same subject on the following conditions*: Graduates in Medicine of this University may become candidates for the degree of Bachelor of Science in Public Health, by conforming to all the requirements laid down for candidates for the Diploma in Public Health, except that after graduating in Medicine all courses of study must be taken out in the University and they must, in addition, have attended a three months' course of Geology in the University. The following are the regulations for Diploma in Public Health (general conditions):—1. All candidates must be registered under the Medical Act. 2. The examinations will be held in the months of March and June and will consist of two parts. No candidate will be allowed to pass Part II. until he has passed Part I. 3. Candidates may enter for Parts I. and II. separately or at the same time. 4. The examination in each part will be written, oral, and practical. 5. Candidates intending to present themselves for either part of the examination must give notice in writing to the registrar of the University on the date prescribed in the calendar. 6. The fee for each part of the examination is £2. Admission fee to degree or diploma, £6. The conditions of admission to the examinations are identical with those *recently approved* by the General Medical Council.

Officers of the Royal Army Medical Corps who have studied Chemistry and Bacteriology at the Staff College and pursued the further course of study approved by the General Medical Council in December, 1902, will be admitted to the Examination for the Diploma in Public Health, whether they have previously been students of the Birmingham School or not.

University of Liverpool.—The University grants a Diploma in Public Health and every facility is *afforded for training* in Sanitary Science and State Medicine. The curriculum for the various D.P.H. Examinations demands (1) a six months' course of practical instruction in Sanitary Science; (2) a six months' course of laboratory instruction in Chemistry and Bacteriology; and (3) practical instruction in Infectious Diseases. Fees.—Chemistry, £5 5*s.*; Bacteriology, £5 5*s.*; Practical Sanitation, £25; Tutorial Classes, £7 7*s.*; Infectious Diseases, £3 3*s.* The courses may be taken out at any time and students are allowed to work daily in the laboratories.

University of Leeds.—The University grants a Diploma in Public Health and every facility is afforded *for training in* Sanitary Science and State Medicine. The examination, which is held twice in each year—*namely*, in July and December—is in two parts, and is written, oral, and practical. Candidates, before entering for the first part of the examination, must have held for not less than 12 months a registrable qualification in Medicine, Surgery, and Midwifery and must present satisfactory certificates (1) *of* having attended an approved course of instruction in Public Health in the University, or in a college or medical school recognised for this purpose by the University; (2) of having attended, after obtaining a registrable qualification, during at least six months practical instruction in laboratories approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those *diseases* of animals which are communicable from animals to man. Candidates before entering *the second* part of the examination must present certficates (3) of having, after obtaining a registrable qualification, attended during not less than three months the clinical and administrative practice of a hospital for infectious diseases approved by the University; (4) of having, after obtaining a registrable qualification, during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under 2), been diligently engaged in acquiring a knowledge of the duties, routine and special, of Public Health administration under the supervision of (*a*) the medical officer of health of a county or of a single sanitary district having a population of not less than 50,000, or (*b*) a medical officer of health devoting his whole time to Public Health work, or (*c*) a medical officer of health who is also a teacher in the Department of Public Health of a recognised medical school, or (*d*) a sanitary staff officer of the Royal Army Medical Corps having charge of an Army Corps, district, or command recognised for the purpose by the General Medical Council, *or* of having attended during three months as required above, and during three months after obtaining a registrable qualification, having attended a course or courses of instruction, approved by the University, in subjects bearing on Public Health Administration. Candidates may present themselves for Parts I. and II. separately or at the same time, provided that no candidate be allowed to pass in Part II. unless he has already passed in Part I. No candidate's name will be published until he has satisfied the examiners in both parts of the examination. Fees—The fee for each part is £5 5*s.*, and must be paid at least 14 days before the commencement of the examination. For any subsequent examination in the same part the fee will be £3 3*s.* Every candidate who has passed both parts of the examination and who is legally registered will receive a Diploma in Public Health. Medical practitioners registered or entitled to be registered on or before Jan. 1st, 1890, may be exempted from producing the above required certificates of study.

University of Sheffield.—This University grants a Diploma in Public Health and courses of instruction have been arranged for it. These qualify for the Cambridge University Diploma, for that given by the Conjoint Board of England, and for the degree of M.D. in State Medicine of the University of London.

University of Edinburgh.—Two degrees in Science in the Department of Public Health are conferred by the University of Edinburgh, viz., Bachelor of Science in Public Health and Doctor of Science in Public Health. Candidates for the degree of B.Sc. in Public Health must be graduates in Medicine of a University of the United Kingdom, or of some other University recognised for the purpose, and must pass two examinations, for the first of which they must, after graduation in Medicine, have worked for at least 20 hours per week during a period of not less than eight months, of which at least five consecutive months must be in the Public Health Laboratory of the University of Edinburgh and the remainder either there or in a laboratory recognised by that University; they must also have attended courses of instruction in Physics and Geology in some Scottish University. Candidates are not admitted to the Second Examination sooner than six months after having passed the First Examination, nor sooner than 18 months after having taken their degree in Medicine, and they must have attended two separate courses in Public Health in some University of the United Kingdom or in such medical school or Indian, Colonial, or Foreign University as may be approved for the purpose by Edinburgh University, each course consisting of 40 lectures at least; one of which courses shall deal with medicine and the other with engineering, each in its relation to public health. They must also give evidence that, subsequent to graduation in medicine, (1) they have during three months, which must be separate and distinct from the period of laboratory instruction, been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health administration under the supervision of (*a*) a medical officer of health *recognised* for this purpose by the General Medical Council; (*b*) a sanitary staff officer of the *Royal Army Medical* Corps, having charge of an army corps, district, or command, recognised for this purpose by the *General Medical Council*; (2) that they have attended during three months the practice of a hospital for infectious disease, at which opportunities are afforded for the study of methods of administration; and (3) that they have had three months' instruction in mensuration and drawing. The subjects of examination include Laboratory work, Physics, Geology, Medicine in its application to Public Health, Sanitation, Sanitary Law, and Vital Statistics. Graduates who have held the degree of B.Sc. in Public Health from the University of Edinburgh for a term of five years may offer themselves for the degree of D.Sc. in Public Health in that University. They must then present a Thesis and pass an examination in Public however, never felt well. He was done up every night. He frequently had cramps in the legs and once or twice vomited dark green stuff. On May 19th he went home feeling very ill. He vomited and was very sick. He was dizzy, "light-headed and raving." He had pains in the head and limbs, and his urine was "like porter." His skin and eyes were much yellower than usual. This condition continued until he was sent into the infirmary on May 25th. After admission he showed no sign of improvement but each day the jaundice got deeper; the rambling and excitement were more marked. He became comatose and died on May 29th. The blood was examined by Dr. R. H. Walton, the senior house surgeon, who found the number of red cells and the amount of hæmoglobin normal.

Necropsy.—The post-mortem examination revealed several unusual features. The yellowness of the hands produced by contact with the bi-nitro compounds had not worn off, although the lad had been away from the work over four weeks. His gums were greenish-yellow and his palate had a yellow discolouration. On the lower costal cartilages on both sides were minute ecchymoses. The heart weighed 10 ounces and was pale and flabby. The colour of the blood was darker than usual. The liver weighed one and three-quarter pounds. It was rather soft in consistence and there was grey mottling on the upper surface of the right lobe. It was generally paler, especially the right lobe. On the under surface were several small paler areas, apparently fatty. On section, the whole of the interior had a peculiar yellowish-green mottling and appeared to be fatty. The liver substance was very friable, easily breaking down. The gall-bladder contained about six ounces of dark thick bile. The spleen weighed five and three-quarter ounces; it was more mottled in appearance than usual. The kidneys each weighed seven ounces; they were mottled, pale, and fatty. The mesenteric glands were enlarged and dark. On the mucous membrane of the intestines and the bladder were numerous minute ecchymoses. None of the organs were bile stained. Samples of the urine were sent to the Clinical Research Association who reported that they could find no trace of nitrobenzene nor could they find leucin or tyrosin or bile. The brown discolouration they attributed to the presence of a marked excess of indican. At the inquest evidence was given to show that the lad had worked amongst various bi- and tri-nitro compounds (bi-nitrobenzene, bi-nitrotoluol, and tri-nitrotoluol). Specimens of the liver and kidney and samples of the blood and urine were forwarded to Dr. W. Malden, Pathological Laboratory, Cambridge, who kindly sent the following report:—

Report on Specimens from the Patient.

Liver.—Deep yellow mottling round the bile-ducts; some large patches resembling acute yellow atrophy. Specimens too much macerated to cut sections from. Liver contains no excess of iron.

Blood.—Dark purple-brown colour. Spectroscopically gives band of met-hæmoglobin. Microscopically, differential leucocyte count per cent.: eosinophils, 1; polymorphonuclears, 50; large mononuclears, 5·5; lymphocytes, 43; mast, 0; nucleated red cells, 4 seen; myelocyte, 1. Great variations in size of red corpuscles. Some poikilocytes. A fair number of basophil reds and some polychromatophils.

Urine.—Rich brown, clear. Reaction faintly acid. Specific gravity, 1020 at 60° F.; albumin, distinct trace; sugar, none; bile, slight trace; free urobilin, considerable quantity chemically and spectroscopically; free di-nitrobenzol, none. Microscopically, much epithelial débris, flat, squamous, cylindrical, and goblet cells. Casts, a few epithelial casts. Blood and pus cells, a few.

Opinion.—In my opinion this case is undoubtedly one of chronic poisoning by some body of the nitrobenzene series. The clinical history is clearly in favour of this diagnosis. History of three months' work in chemical manufacture of di-nitrobenzol and other allied compounds. Twice off work during that time from symptoms of poisoning. State on admission to hospital: cyanosis, vomiting, jaundice, dark urine, dyspnœa.

Post-mortem appearances.—Liver resembling acute yellow atrophy. Heart pale and fatty. Intestines ecchymoses. Kidneys enlarged and fatty degeneration. The specimens I have examined confirm the diagnosis. The blood and urine are most characteristic. The only points which are not in favour of bi-nitrobenzol poisoning are these: 1. There was no anæmia (red corpuscles counted normal). 2. There was no increase of iron in the liver. These, however, cannot outweigh the balance of probability in favour of bi-nitrobenzol poisoning as shown by all the other appearances.'

WALTER MALDEN, M.D.

Remarks.—So far as I know, no case exactly resembling this has been described before, but there can, I think, be no doubt about the diagnosis. The only other thing that it could be is ordinary acute yellow atrophy. Probably the hepatic degeneration closely resembled that which takes place in this disease but that it was acute yellow atrophy and nothing more is rendered unlikely by the following facts. In acute yellow atrophy the gall-bladder is empty. In this case it contained six ounces of bile. In acute yellow atrophy many of the organs are bile-stained. There was no bile-staining at all. In acute yellow atrophy there is almost invariably leucin or tyrosin or both in the urine. In this case these were both absent. Besides, as Dr. Malden points out, the clinical history, the history of work amongst bi-nitro compounds, the fact that he had suffered on three previous occasions from acute bi-nitrobenzol poisoning all point to the probability of the case being one of chronic bi-nitrobenzene poisoning.

Huddersfield.

A CASE OF FOREIGN BODY IN THE LEFT BRONCHUS.

By H. A. MOFFAT, F.R.C.S. ENG.

THE patient in this case was a policeman, about 35 years of age, whose previous medical history was unimportant. I first saw him on May 29th, 1908, when he told me that six days previously he went to sleep with a piece of chewing gum in his mouth. He woke up with a fit of violent coughing and with some shortness of breath and he found that the gum was gone. For a day he thought nothing of it, but as the cough persisted he saw his medical attendant; though advised to go off duty he refused to do so. The cough persisted, there was wheezing in his chest, and he was short of breath. There was pain on the right side over the second intercostal space. On the next day he was shivering and feverish. A troublesome cough with expectoration of unpleasant tasting muco-pus persisted; he was short of breath. On the 29th he was sent to me.

The patient was a well-developed and well-nourished man. There was a strained, anxious look about his face, his breathing was slightly laboured, and his lips and ears had a bluish tint; he had a frequent clanging cough. There was audible wheezing. The temperature was normal. The larynx and vocal cords were normal. The right side of the chest moved a little less freely than the left; there was no loss of resonance; vocal fremitus was normal. The air entered well all over. A loud rhonchus was heard at the end of inspiration and of expiration all over the chest, but was loudest on the right side just above and inside the right nipple. The voice sounds were normal. I found that a piece of chewing gum like the one which he had lost gave no shadow with the x rays. The patient said that he had often chewed a piece for two days without any appreciable diminution. Apparently the composition is a little pepsin, sugar with peppermint, with guttapercha, which forms the great bulk of the gum.

I advised the patient to go into hospital, but it was not until the next day that arrangements were made. He was admitted just after a rigor and had a temperature of 103° F. Just after admission he vomited; in the vomit were about two ounces of thick muco-pus. He was put on expectorants and a kettle was kept going, as I decided to wait and to see if the temperature would go down. On the 31st the temperature had fallen and he felt better; the slight dyspnœa and cough were unchanged. The rhonchus was heard only occasionally, and then only on the right side below the right nipple; the percussion note in the right axilla was a little flat. On June 1st there was no change; the temperature ranged from 99° to 100°. I advised a tracheotomy and a search from the wound, but he wished to put this off, having an idea that the gum would disintegrate; he had coughed up a piece of about the size of a pin's head. In the afternoon he had an attack of dyspnœa, transmissible to man; and (2) during six months practically study outdoor sanitary work under a medical officer of health and shall as an additional requirement attend a hospital for infectious diseases. Candidates are examined on four days, commencing on the first Monday of February, May, and November. Each candidate must return his name to the secretary of the Committee of Management under the Conjoint Scheme two weeks before the examination, and lodge with him a testimonial of character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh. The fee for the examination is £10 10*s.* The examination for the Diploma in Public Health comprises the following subjects:—Hygiene, Chemistry, Meteorology and Climatology, Engineering, Vital Statistics, Sanitary Law, and Bacteriology. For further particulars apply to Alfred Miller, Secretary, Committee of Management; Office, Royal College of Physicians, Dublin.

DENTAL SURGERY.

ANYONE who is on the Medical Register is entitled to practise as a dentist, although he cannot register as such without the special licence; but it is of eminent advantage to take the L.D.S., otherwise few dental appointments at general or special hospitals or dispensaries are available, and, what is still more important, the manual dexterity requisite for the successful practice of dentistry can only be gained by long and careful training; and, this having been attained, it is but little trouble to pass the special examinations. The subjects beyond those included in the general qualification are—Dental Anatomy and Physiology (Human and Comparative), one course; a separate course of Dental Histology, including the preparation of microscopical sections; *Dental* Surgery, one course; a separate course of Practical Dental Surgery; a course of not less than five lectures on the Surgery of the Mouth; Dental Mechanics, *one course; a course* of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns; Dental Metallurgy, one course; a course of Practical Dental Metallurgy; Practice of Dental Surgery at a recognised school, two years, and a certificate of having been engaged during a period of not less than two years in acquiring a knowledge of Dental Mechanics (this may be obtained by *apprenticeship to a duly qualified* dental practitioner or in the mechanical department of a recognised dental hospital). The Dental Schools in London are the Royal Dental Hospital of London, the National Dental Hospital and College, and Guy's Hospital Dental School. Most of the large provincial towns have now dental hospitals. A convenient arrangement by which the M.R.C.S., L.R.C.P., and L.D.S. *can be taken* is as follows:—The Preliminary Examination in General Education having been passed the student should commence his mechanical training *at a dental school* or with a qualified dentist and register as a dental and medical student. (This instruction, however, may be taken prior to the date of registration as a *dental student.*) During the mechanical tuition the student should receive instruction in Chemistry and Physics, *together with Biology*, and should pass the First Professional Examination for the Conjoint Diploma during his first *year. He should then* obtain instruction in Pharmacy and, having passed the examination, should complete his work for the *First* Professional Dental Examination and pass this at the end of his second year. On the completion of the mechanical training the student should join the general and dental hospitals and at the expiration of 18 *months* at the general hospital should pass the Second Examination for the *Conjoint Diploma. The* Final Examination for the *L.D.S.* can be taken at the end of two years from joining the hospital. The student during these two years will *have* been attending simultaneously both the general and dental hospitals. During the remainder of his time he should devote himself to Surgery, Medicine, Midwifery, &c., in which subjects he may be examined at the expiration of the *required* time from the passing of the Second Examination. When time is not a great object, a better course is to join *only* the general hospital at the completion of the mechanical tuition, and complete the Second Examination for the Conjoint Diploma and also his "Dressing" and "Clerking" appointments before commencing his surgical training at the Dental Hospital. The best course, however, is entirely to finish the curriculum for the M.R.C.S. and L.R.C.P. and then take the special Dental work. The regulations for the Dental Licence of the Royal Colleges of Ireland and Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow are very similar to those of the English College. The L.D.S. can also be obtained alone.

The Registration of Dental Students is carried on at the Medical Council Office in London in the same manner as the existing registration of medical students, and subject to the same regulations as regards Preliminary Examinations. Candidates for a diploma in Dental Surgery must produce certificates of having been engaged during four years in professional studies and of having received two years' instruction in mechanical dentistry. The two years of instruction in mechanical dentistry, or any part of them, may be taken by the dental student either before or after his registration as a student, but no portion of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration.

It is now necessary for anyone practising Dental Surgery in this country to be on the Register and no foreign qualifications are admitted.

The Royal College of Surgeons of England grants a diploma in Dental Surgery under the following regulations, which apply to all candidates who have registered as dental students after Jan. 1st, 1897. Candidates are required to pass three examinations: the Preliminary Science Examination, the First Professional Examination, and the Second Professional Examination. I. Preliminary Science Examination.—Before admission to this examination the candidate must produce a certificate of having received instruction (which may be taken prior to the date of registration as a dental student) at a recognised institution in Chemistry, Physics, and Practical Chemistry. The examination consists of these subjects and is identical with Part I. of the First Examination of the Examining Board in England. II. The First Professional Examination.—The candidate must produce the following certificates: 1. Of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of mechanical dentistry, under the instruction (which may be taken prior to registration as a dental student) of a competent practitioner or under the direction of the superintendent of the mechanical department of a recognised dental hospital. 2. Of registration as a dental student by the *General Medical Council.* 3. Of having attended at a recognised Dental Hospital and School (*a*) a course of lectures on Dental Metallurgy; (*b*) a course of Practical Dental Metallurgy; (*c*) a course of Lectures on Dental Mechanics; and (*d*) a course of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns. Candidates may present themselves for the *First Professional Examination* on production of the required certificates. The Examination consists of Mechanical Dentistry and Dental Metallurgy, the examination in Dental Metallurgy being by written paper. III. The Second Professional Examination.—The candidate must produce the following certificates: 1. Of having been engaged during four years in the acquirement of *professional* knowledge subsequently to the date of registration as a dental student. 2. Of having attended at a recognised dental hospital and school (*a*) a course of Dental Anatomy and Physiology; (*b*) a separate course of Dental Histology, including the preparation of microscopical sections; (*c*) a course of Dental Surgery; (*d*) a separate course of Practical Dental Surgery; (*e*) a course of not less than five lectures on the Surgery of the Mouth, which lectures may be given at a dental hospital or at a recognised medical school; in the latter case they may form part of the course of lectures on Surgery; (*f*) a course of Dental Materia Medica; and (*g*) a course of Dental Bacteriology. 3. Of having attended at a recognised dental hospital or in the dental department of a recognised general hospital the practice of Dental Surgery *during two years.* 4. Of having attended at a recognised medical school (*a*) a course of lectures on Anatomy, (*b*) a course of lectures on Physiology, (*c*) a separate Practical Course of Physiology, (*d*) a course of lectures on Surgery, and (*e*) a course of lectures on Medicine. The lectures on Surgery and Medicine must be attended after the completion of the courses of lectures on Anatomy and Physiology. 5. Of having performed Dissections at a recognised medical school during not less than appeared as a result of this vaccination were collected and a portion of the resulting emulsion was inoculated on a second bovine. This animal also developed typical vaccine vesicles at the site of inoculation.

It seems evident that the pathological condition which affected the men's hands and the cows' udders was vaccinia. Endeavours have been made to ascertain how the condition first appeared in the cows but so far without success. No persons attending the cows had been vaccinated recently nor had any member of their families. The only other disease noticed among the farm animals was a few cases of foot-rot in sheep; and, from the experiments which I have made, foot-rot material inoculated on guinea-pigs, calves, and goats, not only sets up no pathological condition resembling vaccinia, but affords no protection against subsequent inoculations with calf vaccine.

The farmer states that his cows have on previous occasions suffered from sore teats, but according to his observations in not the same manner as on the present occasion. There is a possibility, therefore, that the vaccinia may have been endemic on the farm for some time. But the fact that no cow-men have contracted vaccinia previously contradicts such a supposition.

I am greatly indebted to Dr. Wilson, under whose care were all the patients, for his kindness in affording me readily every facility for investigation in his power and for much valuable help; and to my colleague, Dr. A. T. MacConkey, who during my brief absence from work was notified of the outbreak, for generously handing over the matter to my department on my return to Elstree.

ON A LOCALISED OUTBREAK OF SCARLET FEVER PRESUMABLY ATTRIBUTABLE TO INFECTED MILK.

By Sir CHARLES A. CAMERON, C.B., M.D. R.U.I.,
MEDICAL OFFICER OF HEALTH OF DUBLIN.

THE city of Dublin is intersected by a river, and the population of the northern side is slightly over 142,000. The population of the southern side is about 160,000. From July 1st to August 12th, 1908, 28 cases of scarlet fever occurred in the northern division and nine cases in the southern division of the city. On the south side the cases were widely separated. On the north side ten cases of scarlet fever were notified up to July 24th; they were pretty widely distributed. From July 27th to August 8th 16 cases were notified, all occurring within a radius of less than three-quarters of a mile. Of the patients two were adults and 14 were children. In each of two houses there were three cases of the disease; in the remaining ten houses there was one case in each house. In the district there were many dairies, but every one of the patients had used the milk of only one dairy, the owner of which resided in the centre of the affected area. The dairyman's establishment consisted of himself, his wife, nine children, and two workmen. His wife had a sore throat but not a severe one. One of the workmen had severe tonsillitis and was feverish. I found him in bed and had him removed to hospital, where he was kept under observation. No desquamation of cuticle took place. When I saw him there was no rash out and he said that he was ill only two days. The other workman had a slight sore throat. The cows of this dairyman were on pastures situated about three miles from the city. The men, together with the workmen of four other dairymen, slept in two houses near the pastures. Inquiry failed to discover that any of these men had recently been suffering from scarlet fever. These houses were occasionally slept in by other persons than the employees of the dairymen who were there when the outbreak of scarlet fever occurred. The cows were examined and found to be free from disease. A physician called in by the proprietor of the suspected dairy examined the whole family and certified that they were not suffering from any infectious disease. In these circumstances I could not prevent the sale of milk from the dairy. The houses in which the workmen had slept were, however, thoroughly disinfected, as were also the dairy and its churns and other utensils, as well as the dwelling house. To these operations the owner at once agreed.

The 16 cases of scarlet fever occurred in 12 houses. Although they were in the same district, yet the infected houses were not very close together, and there was no reason to suspect that the later cases were the result of antecedent ones by direct contagion. In attributing this localised outbreak of scarlet fever to the use of infected milk it would be more satisfactory if it could be shown that amongst the persons connected with the dairy one of them had suffered from scarlet fever. Still, it is in the highest degree improbable that 16 cases of scarlet fever should occur amongst persons using the milk from the dairy in question if the milk were free from pathogenetic micro-organisms. As large quantities of milk were sent out from this dairy it may be thought why were there not more than 16 cases of disease amongst the large number of persons supplied. It does not, however, follow that the whole of the milk was infected, and even if some persons drank the infected milk it does not follow that they must inevitably have contracted the disease. Some of them may already have had an attack of scarlet fever, others might not have been in that state of receptivity which is necessary before infection can develop into disease. On August 10th two children in one of the two houses in which, on August 4th, three cases of scarlet fever occurred were notified to have the disease. It seems more likely that these children were infected by the children who were infected by the milk. On August 24th it was notified that a second case had occurred in a house in which on July 27th a child was ill with the disease who had drunk the milk which I believe was infected. This last case was no doubt the result of the antecedent one in the same house, for in this instance and in nearly all the others the patients were not brought to hospital and being in good circumstances were attended to in their homes.

Dublin.

A CASE OF ECTOPIC GESTATION ON THE GOLDFIELDS.

By R. STANLEY TAYLOR, M.R.C.S. Eng., L.R.C.P. Lond.,
B.A., M.B., B.C. Cantab.,
MEDICAL OFFICER TO THE NANNINE HOSPITAL; MEDICAL OFFICER OF HEALTH OF NANNINE, WESTERN AUSTRALIA.

I WAS called 14 miles to a patient, a married woman, 39 years of age, who was said to be dying, and arrived at 1.30 P.M. on May 5th, 1908, when I found the patient slightly cyanosed and pale and complaining of pain in the abdomen and inability to move. On examination per abdomen I found, in a fat woman, pain in the left iliac fossa accompanied by tenderness but without rigidity. No tumour was anywhere palpable. Per vaginam a soft tender swelling filled the posterior and both lateral fornices. The pulse (94) was small but very strong and regular. The temperature was 99° F. On inquiring into the history of the present condition I was informed that during the previous night (May 4th) the patient, who had been quite well all day, awoke with severe pain in the left iliac fossa. She felt sick and faint but neither vomited nor fainted and the pain gradually became easier, though it was still too severe the next morning to allow her to move. The menstrual history showed that the catamenia began at the age of 17 years; they were regular, lasting four days, and recurring every 28 days. The patient was married at 19 years and had her first child before she was 20. She had had altogether 11 children. Two (Nos. 4 and 6) were stillborn and three died aged respectively 12 months, 14 months, and 2½ years, the cause of death being "teething," "diphtheria," and "teething" respectively. The youngest child was 18 months old. The patient had had three miscarriages, the last being three years ago. She last menstruated a fortnight previously (April 20th) and noticed that the amount was excessive. I diagnosed ruptured ectopic gestation and the treatment consisted of absolute rest in bed and opiates.

On May 14th I was called out at 12.10 A.M. and owing to bad roads and a tired horse arrived at 3 A.M. The patient then said that she had been steadily recovering till the evening of the 11th, when she had had another attack similar to the first but had recovered from it. On the evening of the 13th she had had a third attack and when I

General Education), Primary Dental, and Final Dental. Preliminary Examination.—All examinations in general education recognised by the General Medical Council are accepted by the College. Preliminary Examinations are held conjointly by the Royal Colleges of Physicians and Surgeons on the third Wednesdays in March and September. Primary Dental Examination.—Fee £10 10*s.*; for re-examination, if rejected, £5 5*s.* Every candidate[1] is required, before admission to the Primary Dental Examination, to produce evidence—(1) of having passed a recognised preliminary examination and of having been registered as a medical or dental student by the General Medical Council; (2) of having, subsequently to registration as a dental or medical student, attended at a recognised medical school the following courses: Lectures on Practical Anatomy, including Dental Anatomy, six months; Demonstrations and Dissections, two courses of six months each; Lectures on Chemistry, six months; Lectures on Physiology, including Dental Physiology, six months; Practical Histology and Practical Chemistry, including Metallurgy, three months; (3) of having attended Clinical Instruction at a recognised general hospital for one year. The subjects of this examination are: (1) Physics;[2] (2) Chemistry, including Metallurgy; (3) Anatomy; (4) Physiology and Histology; and (5) Surgery. Final Examination.—Candidates holding L.R.C.S.I. or students who have passed Primary Dental or Third Professional Examination of the College, £10 10*s.*; re-examination, £5 5*s.* Fees for Final Examination of all other candidates, £26 5*s.*; re-examination, £10 10*s.* Extra fee for Special Examination, £5 5*s.* Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, and are required to produce certificates of having attended: (1) the following courses of lectures recognised by the College: Dental Surgery and Pathology (two courses), Dental Mechanics (two courses); (2) for two years the practice of a dental hospital recognised by the College or of the dental department of a general hospital so recognised; (3) of having been engaged during four years in professional studies; and (4) of having received three years' instruction in Mechanical Dentistry from a registered dentist. Candidates holding a diploma in Surgery shall be admissible to the Final Dental Examination on producing certificates of having attended: (1) one course of Lectures on Dental Surgery and Pathology; (2) one course of Lectures on Dental Mechanics; (3) for one year the practice of a dental hospital recognised by the College, or of the dental department of a general hospital so recognised, where such attendance has been subsequent to the date of diploma (this remission (3) has been made on the understanding that the surgeon devotes his whole time to dental work); and (4) of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry under the instruction of a registered dentist. The following are the subjects of examination: Dental Surgery, Theoretical (including Dental Pathology), Clinical, and Operative; Dental Mechanics, Theoretical, Clinical, and Practical (including the Metallurgy of the Workshop). Examinations for the Licence in Dentistry *sine curriculo*: The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the Dental Register published under the direction of the General Medical Council, and who are unable to furnish the certificates required by the foregoing regulations, on presentation of a special schedule of application.

University of Birmingham.—The teaching of Dentistry is undertaken by the University acting in association with the Birmingham Dental Hospital and the Birmingham Clinical Board, so that the students may fully qualify themselves for the Dental diploma of this and other universities and licensing bodies. There is a special and well-equipped Dental Museum and Laboratory. An Entrance Exhibition, value £37 10*s.*, is awarded annually at the commencement of the winter session. The following are the *regulations for* Degrees in Dentistry:—1. The degrees conferred by the University are those of Bachelor and Master of Dental Surgery (B.D.S. and M.D.S.). 2. All candidates for these degrees must pass the same Matriculation Examination as that required from candidates for Medical Degrees. 3. The degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained a Licence in Dental Surgery. The candidate is not eligible for the degree until a period of 12 months has elapsed from the passing of his examination for the Licence in Dental Surgery. Of this period at least six months must be spent in the dental department of a general hospital approved by the University. 4. *A.* In addition to the Licence in Dental Surgery the candidate must produce evidence that he has attended the courses required by medical students of the University in the following subjects and passed the Examinations held in the same for Medical and Surgical Degrees: (*a*) Chemistry and Practical Chemistry, (*b*) Physics and Practical Physics, (*c*) Elementary Biology, (*d*) Anatomy and Practical Anatomy, and (*e*) Physiology and Practical Physiology. *B.* That he has attended the following courses and passed the class examinations in each of these subjects: (*f*) One Special Course of Lectures on Medicine, (*g*) One Special Course of Lectures on Surgery, and (*h*) Pathology and Bacteriology. *C.* That he has attended courses and passed the class examinations in: (*k*) Dental Histology and Patho-Histology, (*l*) Comparative Dental Anatomy, and (*m*) Dental Surgery and Prosthetic Dentistry. *D.* That he has received instruction in the Clinical Examination of living cases at the dental department of a general hospital for a period of not less than six months. 5. The Final Examination will deal with the subjects in Classes *C* and *D.* 6. On the expiration of 12 months from the date of passing the Examination for the Degree of Bachelor of Dental Surgery, the candidate will be eligible for that of Master of Dental Surgery. 7. For this degree candidates will be required to submit a thesis containing original work and investigations in some subject connected with Dentistry, which thesis shall be submitted to examiners to be nominated by the Dental Advisory Board. The degree will be awarded or withheld according to the report of these examiners.

The University also grants a diploma in Dental Surgery (L.D.S.) to candidates who have followed the *prescribed* regulations for the same.

University of Leeds.—The degrees in Dental Surgery are Bachelor of Dental Surgery (B.Ch.D.) and Master of Dental Surgery (M.Ch.D.). All candidates for the degree of Bachelor of Dental Surgery shall be required to have passed the Matriculation examination, to have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the University subsequently to the date of passing Parts I. and II. of the first examination, and to have completed such period of pupilage or hospital attendance, or both, as may be prescribed by the regulations of the University. No candidate will be admitted to the degree who has not attained the age of 21 years on the day of graduation. All candidates are required to have passed the following examinations: the first examination, the second examination, and the final examination. Each examination will include practical work in the subjects offered. All candidates shall be required, before presenting themselves for examination, to furnish to the registrar certificates testifying that they have attended the prescribed courses of instruction in accordance with the regulations of the University in each of the subjects which they offer, and that they have fulfilled the other requirements of the ordinance and regulations in respect of such examination. Candidates for the diploma in Dental Surgery (L.D.S.) are required to present certificates showing that they have attained the age of 21 years, that they have attended courses of instruction approved by the University, extending over not less than four years, and that they have completed a pupilage of three years, two of such years at least having been taken before the First Professional examination. Candidates are required to satisfy the examiners in the several subjects of the following examinations: A preliminary examination in Arts; a preliminary examination in *Science*; the First Professional examination; and the Final examination. The classes in the Department of Dentistry will begin on Oct. 1st. The instruction in the Preliminary subjects of Chemistry, Physics, and Biology will be given at the University in College-road. The classes in the other subjects way the reader is able to learn the legal provisions of a subject while its other aspects are fresh in his mind. But as legislation was busy during 1907 it became necessary to introduce a separate chapter under the heading of "Recent Sanitary Legislation."

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[1] Candidates educated in England or Scotland are admitted to the Primary Dental Examination on the production of the certificates that would be necessary for both Primary and Final Examinations in their own countries.

[2] Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, are exempted from examination in these subjects at the Primary Dental Examination.

The book as a whole is a thoroughly comprehensive one and its scope is naturally wider than is the case of the smaller text-books. In the chapter on water analysis we are glad to see the author placing in the forefront the importance of "a careful local inspection" of the source. We wish that all analysts would take this view, as we might then hear of fewer instances of water passed by the analyst causing outbreaks of disease. The chapter on air is thoroughly up-to-date, and the author discusses the influence of temperature and moisture in producing the ill-effects experienced in overcrowded atmospheres. Considerations as to food are dealt with in exemplary fashion, but in the section dealing with the law relating to the milk trade we do not find reference to the important powers obtainable either under the Infectious Disease (Prevention) Act, 1890, or under what are known as the Liverpool or Manchester Milk Clauses. We do not quite agree with some of the author's comments as to the difficulty in obtaining regulations under the Dairies, Cowsheds, and Milkshops Order, and it is not, we think, at all common to employ police officers for the inspection of dairies. One of the most valuable chapters in the work is that devoted to parasites. The section devoted to the protozoa is most helpful and the numerous plates are excellent. Some of Lieutenant-Colonel Firth's views as regards tuberculosis will invite the criticism of those who claim for the disease a high infectivity. The author's opinion is set forth as follows: "We ourselves are disposed to think that bovines are the main source of tuberculosis in man, and that the theory of infection by inhalation rests upon imperfect knowledge; we are convinced that this method of contracting the disease is rare." In the matter of statistics this volume is in advance of any other book on public health as considerable space is devoted to the methods used by Professor Karl Pearson in his biometrical studies.

The chapters on military and naval hygiene will be very welcome to all service men, but we have been wondering as we read these pages whether it might not be possible to have two separate issues of this admirable volume—the one for service men, the other for non-service; this latter volume omitting the military and naval hygiene and substituting therefor a fuller discussion of sanitary law. But the book is certainly one which ought to be possessed by all who are interested in public health.

Manual of Medical Jurisprudence, Toxicology, and Public Health. By W. G. AITCHISON ROBERTSON, M.D., D.Sc. Edin., F.R.C.P. Edin., F.R.S. Edin., Lecturer on Medical Jurisprudence and Public Health, School of Medicine, Royal College of Surgeons, Edinburgh. With 39 illustrations. London: Simpkin, Marshall, and Co., Limited. 1908. Pp. 560. Price 8s. net.

DR. Robertson has succeeded in compressing into a moderate compass a large amount of information on the subjects of medical jurisprudence, toxicology, and public health. The various facts are clearly stated, and the conclusions to be deduced from them are ably expressed.

In the first chapter criminal procedure is described, especial attention being directed to legal procedure in criminal cases in Scotland which differs somewhat from that which is followed in England and Ireland. The rules of evidence are briefly considered, and some useful rules to be observed in giving evidence are supplied. The effect of skilled evidence much depends upon the way in which it is delivered. Accuracy and non-indulgence in highly scientific phraseology are essential. Nothing makes so bad an impression on judge and jury as a medical witness who forgets important details, such as dates, names, sequence of symptoms, and so on; whilst the too free use of scientific terms may easily confuse the court. We well remember the temporary embarrassment of a medical witness when asked by the judge to explain to the jury the meaning of the word "neurotic."

The chapters dealing with the performance of medico-legal post-mortem examinations and the causes and signs of death are well written and give a clear account of the subject. We cannot altogether agree, however, with some of Dr. Robertson's remarks on suspended animation and apparent death. We think that, unintentionally no doubt, he exaggerates the possibility of the latter. We do not consider that he gives sufficient proof of his statement: "Authentic cases of supposed dead persons rising from the coffin are numerous." If such cases were submitted to careful scientific analysis we believe that probably the large majority of them would be proved to have been erroneously reported. Brouardel's remarks on this subject are reassuring: "A person dies; he is carried to an apartment called the 'mortuary chamber' ...... and a bell-rope is placed in his hand. ...... Gentlemen, from the time that mortuary chambers were instituted—and that at Weimar dates from 1792—neither at Weimar nor at Munich ...... nor anywhere else, I believe, has anybody ever rung that bell."

The subject of the medico-legal aspect of wounds is considered in an interesting manner, gunshot injuries being especially well described. The portion of the book dealing with toxicology contains a consideration of all the important poisons, and the symptoms, post-mortem appearances, tests, and treatment are accurately given.

The third section—namely, the one on public health—contains a large amount of information on ventilation, heating, water-supply, house sanitation, sewage, and also remarks on infectious diseases, vital statistics, meat inspection, and, finally, some observations on sanitary administration and sanitary law.

This manual contains all that is necessary for the student to know in regard to the above subjects for the ordinary pass examinations in the final subjects. For the higher examinations a larger work would be necessary. Dr. Robertson has an easy style of writing which will attract the student's attention and will render the study of medical jurisprudence and public health a pleasing one.

Les Ferments Métalliques et leur emploi en Thérapeutique: (Metallic Ferments and their Use in Treatment.) Par ALBERT ROBIN, Professeur de Clinique Thérapeutique à la Faculté, Membre de l'Academie de Médecine. Paris: J. Rueff. 1907. Pp. 252. Price fr. 4.

IN 1901 Professor Robin published some observations concerning the therapeutic action of certain metals in a state of very fine division, an action which he states is remarkably like that of the organic ferments. This fact has led him to refer to the substances which he has employed as metallic ferments. He uses chiefly the following metals: gold, platinum, silver, and palladium in a "colloidal state." These preparations are easy to obtain but difficult to preserve. The method of preparation is simply to allow a series of electric sparks to pass between two electrodes of the metal which it is desired to use through a small quantity of pure sterilised water in a porcelain capsule. A current of three or four ampères with a voltage of 110 is said to give the best results. At each spark a small cloud appears which rapidly disappears in the liquid. Gold gives a violet-coloured solution, silver a brown, General Education), Primary Dental, and Final Dental. Preliminary Examination.—All examinations in general education recognised by the General Medical Council are accepted by the College. Preliminary Examinations are held conjointly by the Royal Colleges of Physicians and Surgeons on the third Wednesdays in March and September. Primary Dental Examination.—Fee £10 10*s.*; for re-examination, if rejected, £5 5*s.* Every candidate[1] is required, before admission to the Primary Dental Examination, to produce evidence—(1) of having passed a recognised preliminary examination and of having been registered as a medical or dental student by the General Medical Council; (2) of having, subsequently to registration as a dental or medical student, attended at a recognised medical school the following courses: Lectures on Practical Anatomy, including Dental Anatomy, six months; Demonstrations and Dissections, two courses of six months each; Lectures on Chemistry, six months; Lectures on Physiology, including Dental Physiology, six months; Practical Histology and Practical Chemistry, including Metallurgy, three months; (3) of having attended Clinical Instruction at a recognised general hospital for one year. The subjects of this examination are: (1) Physics;[2] (2) Chemistry, including Metallurgy; (3) Anatomy; (4) Physiology and Histology; and (5) Surgery. Final Examination.—Candidates holding L.R.C.S.I. or students who have passed Primary Dental or Third Professional Examination of the College, £10 10*s.*; re-examination, £5 5*s.* Fees for Final Examination of all other candidates, £26 5*s.*; re-examination, £10 10*s.* Extra fee for Special Examination, £5 5*s.* Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, and are required to produce certificates of having attended: (1) the following courses of lectures recognised by the College: Dental Surgery and Pathology (two courses), Dental Mechanics (two courses); (2) for two years the practice of a dental hospital recognised by the College or of the dental department of a general hospital so recognised; (3) of having been engaged during four years in professional studies; and (4) of having received three years' instruction in Mechanical Dentistry from a registered dentist. Candidates holding a diploma in Surgery shall be admissible to the Final Dental Examination on producing certificates of having attended: (1) one course of Lectures on Dental Surgery and Pathology; (2) one course of Lectures on Dental Mechanics; (3) for one year the practice of a dental hospital recognised by the College, or of the dental department of a general hospital so recognised, where such attendance has been subsequent to the date of diploma (this remission (3) has been made on the understanding that the surgeon devotes his whole time to dental work); and (4) of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry under the instruction of a registered dentist. The following are the subjects of examination: Dental Surgery, Theoretical (including Dental Pathology), Clinical, and Operative; Dental Mechanics, Theoretical, Clinical, and Practical (including the Metallurgy of the Workshop). Examinations for the Licence in Dentistry *sine curriculo*: The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the Dental Register published under the direction of the General Medical Council, and who are unable to furnish the certificates required by the foregoing regulations, on presentation of a special schedule of application.

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All candidates shall be required, before presenting themselves for examination, to furnish to the registrar certificates testifying that they have attended the prescribed courses of instruction in accordance with the regulations of the University in each of the subjects which they offer, and that they have fulfilled the other requirements of the ordinance and regulations in respect of such examination. Candidates for the diploma in Dental Surgery (L.D.S.) are required to present certificates showing that they have attained the age of 21 years, that they have attended courses of instruction approved by the University, extending over not less than four years, and that they have completed a pupilage of three years, two of such years at least having been taken before the First Professional examination. Candidates are required to satisfy the examiners in the several subjects of the following examinations: A preliminary examination in Arts; a preliminary examination in Science; the First Professional examination; and the Final examination. The classes in the Department of Dentistry will begin on Oct. 1st. The instruction in the Preliminary subjects of Chemistry, Physics, and Biology will be given at the University in College-road. The classes in the other subjects muscle is shown by graphic records. 2. Studies of the Relationship between Respiration and Blood Pressure. Part I.: The Effect of Changes of Intrapericardial Pressure on Aortic Pressure, by Thomas Lewis, from the Physiological Laboratory, University College, London. The author in this part shows that the heart is peculiarly susceptible of the changes of pressure external to it. In small cats the rise of blood pressure accompanying suspended or prolonged inspiration is entirely due to the change of intrapericardial pressure. 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[1] Candidates educated in England or Scotland are admitted to the Primary Dental Examination on the production of the certificates that would be necessary for both Primary and Final Examinations in their own countries.

[2] Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, are exempted from examination in these subjects at the Primary Dental Examination.

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National Dental Hospital and College.—Corner of Great Portland and Devonshire-streets, W.—Consulting Surgeon: Sir Victor Horsley. Consulting Dental Surgeon: Mr. Sidney Spokes. Visiting Physician: Dr. James Maughan. Visiting Surgeon: Mr. E. W. Roughton. Dental Surgeons: Mr. F. H. Weiss, Mr. K. W. Goadby, Mr. W. Weiss, Mr. Rushton, Mr. H. R. Pring, and Mr. A. E. Relph. Assistant Dental Surgeons: Mr. H. Creemer Cooper, Mr. H. W. Turner, Mr. Sydney Corbett, and Dr. J. W. Pare. Anæsthetists: Mr. H. P. Noble, Mr. C. J. Ogle, Mr. Vivian B. Orr, Dr. J. Maughan, Dr. Cecil Hughes, and Mr. R. E. Delbruck. Lecturers (winter), Dental Anatomy and Physiology: Dr. J. W. Pare, Tuesdays and Thursdays, 5 P.M., in October, November, and December. Dental Metallurgy: Mr. Hugh Candy, Tuesdays, 5 P.M., in January, February, and March. Dental Mechanics: Mr. H. W. Turner, Wednesdays, 5.30 P.M., in May, June, and July. Dental Materia Medica: Mr. Charles W. Glassington, Tuesdays, 6 P.M., October, November, and December. Summer—Dental Surgery and Pathology, Mr. H. J. Relph, Thursdays, 5 P.M., during January, February, and March. Bacteriology of the Mouth: Mr. K. W. Goadby, Tuesdays, 4 P.M., during May, June, and July. Practical courses to comply with the R.C.S. curriculum are also held. The hospital is lighted throughout by electricity and warmed and ventilated by approved methods. Clinical Lectures and Demonstrations are given from time to time, and each student on entering passes *through a preliminary* course under a demonstrator. The stopping rooms have accommodation for 50 chairs. Dresserships in the *extraction and stopping* rooms are re-arranged every three months. Two Entrance Exhibitions, of the value of £40 and £20, are open for competition. Prizes are open for competition at the end of each course of lectures. *Certificates of honour* are also open in each class. The Rymer Medal for General Proficiency, value £5, is awarded annually to the most meritorious student; and the Ash Prize, value £3 3*s.*, for a Thesis on a subject in Dental Surgery. Total fee for the Special Lectures and Hospital Practice required, 40 guineas. A composition fee covering the two years' mechanical pupilage and the two years' hospital *practice required* by the Royal College of Surgeons, £120. Single Courses: Dental Anatomy and Physiology, Dental Surgery and Pathology, Dental Mechanics, Dental Metallurgy, Bacteriology of the Mouth, Dental Materia Medica, Demonstration of Dental Mechanics, £5 5*s.* each. Hospital Practice to registered practitioners by special permission of Committee, 12 months, £15 15*s.* The Committee also consider applications from medical men who may desire to attend the Anæsthetic Room *for a course of* instruction in Nitrous Oxide administration. Information respecting the Hospital Practice and the College may be obtained from the Dean, Mr. Sidney Spokes, who attends at the Hospital, Great Portland-street, on Tuesday mornings.

Guy's Hospital.—The work of the Dental Department begins daily at 9 A.M. both in the extraction rooms and in the conservation room. *The Extraction Rooms*: Patients are admitted between 8.45 and 9.30 A.M., and are seen by the dental surgeon for the day, the dental house surgeon, the assistant dental house surgeon, and the dressers. Such cases as are suitable for conservative treatment are transferred to the conservation room, taking with them a dental chart to indicate the treatment required. *The Conservation Room*: This room is open from 9 A.M. till 5 P.M. There are 55 Morrison chairs, each fitted with a saliva ejector, for the use of the Dressers, who, under the supervision of the Staff, perform the various operations of Dental Surgery. The members of the staff attend every morning and afternoon in the week to give demonstrations and otherwise assist students in their work in the Conservation Room and Mechanical Laboratory. Dental students have the opportunity of attending concurrently at this hospital the two *courses of instruction* required by the examining board for the L.D.S. Eng., viz., the special lectures and practice of the Dental Department and the general lectures and practice of the Medical School. The fees for these two courses may be paid separately or together, or they may be combined with the fees required to be paid for the course for a medical diploma. Students who enter for a medical as well as a *dental diploma* are allowed to pursue their study of Dentistry during any period of their medical course most convenient to themselves without further charge. Two Entrance Scholarships in Dental Mechanics of the value of £20 each are offered for competition annually, one in September and one in April, and prizes of the aggregate value of £35 are awarded for general proficiency and skill in Practical Dentistry. Dental students are eligible for admission to the Residential College and enjoy the other social privileges of students in the Medical School.

Staff. — Dental Surgeons: Mr. W. A. Maggs, Mr. Wynne Rouw, Mr. H. L. Pillin, and Mr. M. F. Hopson. Assistant Dental Surgeons: Mr. J. B. *Parfitt and* Mr. J. L. Payne. Demonstrators of Practical *Dentistry*: Mr. E. B. Dowsett, Mr. F. J. Pearce, Mr. H. P. Aubrey, Mr. H. Chapman, and Mr. H. C. Malleson. Anæsthetists: Dr. H. F. Lancaster, Mr. C. J. Ogle, Mr. E. C. Hughes, Mr. A. R. Thompson, Mr. W. M. Mollison, and Mr. R. Davies-Colley. Lecturers.—Dental Surgery and Pathology: Mr. Wynne Rouw. Dental Anatomy and Physiology: Mr. Maggs. Operative Dental Surgery: Mr. Parfitt. Dental Mechanics: Mr. Payne. Practical Dental Mechanics: Mr. Pillin. Dental Materia Medica: Dr. A. P. Beddard. Dental Bacteriology: Dr. Eyre. Dental Microscopy: Mr. Ryffel and Mr. Laidlaw. Metallurgy: Dr. J. Wade. *Practical* Dental Metallurgy: Mr. Hopson. Curator of Dental Museum: Mr. Dowsett. Dean: Dr. Eason.

London Hospital.—Mr. F. M. Farmer, Mr. J. Scott MacFarlane, and Mr. H. Watson Turner give practical instruction during the winter and summer sessions daily at 9 A.M. Dental Dressers must undertake to attend regularly for three months. A course of lectures, specially arranged for Medical students, will be delivered during May and June. The lectures will be supplemented by demonstrations of practical work and will be specially directed to meet the requirements of the medical practitioner. It will comprise a short description of the Anatomy and Physiology of the Teeth, special attention being given to Oral Hygiene; Irregularities of the Teeth, with special reference to cases which may be treated by surgical means as distinguished from those requiring dental appliances; Dental Caries and its Treatment, which will be specially directed to palliative dressings and simple fillings; Diseases of the Dental Pulp and Periosteum and their Treatment; and Neuralgia and other Affections arising from dental causes. The practical work will include exercises in the extraction of teeth and the preparation of cavities and simple fillings on models specially prepared. 8569 dental cases were treated during 1907.

PROVINCIAL.

University College, Bristol.—Laboratories for instruction in Mechanical Dentistry and in Dental Metallurgy have been established in the *College and Dental* students can enter for the full curriculum at Bristol. The Lectures are delivered at the College. Practical instruction *is given at the Royal Infirmary* by Mr. Ackland and at the *General Hospital* by Mr. Genge, both institutions being recognised by the *Dental* Board of the Royal College of Surgeons of England. Full information may be obtained of the Dean of the Medical Faculty, Professor Edward Fawcett, University College, Bristol.

Devon and Exeter Dental Hospital, 24, Southernhay, West, Exeter.—Established 1880.—The hospital is open daily (Sundays excepted) and patients are admitted between the hours of 9 and 11 A.M. Students attending the practice of the hospital must consider themselves strictly under the control of the medical officers and must not undertake any operation without the consent of the dental surgeon for the day. Hon. treasurer, Mr. J. M. Ackland; secretary, Mr. W. Alfred Hooker.

SCOTLAND.

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THE BRITISH MEDICAL MAN ABROAD.

THE conditions of medical practice have much altered in this country of late, as we have been able to point out in THE LANCET during the past decade. Professional incomes *in* many places have been lowered seriously by the unfair tactics of so-called medical aid societies, and the position of servant to which some of these associations would reduce their medical officer is one that liberally educated gentlemen do not welcome with enthusiasm. Improvement has taken place recently but there is yet a time of severe struggle ahead. Again the expenses of living have gone up for medical men as they have *for all the middle* and upper middle classes of this country, while more money is required to secure the necessary *medical degrees and* diplomas owing to the lengthy curriculum and the more expensive equipment. These facts account, though only partially, for the increased number of medical men who having *obtained* British medical qualifications desire to settle abroad. Other factors at work are the spirit of adventure, the *feeling* that in a new country there is more elbow-room and more chances of getting out of *the ruck*, and the *increased* facilities of transport. Newspapers *and books* galore nowadays make us familiar with life in other lands, while trains and steamers will take us all over the world in a short time and at a comparatively small expense. For this reason or that, the number of medical men who make inquiry from us as to their legal and *professional* position in a *foreign* country continues to increase, and in the following columns we attempt to give the information.

Speaking generally, our colonies make it easy for medical men from home to practise there, but the same is not the case on the continent, where there is an obvious tendency towards protection. But *in the colonies* there are not many openings for practice except for those who are willing to "rough" it and work hard. *In Canada* there are outlying districts where a good start might, perhaps, be obtained; but it must be *remembered* that Canada possesses advanced medical schools and is a sparsely populated country as yet. In *Australia and* New Zealand the prospect for the British practitioner is not greater than that which faces him in Great Britain. The medical profession is, in fact, crowded in all places at home and abroad where the circumstances of practice are favourable, and many practitioners who have gone out from the mother country have had to leave the colonies unsuccessful, or have been very hard pushed to make both ends meet. The graduates of the colonial universities every year tend to more than meet the usual vacancies. It used to be *generally* believed that, even where there was a large supply of general practitioners in the big colonial towns, there *would still* be good *openings* for men who have specialised in such branches of practice as the treatment of eye and ear diseases. This is partially true. There are openings of which good men can take advantage. But as a rule the openings *in the* colonies for *new* comers are in country *districts* where the medical man, besides being proficient *in every branch of the* profession, must be ready to lead a hard life. It is desirable that every colonial practitioner, intending to start in a country district, should be of good physique and not only able to ride but able to take care of his horses.

There are, of course, certain colonial appointments made in this country particulars of which will be found in our columns. These appointments are sometimes made with permission to practise privately, and sometimes this is not permitted. Candidates for the posts should apply to the Colonial Office for information, and their chances of success will be much increased by having passed through one of the schools of tropical medicine. The duties of colonial medical officers involve medical charge of a district, including as a rule the charge of a hospital and a lunatic asylum. The medical officers also supervise the sanitation of their districts, and as a rule give gratuitous attendance to all Government officials.

The United States of America form a rich and well-populated country to which, as speaking our language, it is natural for the British medical man to desire to go. The regulations for practice in the various States differ much, but it will be found that wherever the social conditions are pleasant and the opportunities for emoluments good there will be plenty of competition. There is an enormous number of medical men in the United States, and the British medical man contemplating starting in medical practice there will be prudent to make full inquiry before deciding on the locality, while his chance of success will be increased by *his having some good introductions*.

FRANCE.

The law that regulates the conditions of the practice of medicine in France is that of Nov. 30th, 1892, passed by the *Senate and the Chamber of Deputies* and signed by Carnot, President, and Poincaré, the Minister of Public Instruction, at that date:—

> No one may practise medicine in France unless he hold a diploma of the doctorate of medicine given by the French Government after examinations duly passed in a State institution of higher medical education.

The fifth article of this law specifically refers to foreigners:—

> Physicians who have taken their degree abroad, of whatever nationality, can only practise in France on condition of having obtained in France the degree of doctor of medicine.

This article was modified by a special decree, signed in July, 1893, referring to certain concessions to be made to such foreigners:—

> Physicians with a foreign degree who desire the French degree of doctor of medicine may obtain partial or complete dispensation of medical study and partial exemption from the examinations required. In no case will candidates be exempted from more than three examinations. Such exemption is accorded by the Minister of Public Instruction on the recommendation of the competent Faculty and the Committee of Public Education.

While this last quotation may be considered the actual *state of the law in the formal* sense of the word, further and much less liberal projects have since been considered by the legislative bodies and adopted in the form of *arrêt ministériel*, of *circulaire* issued by the Minister of Public Instruction, or of *décrét* adopted by Parliament. Presumably too much advantage was taken of the *generosity of the concessions of* July, 1893, although it must be remembered that the exclusive policy since adopted is by no *means aimed* at English physicians, but rather against graduates of little-known universities the value of *whose qualifications it is* difficult to estimate. Be that as it may, in July, 1896, a certain number of exemptions *were granted—among* whom the writer was fortunate to find himself—and a circular was issued repealing —in substance—*the concessions of 1893*. No foreign qualifications were to be recognised as deserving of any dispensa*tions and physicians holding* foreign degrees and desirous of practising medicine in France were obliged not only to *matriculate* as medical students but also to produce evidence of having obtained the French diploma of Bachelor in *Classical Education* (Arts and Philosophy) and *the certificate* in physical, chemical, and natural science.

The refusal that for the last ten years has almost invariably met the request made by foreign physicians *for* the right to practise in France is based upon this *arrêt ministériel*. Such requests are answered in the *formula*—"Depuis 1896, époque à laquelle il y a eu une décision du Parlement, il n'est accordé aucune dispense aux étrangers showing both kidneys and liver to be very fatty and necrotic changes to be present in the mucous membranes.

Dr. W. J. DIXON (Templecombe) in 153 cases had found acetone in 28 per cent. and diacetic acid in 14 per cent. The condition was associated with septic absorption and the administration of salicylate of sodium. Of 43 instances of acetonuria, serious toxæmia occurred in 27. The causes of acidosis appeared to be auto-intoxication in gastro-intestinal disorders, a specific organism, excess of carbohydrate or fatty food, starvation, anæsthetics, and those without discoverable origin, which might be termed cryptogenic. Fatty degeneration and lipæmia occurred in diabetes, carbohydrates being necessary to the complete disposal of fats. The poisons were the products of imperfect oxidation.

Dr. E. I. SPRIGGS (London) cited the observation of Nothnagel that the appearance of fat in organs after anæsthetics was due to its being more obvious, and was not necessarily an actual increase proved by chemical analysis. Waithman had shown that excess of fat was present in the liver of dogs after chloroform poisoning. A fatty condition of the liver was normal in starvation, which was a cause of acidosis in children and was a necessary consequence of gastro-intestinal disease. The loss of fluid involved in diarrhœa and vomiting was itself a serious thing. The treatment in children should consist in washing out the stomach and supplying fluid, alkali, and food if necessary by the rectum or skin.

Mr. HAROLD J. STILES (Edinburgh) said that post-anæsthetic acidosis or delayed chloroform poisoning occurred in something like 1 in 500 cases. It was a serious condition and not sufficiently recognised. He cited instances of two adults succumbing in four or five days after simple operations for appendicitis performed under chloroform in which the post-mortem appearances were typical. In septic abdominal conditions ether was usually preferred in America. The acidosis was not entirely traceable to the quantity of chloroform employed and sometimes the condition followed the most trivial operations. Anæsthesia might delay elimination, hinder oxidation in the tissues, and accentuate the pre-existing state which was associated with sepsis.

Dr. STUART MCDONALD (Edinburgh), speaking of the post-mortem appearances, said that in cases examined recently the liver was small, bloodless, bright yellow in colour, and intensely fatty. There were hæmorrhages over the heart and lungs, such as occurred in phosphorus poisoning. Leucin and tyrosin had been present in the urine, in which the urea nitrogen was diminished and the ammonia nitrogen increased. In such cases where deep jaundice developed the outlook was hopeless. The liver in late chloroform poisoning showed an increase of fat, whereas in acute yellow atrophy the fat was diminished.

Mr. B. G. A. MOYNIHAN (Leeds) said that though there was too much starvation of patients both before and after operation, water at least should not be withheld, but should be given abundantly during vomiting by the rectum, when the stomach should also be washed out. Ether was preferable to chloroform when operating on septic abdominal cases. Gas and oxygen had been given in one case for an hour and 40 minutes.

Dr. J. B. LEATHES (London) said that in cases in which vomiting, acetonuria, and death followed the administration of chloroform the fat in an exceedingly fatty liver resembled that in connective tissue. Fat ingested passed mostly by the thoracic duct. In cases of poisoning the fatty change was very rapid, occurring within 24 hours.

Dr. F. A. BAINBRIDGE (London) said that the first process of metabolism involved the conversion of the saturated connective tissue fats into the saturated fat of the liver and a second process concerned the burning up of fat in the body. Interference with this latter produced acetonuria. Impaired oxidation of fat in muscles caused accumulation of fat in the liver, which could therefore be excluded as the cause of symptoms. Chloroform exerted an action similar to phosphorus in arresting oxidation.

Dr. F. S. LANGMEAD (London) said that deferred anæsthetic poisoning affected persons apparently well previously, causing well-defined symptoms with acetonuria and death in two or three days, the appearance of the liver after death being characteristic. The condition depended on impaired oxidising power aggravated by the anæsthetic.

Dr. W. P. KENNEDY (Bath) attributed the intoxication to imperfect oxidation of carbon.

Mr. SYDNEY STEPHENSON (London) made some remarks upon

Interstitial Keratitis with Especial Reference to Pathogenesis and Treatment,

pointing out that interstitial keratitis was, relatively speaking, not a common affection of the eyes; that its greatest incidence occurred between the ages of five and 15 years; that females were more often affected than males; and that syphilis (inherited or acquired) accounted for about two-thirds of all cases. Experimental evidence went to show that the disease was due to the presence in the parenchyma of the cornea of the causal agent of syphilis. The curious latency of the disease was to be explained by the diffusion of the organism known to occur in syphilitic babies. Spirochæta pallida had been found in the seemingly healthy tissues of the eyes of syphilitic infants and fœtuses by Bab, Peters, Gierke, Stock, and himself. Interstitial keratitis in Mr. Stephenson's experience was little influenced by the administration of specifics, but he had found atoxyl, given in conjunction with mercury, to be a most efficacious remedy. Cases were quoted in which comparatively rapid cures had been obtained by those means. Mr. Stephenson advocated the intra-muscular injection of doses of 0·25 to 0·50 gramme (i.e., 3¾ to 7¾ grains) of atoxyl once a week in mild cases and more frequently in severe ones. Not more than six grammes should be given in all, and a course of 12 injections usually sufficed to cure or almost to cure the cases.

Dr. FRANK C. EVE (Hull) and Dr. J. M. CLEMENTS (Hull) described

The Two Clinical Types of the Meningococcus and their Bacteriological Differentiation,

illustrated by three sporadic cases. Until recently it was considered that the presence of a Gram-negative diplococcus in the cerebro-spinal fluid was sufficient evidence of epidemic cerebro-spinal fever, but it now appeared that there were two such organisms (at least) which could be distinguished bacteriologically. Since the one type of diplococcus produced the dreaded "spotted fever" and the other type the posterior basic form of meningitis, which was endemic in this country but apparently never epidemic, it was obvious that their prompt and certain bacteriological differentiation was of considerable clinical importance. The paper was based on the detailed study of three sporadic cases and a tabular statement of their points of agreement and difference with the epidemic type of coccus was printed and handed round to the meeting. The two types of coccus and the diseases resulting therefrom were found to be indistinguishable, except in the following respects: (1) cultural, (2) agglutinative, (3) phagocytic, and (4) clinical.

1. *Cultural differences.*—The sporadic organism generally grew (*a*) on agar, often very freely; (*b*) on gelatine; (*c*) at room temperature; (*d*) had considerable vitality; and (*e*) often formed on agar abundant moist, iridescent, coalescent colonies which might be sticky enough to draw out into filaments three inches in length.

2. *Agglutinative differences.*—The sporadic organism did not agglutinate with the patient's own serum nor with the serum of an epidemic case (Houston)t nor with the antiserum of Flexner and Jobling, but it would sometimes agglutinate with the serum from another sporadic case.

3. *Phagocytic differences*—The sporadic organism showed little or no tendency towards engulfment by the polymorphs in normal blood or that of the patient of an epidemic case. This with the absence of agglutination combined to make the opsonic index extremely low in comparison with that of the epidemic coccus. In the cerebro-spinal fluid also *intra*-cellular cocci were never abundant.

4. *Clinical differences.*—The sporadic type never showed skin eruptions (which, however, were frequently absent in the epidemic form), and in the case in which they tried the new antiserum of Flexner and Jobling[1] the effect was unfavourable.

The purpose of the paper was to show that by the help of lumbar puncture and the laboratory the insufficient clinical differences might be supplemented and a decided and prompt opinion given as to which of these two organisms was at work—in times of scare a most important verdict. Since the cultural differences were liable to be young German before commencing the study of medicine must pass an *Abiturienten-Examen* requiring a knowledge of French, Latin, Greek, mathematics, history, and theology. Or the examination of a *Real-Gymnasium* or an *Oberrealschule* may be passed. In the latter event more stress is laid on modern languages, mathematics, and natural history, and English is required instead of Greek. Foreigners have, as a rule, to pass this examination, but if they have already passed a similar one in their own country they may be exempted from it by a special order to be obtained from the Minister of Public Instruction for each individual case. Medicine can only be studied at a university; the curriculum lasts five years, after the second of which the examination called the *Tentamen Physicum* must be passed; it includes anatomy, physiology, chemistry, physics, and natural history. After the end of the fifth year the student presents himself for the "State Examination," which is practical as well as theoretical, and includes medicine, surgery, obstetrics, gynæcology, pathology, materia medica, and hygiene. After passing the State examination the medical man, previously to obtaining his qualification, has to perform his practical year as clerk and dresser at a university clinic or a recognised hospital. If the medical man wishes to have the title of "doctor" he has to pass another examination, which is little more than a formality, but the degree of doctor without the State examination does not legally confer the right to practise. This title of doctor is granted by every German university to foreigners, but the conditions differ according to the university. Some universities demand a special course of study and others do not, and the intending candidate must in every case make inquiries of the authorities. The law does not allow qualified British practitioners any exceptional facilities in passing the examinations: the time of study may possibly be made a little less than five years for those who have already studied abroad, but a special order, very difficult to obtain, is always required for this purpose. A thorough knowledge of German is essential. The fees for lectures are at least £130 and the examination fees about £12. The fees for the degree of M.D. vary from £10 to £20, being highest at Berlin University, which is the degree that is most popular with alien medical men. There is sometimes no prohibition set against holders of British diplomas practising in Germany provided they do not make use of any professional titles resembling those of qualified German medical men. Medical men practising in this way must, however, understand that the law regards them as unqualified and that they have none of the rights or privileges of the medical profession.

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[1] This serum, which is not yet on the market, Dr. Eve and Dr. Clements owe to the kindness of Dr. A. G. Robb of Belfast. In his cases it reduced the mortality from 82 per cent. to 26 per cent.

AUSTRIA-HUNGARY.

In order that foreigners may legally practise medicine in Austria it is necessary for them to become naturalised Austrian subjects which necessitates five years' residence in the country. In special cases the Minister of the Interior, conjointly with the Minister of Education, may grant exemptions from that rule and may permit foreign holders of diplomas to practise in Austria if they comply with the other requirements. These are: The production of a so-called Maturitätszeugnis or certificate of having passed the final examination of the gymnasium, at which the candidate must show a satisfactory knowledge of Latin and Greek, as well as of German or one of the other languages spoken in the Austrian Empire, such as Polish, Bohemian, Italian, also of mathematics, history, natural history, chemistry, and physics. If a British medical man or student has passed a similar examination in his own country he may apply for exemption, which is generally granted; he need only produce proof of his having passed such an examination, in the shape of a certificate, to be translated into German by a properly recognised translator. The medical curriculum lasts 11 semesters, or five and a half years. The holders of foreign diplomas may, however, obtain permission to pass their examinations at shorter intervals than are necessary for the students, so that from 18 months to two years may be reckoned as sufficient. After passing the first theoreticum, or first examination, which comprises biology, anatomy, physiology, and chemistry, and which, as a rule, is passed at the end of the fourth semester, the student is allowed to commence hospital work; at the end of the tenth semester he may present himself for the second theoreticum. This and all other examinations (altogether three in number) are both practical and theoretical, and must be completed within eight days. It comprises internal medicine, surgery, and pathology, whilst the third and last examination comprises gynæcology, obstetrics, hygiene, materia medica, and ophthalmology; pædiatrics, otology, dermatology, and laryngology are examined in alternately. This last examination the student is expected to pass not later than five years after the first, otherwise he has to present himself again for certain subjects of the first examination, especially anatomy. The fees for the three examinations are £15, and then comes the fee of £6 5s. for the degree of M.D., without which degree nobody is allowed to practise. The fees for the lectures are about £35 for the five years, and about £15 for special classes may be added, so that the entire cost of obtaining the degree of M.D. would be from £70 to £75. All the universities confer the degree of M.D., and no distinction is made here as regards the place where the title has been gained, although the University of Vienna is most favoured because it offers the best opportunities for studying. In special cases the Minister of the Interior may allow a foreign qualification to be recognised as entitling its holder to practise, only a mere formal examination being required; such a special order is, however, very difficult to obtain. The examinations are entirely oral and are conducted in various languages according to the locality—namely, German in Vienna, Innsbruck, Graz, and Salzburg; German and Bohemian in Prague, and Polish in Cracow and Lemberg. These seven universities are the only ones in Austria, and only they may grant degrees, as the medical schools are invariably integral parts of the universities. If a British medical man wishes to practise in one of the frontier spas or in Karlsbad he will have little difficulty in obtaining permission to do so if he applies for it, especially if he gives an assurance that he will only attend his fellow-countrymen and only for the season. He need not then obtain official recognition of his diploma.

As regards Hungary, the medical curriculum is for practical purposes similar to that in Austria, and the foreigner, whether a holder of a diploma or a student who wishes to practise legally, must become a naturalised subject and must pass the three above-mentioned examinations in the Hungarian language. Applications for admission must be addressed to the Minister of Education, who decides upon the conditions of admission after consultation with the medical faculty of Budapest. Usually the applicant has to pass three medical examinations after having proved his qualification for admission by a Maturitätszeugnis, or testimonial of sufficient preliminary instruction in two classical languages, chemistry, arithmetic, geometry, and physics. The total fees amount to 295 kronen (about £12), and the fee for "promotion"—*i.e.*, for the M.D. degree—is similar to that in Austria. Besides the university in Budapest there is another university in Klausenburg for which the same rules hold good. Only these two universities may confer medical degrees in Hungary.

DENMARK.

In Denmark only those who have passed the Danish Medical Examination are entitled to practise. In Iceland it suffices to have been examined at the Medical School in Reykjavik. The medical student before beginning his studies must present a diploma of *examen artium*—an examination very similar to the German *Abiturienten examen*. At the close of the first year he must pass an *examen philosophicum*. The medical studies proper require from six to seven years. The foreign student will find one agreeable difference from what is customary in other countries—namely, that all University lectures and clinical courses are free, payment of class fees being unknown, but a few pounds are required for the examination. On passing the examination the young man becomes entitled to practise, and not a few commence at once. The majority, however, prolong their practical training by accepting an appointment as (salaried) junior house physician or house surgeon in one of the numerous hospitals of the country. The most highly valued appointment—namely, those at the Kommune hospital or Royal Frederic Hospital of Copenhagen—are, however, in so great demand that not rarely four, five, or even more years elapse before an aspirant can secure the coveted position, when he serves for one or two years in the different departments of the hospital. This unreasonably long waiting time will presumably ere long be considerably reduced, as the Association of Junior Medical Men has arranged with the faculty and other authorities for the establishment of a larger number of appointments, which are to be officially considered as equivalent to the older appointments at the two hospitals.

from two to six weeks. During the whole period of early life from six months to two years active processes of absorption and eruption were progressing. As at eruption only a part of the tooth was formed very slight opposition would deflect the tooth. Eruption did not depend on elongation of the root, no gum tension was produced, and no great display of force was present. Sections of the tissues over an erupting molar which had not yet cut the gum but was through the bone, showed a delicate layer of epithelium quite normal in appearance. If pressure existed this epithelium would be flattened and there would be signs of inflammation present. When a permanent tooth was prevented in its eruption by a retained temporary tooth, due to incomplete absorption of the temporary tooth, the molar was unable to displace the temporary tooth, but twisted sideways or backwards as shown by the curving of its roots. Specimens and slides were shown illustrating these points. There was no evidence of teething troubles occurring in animals. There were very few traditions among native races of the association of disease with the process of teething. Mr. Turner then went on to analyse the so-called teething troubles. He had made careful inquiry amongst well-to-do parents of the dental histories of their babies; in all 37 cases were inquired into. Of these 22 had no illness attributed to teething, and 15 had suffered from various diseases. Most of the infants were partially bottle-fed, but the bottles were in practically all instances carefully cleaned. Of the 15 children who were ill there were eight cases of bronchitis: five of these were associated with adenoids, one with rickets, leaving two in which bronchitis coincided with teething; four cases of sickness or liver attacks, one of summer diarrhœa, and one of screaming fits were stated to have occurred. Of the 37 cases 13 showed excessive salivation. Mr. Turner was unable to find any evidence in the series of cases inquired into that the disorders were in any way directly referable to teething.

Dr. Evelyn S. Milestone (Sheffield) said that dentition was a normal process and one following a normal course in children properly fed and clothed and cared for, but that the physiological state of the child during dentition was one of unstable equilibrium and liable to be altered by very slight causes. Earache, often wrongly attributed to dentition, was not uncommonly, in infants, due to local causes. It was some 25 years since the speaker had lanced a child's gums; on that occasion the convulsions ceased immediately after the incision, but a few hours after were as serious as ever.

Dr. C. Christopher Heywood (Manchester) said that he agreed with practically all that Dr. Guthrie had said. As physician to the Manchester Children's Hospital during the last few years he could find no instance in which he had diagnosed teething as a cause of disease symptoms. Cases of painful dentition, of course, he had treated in great numbers, but no case in which the painful dentition was not preceded by other complaints, especially catarrhal or septic conditions of the mouth. He had never seen convulsions, diarrhœa, bronchitis, &c., attributable to dentition.

Mr. P. Sidney Spokes (London) agreed as to dentition being a normal process, but had noticed purposeless cough, such as so-called ear cough, as each tooth came through, whilst convulsions were admittedly caused by septic poisoning. He also thought that such a manifestation might be a reflex result of peripheral irritation, and if this was admitted it was only a question of the degree of irritation necessary. He had seen cases where there appeared to be marked swelling over developing and erupting teeth and no septic infection. In such cases lancing the swollen gums had been followed by relief.

Mr. C. Edward Wallis (London) said that at Darenth Asylum years of careful record had been kept of the incidence of fits before and after the children's mouths had been made free of all dental irritation. The records gave no evidence of a diminution in the number or severity of fits as the result of dental treatment. Pain following or accompanying eruption of a wisdom tooth was, of course, due to septic processes.

Dr. J. Sim Wallace (London) considered in common with previous speakers that dental troubles associated with teething were generally of a septic nature and predisposed to, if not actually caused, by improper feeding.

Mr. R. Denison Pedley (London) had had little experience in the early period of infancy when consultation was sought for teething troubles. Later in life when the teeth, or only a few teeth, were erupted it was common to find well-marked carious teeth even in infants as young as from 12 to 18 months. As the majority of children were born healthy it was obviously due to some cause of environment, feeding being the predominant factor which was answerable for the condition of the mouth. There was very little trouble with teething in natural feeding.

DERMATOLOGY.

Friday, July 31st.

After the President of the section (Dr. E. G. Graham Little, London) had made a few opening remarks,

Sir Almroth E. Wright (London) gave an extemporary address on

Vaccine Therapy in Relation to Diseases of the Skin.

At the commencement of his speech Sir Almroth Wright remarked that he had nothing new to impart to the Dermatological Section, but he would rehearse the principles of vaccine therapy which he had already made public and answer several criticisms to which his method had been subjected. Vaccine therapy really dated from the inoculation of small-pox in the eighteenth century. Jenner's discovery had carried matters a step further, and Pasteur had by his researches shed light on the *rationale* of those practical experiments. The work done by Haffkine in India on plague and by himself on typhoid fever had greatly widened the sphere of prophylactic inoculation. When it had thus been made evident that immunity could be obtained by prophylactic inoculation methods it had gradually been borne in upon him that this knowledge of protecting by prophylactic immunity could be carried a step further, that when the disease was actually present in the system there still remained a power of resistance which might be called forth by inoculation. Just about that time Koch's tuberculin had been introduced. The object of this method was to destroy the tissues in the immediate neighbourhood of the germs, causing a local necrosis which would be expelled from the body and with it the focus of bacilli would be thrown out, leaving the healthy tissues around unharmed. This method was therefore not allied in any way to that of prophylactic inoculation. Koch had then been called to other work and for the time being had not carried out the next step in tuberculin treatment. When the body was lowered by disease it still retained a certain reserve power of resistance and this was taken advantage of by the vaccine treatment. Small doses of devitalised micro-organisms could call out this resistant power. Cultures were made from the source of infection and from these cultures vaccines were prepared by heating the germs to a degree sufficient only to devitalise not to destroy them. Objectors had inquired how the germs could be devitalised without being destroyed, and how could they act in such a manner as to call forth the resistance of the body? He would answer by giving a simple illustration. The body had the power of throwing off into the blood antibodies or substances which resisted anything which was introduced into the blood. Thus if the white of an egg was introduced into the blood the blood at once began to throw off substances which acted as antibodies to neutralise the white of egg. If, now, the egg were heated to a certain temperature it would be devitalised, no chicken could be produced from it; but if it were introduced into the blood it would still lead to the production of antibodies in the blood. In the same way devitalised microbes introduced into the blood led to the production of antibodies, substances resisting that special form of microbe. To obtain correct results with vaccine therapy it was necessary to administer definite doses, doses which were capable of raising the protective substances in the body to their greatest possible height. The question next arose, how could this dose be measured? How could we ascertain what was the correct dose? The question implied, how could we measure the degree of protective power in the blood of the human body? The protective power of the blood depended on many points, such as (1) the opsonic power of the blood fluid; (2) the agglutinating power; (3) the phagocytic power of the leucocytes; (4) the bactericidal; and (5) the bacteriolytic power of the blood. And even these were not all. As science advanced more would be added to that list. If he were asked whether he would prefer to make a complete or an incomplete evaluation the foreigner. Foreign practitioners depend largely upon shipping and contract business work.

UNITED STATES OF AMERICA.

The laws regulating the practice of medicine in the various States and territories of the United States of America differ to a considerable extent in detail. In spirit, however, they are beginning to assume *that uniformity* which all medical reformers must desire for them. It has long been pointed out that one of the most open doors to abuse of medical practice in the United States was the fact that while in some States an excellent medical curriculum was required before admission to legal practice, in other States but little scientific training was exacted and freedom to practise was extended to dangerous forms of quackery. This position of affairs had its origin, of course, in the evolution of the United States, certain divisions of the country being in the forefront of civilisation while others were, to say the least, in a rudimentary plight; but of late a great process of levelling-up has been witnessed. The progress of the United States is in no way better shown than in the fact that throughout its vast length and breadth there is now an *attempt to* secure for the people of the country adequate medical treatment based on scientific grounds. A *résumé* of the legal regulations for medical practice in the States and territories of the United States of America has been published at the office of the *Journal of the American Medical Association*, Dearborn-avenue, Chicago, Illinois. In this digest of the medical laws of the various States, which has been brought quite recently up to date, existing legislation is explained on broad grounds so far as it pertains *to* medical practice. If the information *with regard* to some particular State is anywhere scanty in detail it is always possible for the intending practitioner to communicate with the secretary or executive officer of the medical board at the capital of the State.

We must continue to warn the British medical man desiring to practise his profession in the United *States of* America that in all the more enviable centres he will find a vast number, almost a plethora, of medical men, *the great* proportion of whom have been thoroughly well educated and trained. He must remember also that in the more important States, generally speaking, although the remuneration may rule high, the expense of living is proportionate. He will understand that the less highly the State is developed the more easy will it be for him to obtain a footing, but *the less* pleasant in all probability will be his professional career.

CANADA.

The Canada Medical Act, 1902, *authorises* the creation of "The Medical Council of Canada" with power to establish a qualification in medicine *entitling holders* thereof to practise in all the provinces of Canada, but no regulations have as yet been issued. As a general rule, the possession of British diplomas and degrees entitles *the holders* to practise in Canada after having obtained a licence *from the* provincial medical boards and paid certain fees.

Ontario.—Registration by the Council of the *College of Physicians* and Surgeons of Ontario is necessary and it is optional for the Council to admit to registration all persons who are *duly* authorised to practise medicine, surgery, and midwifery in the United Kingdom and Ireland upon terms which the Council may deem expedient.

Quebec.—Practitioners must be licensed and registered by the Provincial Board, which may license without examination holders of medical qualifications from British universities or corporations.

New Brunswick.—Practitioners in New Brunswick must be registered by the Medical Council of the province. A candidate for registration (1) must pass an examination in English, arithmetic, algebra, *geometry*, Latin, elementary mechanics, elementary *chemistry*, *history*, geography, and two of the following languages, Greek, *French*, and German, unless he has already matriculated at some college in the United Kingdom, Canada, United States of America, or *Europe, or holds* a first-class teacher's licence from the Board of Education of New Brunswick; (2) he must afterwards have studied for four years and attended some university or college or school of medicine for four sessions of not less than six months each *and* have attended lectures on anatomy, pharmacy, &c.; (3) he must have attended the general practice *of a hospital* for 12 months; (4) he must have obtained a degree in the above subjects from a university, college, or school requiring such four years' course of study or must have passed an examination in them before the examiners in New Brunswick; and (5) he must be over 21 years of age. A fee of $10 is required and medical practitioners are liable to an annual fee of from $1 to $2.

Nova Scotia.—Registration and a licence from the Provincial Medical Board are required, which admits to the privileges of practice, upon payment of the registration fee, all persons who are duly registered by the General Medical Council of Great Britain.

Prince Edward Island.—No one can practise medicine, surgery, or midwifery in Prince Edward Island unless registered or licensed by the Council of the Medical Society of Prince Edward Island. The Council admits to the register any person who is duly registered by the General Medical Council of Great Britain.

British Columbia.—No person may practise medicine, surgery, or midwifery in British Columbia unless registered by the College of Physicians and Surgeons of British Columbia. *The Council admits to the register* any person "who shall produce from any college or school of medicine and surgery, requiring a four years' course of study, a diploma of qualification," on proof of identification and on passing an examination as to his competency. The fee for registration appears to be rather indefinite, as we learn that it "must not exceed $100" and the annual fee is from $2.50 to $10. Licences to practise are issued to women.

Manitoba.—Registration by the Council of the College of Physicians and Surgeons of Manitoba is necessary and applicants for registration must be members of an incorporated medical body in Canada giving similar privileges to persons incorporated in Manitoba. Application should be made to the Council by British medical men desiring to practise in the province. Licences to practise are issued to women upon the same terms as men.

Alberta.—Medical practitioners must be registered by the Council of the "College of Physicians and Surgeons of the Province of Alberta." The Council admits to the register anyone who (1) produces a diploma of qualification from any college or school of medicine and surgery which exacts for such diplomas attendance on at least a four years' course of lectures of at least six months each; (2) gives proof of identification; (3) passes before them a satisfactory examination appertaining to the profession of medicine and his fitness and capacity to practise medicine, surgery, and midwifery; and (4) pays $50, and another $50 for registration.

Saskatchewan.—No one may practise in Saskatchewan unless registered (fee $50) by the Council of the "College of Physicians and Surgeons of the Province of Saskatchewan." The Council admits to the register anyone who produces a diploma of qualification from any college or school of medicine and surgery recognised by the Council, which requires attendance at a four years' course of lectures, and who passes an examination (fee $50) before the Council.

AUSTRALIA.

Legally qualified British medical men can practise *in all* parts of Australia. Proof of registration by the General Medical Council of Great Britain must be submitted to the medical board of the particular State selected, when a certificate to practice is granted. The medical man with British qualifications who desires to *practise in Australia* must communicate with the medical board as soon as he *intends to settle, so that he* may regularise his position from the beginning.

NEW ZEALAND.

Registration in the colony of New Zealand is obtained by the legally qualified British practitioner on producing his *proof of* registration by the General Medical Council of Great Britain and on paying a fee of £1 5*s*.

BRITISH SOUTH AFRICA.

The position of the legally qualified British practitioner in South Africa is much the same whichever colony he *proposes* to practise in.

Cape Colony.—No person may practise in Cape Colony as *a medical* practitioner without a licence signed by the Colonial Secretary of the province and the recommendation of the Colonial Medical Council *is required*. The fee for the licence is £5 and women are eligible for the licence. Applications should be made to the Colonial Medical Council at Cape Town.

Natal.—Here also application *for a licence* to practise medicine in the colony must be made to the Colonial in the clinical wards. The pathologists had given it up as unreliable and unworkable. He had tried the staphylococcus albus in severe forms of bullous erythema in which all cultures had proved sterile, and he had obtained excellent results. He believed that it was safe to try so harmless an organism empirically in cases of skin disease the cause of which was unknown. A case of staphylococcus aureus infection had greatly improved with dosage with the staphylococcus albus. They had also tried very small and gradually increasing doses of tuberculin for tuberculosis of the skin and had obtained very good results. For acne vulgaris he had tried a vaccine made from the bacillus of acne and had found it successful in the nodular forms of the disease. He hoped to publish results of this very shortly.

Dr. A. Douglas Heath (Birmingham) narrated a case of erythematous skin disease due to the bacillus coli which had been cured by vaccine treatment. Nodular resistant cases of acne were sometimes aided by the salt and citrate of sodium local applications, but usually it was necessary to scrape the follicle in order to effect a cure.

Mr. G. Pernet (London) said he had employed various vaccines empirically for boils with very good results so long as he had employed only very small doses. He had worked out a number of hospital cases with Dr. Bunch and called upon Dr. Bunch to describe these in greater detail.

Dr. J. L. Bunch (London) said that he and Mr. Pernet had made experiments on cases suffering from tubercle, streptococcus, staphylococcus, and other germs, and narrated a few cases. He had not obtained good results with general streptococcal infections.

The President of the section observed that he had had greater success with the vaccine treatment of lupus vulgaris than had been obtained by the majority of the speakers.

Sir Almroth Wright, in replying, admitted that the partial evaluation of the blood by the opsonic estimation was not a perfect method of estimating the protective power of the blood, and that in occasional cases the high opsonic index did not coincide with a total high protective power of the blood. He would prefer a method of complete evaluation, but at present it was impossible to obtain such. He could not yet supply any theory which would explain the recalcitrant reaction of lupus to vaccine treatment. In mixed infections it was often necessary to treat with one vaccine at a time and take each in turn. He deprecated the empirical use of vaccines in a great hospital where work should be carried out in a scientific manner; but in private cases it was absurd to withhold treatment until accurate bacteriological investigation and diagnosis had been made. A dose of 100,000,000 staphylococci would in nine cases out of ten cure boils, and this dose could be given by any practitioner with a clear conscience. He agreed with Professor Gilchrist that many cases of acne were due to the bacillus of acne, and a vaccine prepared from it had given excellent results in obstinate cases. He did not approve of the oral administration of vaccines.

Dr. Alfred Eddowes (London) read a paper on

Cases of Eczematous and Bullous Eruptions from which the Diphtheria Bacillus had been Isolated.

He described how his attention had been aroused in January, 1907, by a case which had been diagnosed as ecthyma, but which exhibited a degree of constitutional disturbance out of all proportion to the limited distribution and mild character of the eruption. After a careful examination of several large vesicles Dr. G. Hare, bacteriologist to St. John's Hospital, had obtained the diphtheria bacillus (Klebs-Löffler bacillus) in pure culture. Dr. Eddowes briefly described other cases which had led him to conclude that the Klebs-Löffler bacillus played a more important part in the production of skin diseases than had hitherto been suspected. In one case there had existed an almost generalised weeping, red, and crusted eczema, chronic conjunctivitis, and photophobia. After three years' ordinary treatment this patient had only obtained partial and temporary relief; but as soon as the bacteriological examination had revealed the presence of the Klebs-Löffler bacillus antitoxin treatment had been commenced and had been immediately followed by a most striking and rapid recovery after five injections, each of 4000 units. In all the cases examined by himself and Dr. Hare there had been such a degree of resemblance that they felt that the diagnosis with considerable certainty could be made from the clinical appearances alone. If further experience should prove this to be true a great step would be made towards curing a hitherto unsuspected and most incapacitating malady. Dr. Eddowes hazarded the opinion that this chronic disease was probably a source of danger to other people. In conclusion, he said that the diphtheria bacillus obtained in pure culture from the cases described had been inoculated into guinea-pigs and had caused death after 24 hours, whereas those guinea-pigs to whom antitoxin had been administered together with the organism had remained immune. In two cases a streptococcus had been found associated with the diphtheria bacillus, but it had been of a non-pathogenic nature to animals.

Dr. Frederick Gardiner (Edinburgh) read a paper on

Trade Dermatitis.

He discussed a series of statistics obtained at the skin department of the Edinburgh Royal Infirmary, 185 cases having come under observation in 18 months. The age of the patient seemed, as in the case of accidents, to diminish the risk of dermatitis. The statistics as to periods of time at work, although insufficient for finality to be obtained, seemed to indicate that most cases occurred when the individual had been at work for some years. Miners, housewives, chocolate workers, and rubber workers were at the head of the offending occupations. Seborrhœa and dysidrosis exerted a strong influence, diminishing the resistance of the skin to the irritating material. Most cases came up for treatment in the summer months. The last factor would increase the tendency to excessive perspiration. Debility also increased hyperidrosis. Further illustration of this point was brought out by the number of cases giving histories of anæmia, debility, and influenza. Many cases dated the outbreak from some slight breakdown. Soaps exerted a potent influence both as provocative and causative agents. The alkali in some was bad, the resin in others was worse, but worst of all were the naphtha and paraffin added to some of the newer soaps with a view to the saving of labour. Many patients also aggravated the condition by using irritating remedies, such as carbolic acid, lysol and iodoform. In these days of the Workmen's Compensation Act it was important to remember that persons most liable to be affected were those with seborrhœa or dysidrosis, especially if either condition was accompanied by debility or some more specific disease.

Professor Gilchrist described the dermatitis associated with the poison ivy and the oak, two conditions not infrequently met with in America.

Professor A. Garceau (San Francisco) remarked that he had recently discovered that the application of the Roentgen rays was a most valuable and rapid method of treatment for cases of oak dermatitis. Formerly he had found such cases extremely obstinate and rebellious to all methods of treatment and had been delighted to find how rapidly the symptoms subsided under small doses of the Roentgen rays.

Dr. J. Goodwin Tomkinson (Glasgow) read a paper on

Lupus Vulgaris treated by Systematic Direct Exposure to Unmitigated Sun Rays,

in which he advocated the treatment of lupus vulgaris by daily and lengthy exposure to sun rays in localities where unclouded sunshine and other favourable climatic conditions could be depended upon. He had only treated one case as yet by this method, but the result had been so striking that it merited recording. At the Paris Congress on Tuberculosis held in 1905 two communications had been made dealing with the treatment of lupus vulgaris by unmodified sun rays—one by M. Revillet of Cannes, entitled "Le Traitement du Lupus Tuberculeux et des Scrofulo-Tuberculoses Cutanées par l'Héliothérapie (Exposition Directe aux Rayons Solaires non-Modifiés)"; the other by M. Vidal, entitled "Du Traitement du Lupus Ulcéré et de quelques autres Manifestations Tuberculeuses par l'Héliothérapie." He briefly referred to the former communication, which was based upon the results of treatment in 11 cases of lupus vulgaris and 34 cases of scrofuloderma. Of the 11 cases of lupus eight had been cured—i.e., almost 73 per cent. Of the 34 cases of scrofuloderma 28 had been cured—i.e., 82 per cent. The patients had been exposed so that the solar rays fell as directly as possible upon the lesions for a period of two or three hours daily, increasing to seven or eight hours daily according to the degree of reaction of the tissues exposed. To avoid cerebral congestion a broad-brimmed ives £55 and horse allowance of £42. The assistant eon is also public vaccinator, police surgeon, for which 3 paid £45, and port surgeon, for which he receives £109.

Helena.—The colonial surgeon receives £300 per im and £30 horse allowance: Private practice is wed.

alkland Islands.—There are two appointments, one of ch is paid at the rate of £300 per annum, with £25 as th officer, and the other at the rate of £200 per annum. ate practice is allowed in both cases.

yprus.—There is a chief medical officer paid at the rate 500 per annum, two district medical officers paid at the of £250 per annum, and one paid at the rate of £200, ng by £10 a year to £250, all enjoying private practice receiving 2*s.* per diem forage allowance. These are the medical appointments in the island which are open to lish candidates and they are made by the Foreign Office. ll applicants for medical employment in these 18 colonies t be between the ages of 23 and 30 years, and must be lified for registration. Preference will be given to e who have held appointments as house physicians house surgeons; certificates of moral character and of iety will be required, and every officer before being ointed will be medically examined by one of the consult- physicians of the Colonial Office. There are pension ds established for widows and orphans in Ceylon, Straits lements, the Federated Malay States, Hong-Kong, and uritius, to which all permanent Government servants st subscribe 4 per cent. of their salaries.

The West African Medical Staff.—All the medical officers the service are selected by the Secretary of State for the onies. They are engaged in the first instance for one r on probation and, except the principal medical officers, allowed to engage in private practice as long as it does interfere with the efficient discharge of their official ies. There are fair allowances when junior officers dis- rge the work of their seniors by deputy. Stores are nsported free, out-of-pocket expenses in travelling are overable, there are proper horse, field, and outfit allow- ces, and all medical men are paid 10*s.* per diem extra th free rations, or 3*s.* in lieu of rations, while serving on litary expeditions. Candidates for the West African dical Service must be British subjects of European parent- e, preferably unmarried and between the ages of 25 and years. They may choose their colony or protectorate, and far as possible their wishes will be met, but they must ke up their minds carefully as transfers are seldom made. The grades and salaries of medical officers are shown in e following table:—

Grades.	Gold Coast, Southern Nigeria, Northern Nigeria.			Sierra Leone, Lagos.			Gambia.		
	Minimum salary.	Annual increment.	Maximum salary.	Minimum salary.	Annual increment.	Maximum salary.	Minimum salary.	Annual increment.	Maximum salary.
	£	£	£	£	£	£	£	£	£
incipal medical officer*	1000	50	1200	800	50	1000	—	—	—
eputy *principal* medical officer ...	700	25	800	—	—	—	—	—	—
enior medical officer	600	20	700	600	20	700	500	20	700
ledical officers ...	400	20	500	400	20	500	400	20	500

* In the Gold Coast the salary of the principal medical officer is 1000, with duty pay at the rate of £200 a year.

Every candidate selected for appointment will, unless the Secretary of State decides otherwise, be required to undergo a course of instruction for two or three months at the London School of Tropical Medicine or at the Liverpool School of Tropical Medicine. If for any reason he does not undergo the course before appointment he will be required to take out instruction on less favourable pecuniary terms during his first leave of absence. The cost of the tuition, fees, board, and residence during such instruction, amounting to a maximum of £48 8*s.* 10*d.* for three months, will be borne by the Government, and a daily allowance of 5*s.* will be paid to each candidate during the course and may be continued subsequently up to the date of embarkation. These payments will be made subject to the candidate signing an agreement by which he will be bound to refund them (1) if he declines to accept an appointment in any of the colonies or protectorates for which he may be selected; (2) if he fails to obtain the certificate referred to in the next paragraph; or (3) if he relinquishes the West African service for any other reason than mental or physical infirmity or is removed for misconduct within three years of the date of his arrival in West Africa. Every candidate sent to either of the schools of tropical medicine is required to obtain a certificate showing that he has satisfied the school authorities with regard to his regularity of attendance, progress, and proficiency.

The arrangements for special allowances and leave of absence are fair. The ordinary term of residential service is one year, followed by leave with full pay during the voyages to and from England and for four or two months clear in England, according as the officer is returning for further service in West Africa or not. If an officer is detained beyond the year additional leave is given with full pay for ten days in respect of each completed month beyond 12, whether he is returning or not. If he is invalided before the end of the year the leave with full pay is for the voyages and for ten or five days in respect of each completed month, according as he is returning or not. Leave granted on the understanding that an officer will return is known as "return leave" and any pay drawn in respect of such leave is liable to be refunded if an officer does not return. Leave may be extended for a limited period with half or no pay on the ground of ill health or without pay on other grounds. Free passages are given to all officers who are granted leave and on first appointment. On attaining the age of 50 years, or after 18 years' service (of which at least 12 must have been residential), an officer is qualified for a pension calculated at one-fortieth of the last annual salary for each year of service. If invalided after a minimum of seven years' service he is qualified for a pension calculated at the same rate. If invalided before completing seven years' service he is qualified for a gratuity not exceeding three-fourths of a month's salary for each six months of service, provided that he has been confirmed in his appointment and that he is specially recommended by the governor or high commissioner for such gratuity. At the end of nine years (of which not less than six must have been residential) an officer of the West African Medical Staff is permitted to retire with a gratuity of £1000, or at the end of 12 years (of which not less than eight must have been residential) with a gratuity of £1250, such gratuities being *in lieu of* pension.

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Births, Marriages, and Deaths.

BIRTHS.

TEASDALE.—At Carolgate House, Retford, Notts, on August 25th, the wife of J. C. Teasdale, M.B., M.R.C.S., of a daughter.

DEATHS.

CLAGUE.—On August 23rd, at Crofton, Castletown, Isle of Man, John Clague, M.R.C.S., L.R.C.P. London, L.S.A., aged 65 years.

HENDERSON.—At Warrnambool, Australia, on May 23rd, Lucy, wife of John H. Henderson, M.B., F.R.C.S., in her 33rd year.

HUGHES.—On August 25th, at Roe Street House, Macclesfield, James Brierley Hughes, Surgeon, aged 65 years.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.—According to the latest advices received from Washington the members of the Congress are to be entertained at Philadelphia on Sept. 24th and 25th. From Sept. 28th to Oct. 3rd the Congress, it was at first understood, would sit at Washington and there were to be but few if any entertainments to break upon and to disturb the more serious work. But the last letter received from headquarters nevertheless speaks of some entertainment in Washington. In any case, during the week following, the receptions are elsewhere, namely, at Baltimore on Oct. 5th, at Boston on the 6th and 7th, and in New York on the 8th and 9th. After that there will be excursions to the sanatoriums of Liberty and Saranac which are in the north of the State of New York.

Sabouraud pastille, thus indicating a difference from an x ray tube. He considered that they were yet without a satisfactory explanation of the way in which radium produced its effects on living tissues. It resembled the action of the x rays in some ways but not in all.

Dr. LEWIS JONES had found good results from the use of radium but had recently given it up when treating rodent ulcer in favour of zinc ions. A disadvantage of radium was that it lost its power gradually.

Dr. DAWSON TURNER showed lantern slides of a case of rodent ulcer which had been completely cured by the x rays.

The PRESIDENT of the section said that while no doubt good results could be obtained in the treatment of birth-marks by radium, he felt that the risk of substituting a troublesome and unsightly telangiectasis for the birth-mark was one that militated very strongly against its use. His own experience in the treatment of nævi was a very large one, amounting to probably not less than 300 cases yearly, and he had yet to find a case in which a satisfactory result could not be obtained by electrolysis, puncture with a fine cautery, or the high-frequency spark, sometimes spoken of as "fulguration," the last being particularly suitable for that class of case known as "port-wine stain."

Mr. DEANE BUTCHER, in his reply, stated that there was no risk of the radium falling off in its power if proper precautions were taken to protect it from moisture. While glass was the best material it was inadmissible because it cut off the greater part of the rays which it was desired to make use of. His own specimen was contained in a platinum capsule with a cover of talc; so secured as to prevent moisture getting into the radium. As a further precaution he used a fresh wrapping of gutta-percha tissue for each case, this material having practically no obstructive action on the therapeutically active rays.

Dr. HARRIS read a paper on

The Diagnosis and Electrical Treatment of Nerve Injuries of the Upper Extremity.

It was based on 27 cases of injury to the shoulder selected from the out-patients attending the electrical department, now the department for nervous diseases, at St. Mary's Hospital. Of these 27 cases 16 had been dislocations of the shoulder, and in each case there had been paralysis of the deltoid and infraspinatus muscles, in many of the severer cases accompanied by anæsthesia over the outside of the shoulder and upper arm. These were not cases of partial Erb's paralysis, as was shown by the presence of the anæsthesia, but must be separate lesions of the circumflex and suprascapular nerves. The circumflex was no doubt damaged by the downward displacement of the head of the humerus dragging on the inferior muscular branch of the circumflex, which wound round the humerus, thus causing a paralysis of the deltoid, and in the more severe cases the cutaneous portion of the nerve was also damaged, causing anæsthesia. The infraspinatus muscle probably suffered in the following way: the downward displacement of the head of the bone carried the attachment of the infraspinatus into the great tuberosity downwards and forwards, thus dragging on the suprascapular nerve as it wound round under the acromion to pierce the under surface of the muscle. Usually in these cases the infraspinatus suffered more than the supraspinatus, but until wasting set in paralysis of the latter muscle was difficult to detect. In seven of the 16 cases the musculo-spiral nerve had been also damaged by traumatic neuritis, causing dropped wrist from paralysis of the extensors. In only one of these was the posterior cord damaged as a whole, in the remaining six cases the escape of the latissimus being evidence that the musculo-spiral nerve was damaged beyond the point of exit of the subscapulars, though at first sight the combined paralysis of the deltoid, triceps, supinator longus, and extensors in the forearm might suggest a lesion of the posterior cord. The musculo-cutaneous nerve suffered in six of the 16 cases, as shown by paralysis and wasting of the biceps, whereas the ulnar nerve suffered in only three cases and the median nerve in only two. One of the cases was so severe that every muscle supplied by the circumflex, suprascapular, musculo-cutaneous, musculo-spiral, median, and ulnar nerves was completely paralysed, with reaction of degeneration on electrical testing. That this was not a lesion of the primary nerves of the plexus was shown by the escape of the latissimus and pectoral muscles. Other evidences of severe neuritis in these cases would be pain, œdema of the hand, wasting of the finger pads, peeling of the thick skin on the palm, glossy skin, and later periarticular adhesions of the interphalangeal joints. This was a most serious disability and might cripple the hand permanently, long after the muscles originally paralysed had fully recovered. This complication must be treated early and continuously by passive movements of the finger-joints. The electrical treatment of the paralysed muscles was best arranged for by tying on flexible copper ring electrodes over the shoulder and arm and connected by wires to a galvanic battery through a Pohl's commutator worked by a metronome set to beat twice per second, the muscles being thus treated by reversals of a galvanic current of about six milliampères. Although dislocations of the shoulder from falling upon the outstretched arm thus were liable to produce lesions of the nerves to the upper extremity after their exit from the plexus, quite a different form of paralysis was liable to occur from falls upon the point of the shoulder. This accident was liable to cause a traumatic neuritis or even rupture of the fifth cervical nerve, the highest and most oblique of the primary nerves forming the brachial plexus. Damage to this nerve caused paralysis of the deltoid, supra- and infra-spinatus, biceps and brachialis anticus, supinator longus, the two radial extensors of the wrist, and the pronator radii teres, without any trace of anæsthesia. Five cases of this injury were described, one being due to prolonged pressure upon the arm in a painter lying prone upon the left arm for six hours painting a tombstone. In more severe injuries to the shoulder the sixth nerve as well as the fifth might suffer, causing weakness of the pectoral, triceps, and latissimus in addition, two cases of such injury being described resulting from severe crushes of the shoulder.

Dr. LEWIS JONES complimented Dr. Harris on his excellent paper and said that so far as he himself was concerned the paper required to be studied carefully before attempting to discuss it seriously.

The PRESIDENT of the section also concurred in what had been said by Dr. Lewis Jones and desired to ask Dr. Harris what his experience was in the treatment of ischæmic myositis coming on after tight bandaging, especially after fracture near the elbow-joint.

Dr. HARRIS, in reply, said that he relied mainly upon massage properly carried out to bring about an improvement in the affected muscles, though electrical treatment was of considerable value.

FRIDAY, JULY 31ST.

This day's proceedings were opened by Mr. C. THURSTAN HOLLAND (Liverpool) who read a paper to open a discussion on

The Uses of Bismuth in the Diagnosis of Conditions of the Œsophagus and Stomach.

The method employed by him was to give a dose of two ounces of carbonate of bismuth in mucilage, after having got ready to watch its progress into the stomach, the patient standing in an oblique position so as to allow the passage of the bismuth down the gullet to be seen clear of the shadow of the vertebræ. Full precautions were, of course, taken to protect the operator from the rays and the screen was so arranged that tracings could be taken of the shadows and necessary landmarks. Any obstruction to the free passage of the bismuth down the œsophagus was easily seen and noted, also diverticula, &c. The bismuth having reached the stomach, the patient was first examined standing in the antero-posterior position and afterwards lying down. The alteration in the shape of the stomach shadow, as also its position between standing and reclining, was very remarkable. The paper was illustrated with a large number of tracings made in this way and also a number of radiographs. These were made not only at the time of taking the bismuth but also at intervals afterwards when it was desired to get some idea of the muscular efficiency of the gastric walls. The diagrams, &c., formed an essential feature of the paper, for a study of them showed that a surprising amount of information regarding the digestive tract can be obtained by this method. Indeed, by giving a bismuth meal it was possible to map out all the essential parts of the digestive tube by a series of radiographs taken at intervals. A curious fact was that these massive doses of bismuth seemed to have

Various writers have marked the prevalence of summer diarrhœa with a high ground air temperature; with this I agree, particularly when occasional showers alternate with prolonged high atmospheric temperature. We know that micro-organisms flourish best at the body temperature; this temperature is most nearly approached in both the ground air and atmosphere when infantile diarrhœa is most prevalent in any country. Moreover, micro-organisms want a certain amount of moisture present to flourish best as then they get a better nutritive medium. Now when we have occasional showers and a maintained high atmospheric temperature, and also high ground-air temperature, we have an ideal medium for micro-organismal growth. To my mind the organism of epidemic infantile diarrhœa is one which flourishes in such circumstances. Furthermore, investigation has shown that the fly requires neither too much nor too little moisture when depositing her eggs and that the sites she usually chooses are heaps of decaying vegetable matter or dung, which it is also well known are swarming hotbeds of micro-organismal life. I have pointed out that during the act of oviposition she remains motionless for seven and a half minutes. My theory is that whilst walking over the nauseous material in which she lays her eggs and during her act of oviposition multitudes of micro-organisms—and pre-eminent amongst them the *unknown one* of infantile summer diarrhœa, which seems to me to belong to the group of staphylococci in all probability—*adhere to the moist sucker-like terminations* of the hairs on the pulvilli of the fly's legs. Of course, any house fly, male or female, in its travels may pick up the organism as both sexes haunt masses of decaying vegetable and organic matter, but it is evidently the female that acts as the chief carrier.

The house fly loves warmth, and also the delicacies of our tables, so that we find it in abundance in our homes, frequenting the sugar bowl, the jam pot, and often falling into the milk jug. In this way it carries the contagion, which is left behind in our food, and when the fly falls into the milk the infective agent is washed off it and, unseen by us, floats in the milk. Babies often sleep with their mouths open and frequently also with milky saliva moistening their lips. As I mentioned previously, the fly seems to be attracted to an infant's mouth, and often will venture slightly inside it, the poison being washed off the insect's legs and infecting the child, which contracts summer diarrhœa even if breast fed. Of course, breast-fed cases of the disease are rarer than when the child is artificially fed, as it is not every infant who sleeps with open mouth. Moreover, the artificially fed child is constantly open to additional infection by virtue of its milk-supply, as also the sugar used to sweeten it. Usually the milk for the child is prepared twice daily and left uncovered either in the larder in better class houses, or amongst the poorer classes in the kitchen, so that the flies drop into it, and as the fly is removed and the milk not re-boiled but simply warmed before giving to the baby, the micro-organism remains alive, and later baby contracts the diarrhœa, especially among the poorer classes.

II.—*Methods of Prevention.*

The question now arises, How may epidemic infantile diarrhœa be prevented? During the years 1904, 1905, and 1906 I recommended patients of mine to keep a fine meshed muslin cover over the infant's face when sleeping. The milk should be prepared, diluted with water, barley water or lime water, and the requisite cream and sugar added, then boiled. In should then be placed in a vessel which is covered with a muslin cover and kept in a cool, well-ventilated place, for example, a safe or larder. A suitable covering is easily manufactured by twisting a piece of wire into a ring shape and sewing a muslin cover to it. The muslin should be renewed frequently. The milk should be prepared thus twice daily and a fresh supply used each time. All vessels used in preparing the milk should be scrupulously clean and scalded before use. The bottle used should be of the Lamb feeder type and should be cleaned after use, and then half a teaspoonful of boric acid should be placed in it, and the bottle filled up with hot water. The teat should be scrubbed and kept in a weak boric acid solution. Before again using both bottle and teat should be washed in warm water. I can safely say that where the above procedure has been adopted—and the cases are numerous—I have not known a case of epidemic infantile diarrhœa to occur. All vegetable and animal refuse from the house, such as cabbage leaves, peelings, tea leaves, &c., should be burnt. No open ash should be allowed, but galvanised iron dust bins with a well fitting lid should be insisted upon, and vegetable and animal refuse should be rigidily excluded from these. The bins should be emptied twice weekly. The dung from stables and shippons which are near dwelling houses ought to be frequently removed, and not allowed to accumulate as is usually the case. People should be instructed to keep their eatables in a safe outside the house, and such should be a necessary adjunct of every house, and should have a fine perforated metal door. Fly papers, of the sticky variety, should be at once used when flies appear, and if the pest gets numerous a little turpentine should be poured over some dying cinders on a shovel occasionally. I do not advise the wholesale extermination of the fly, for it has its place in nature. In fact, it is indispensable to our health and comfort, for if you turn over the body of some recently killed creature in the fields you will observe its frame is a seething mass of maggots. Thousands of these are the larvæ of the house fly. Returning in a few days you will find that they have devoured all the carcass save a little skin and the bones, the latter sinking into the ground and forming a valuable manure. So we see that the fly thus prevents decaying animal and vegetable matter decomposing into poisonous and ill-smelling compounds, which would breed pestilence. In turn, the larvæ, having developed into the fly, are preyed upon by birds, frogs, &c., which in turn are preyed upon by man and other animals, or are converted into constituents of the soil.

By the measures which I have recommended the occurrence of epidemic infantile diarrhœa can be effectually prevented. In large towns where there is already a system of depôts where sterilised milk can be obtained it would only be necessary to go a step further and to print a leaflet of instructions and to provide the gauze articles at a low cost. Sanitary authorities could supervise the contents of the galvanised bins, &c.

Liverpool.

AN UNUSUAL CASE OF CHRONIC BI-NITROBENZENE POISONING.

By EDWARD WALKER, M.D. EDIN.,
HONORARY PHYSICIAN TO THE HUDDERSFIELD INFIRMARY.

A YOUTH, aged 16 years, was admitted into the Huddersfield Infirmary on the evening of May 25th, 1907. In appearance he was pale and bluish, though the blueness did not amount to cyanosis. He was very weak and prostrate. His skin was a dirty yellow and his conjunctivæ were also yellow. He was restless and short of breath, rambling, excited, and sleepless. The temperature was normal: the pulse was 80, feeble, and of low tension. The tongue was dry and coated, the palate was yellowish, and the gums were blue. There was marked tenderness over the liver, stomach, and spleen. There was bilious vomiting and the bowels were constipated. The urine was dark brown in colour but clear and of specific gravity 1022. No bile was present. He was not in a condition to give an account of himself or to detail any history of his illness; but the condition of the urine, the colour of the lips and palate, the peculiar yellowness of the skin and conjunctivæ, the yellow pigmentation on the hands (so constantly found in workers amongst bi-nitro compounds), together with the tenderness over the liver, spleen, and stomach led us to make the diagnosis of chronic bi-nitrobenzene poisoning. We subsequently learnt that he had been working at some neighbouring chemical works amongst bi-nitro compounds from the previous January to April and that during that time he had on two occasions—once in February and once in March—suffered from slight attacks of acute bi-nitrobenzene poisoning; also that on each occasion he had been off work for two days. On April 29th he had another attack of a somewhat more severe character. He felt ill and weak, was dizzy, and had a staggering gait. He was breathless and his face was pale, and his lips and fingers were blue. He at this time left his employment because of his condition, but in a week's time was well enough to take some light open-air work. He, suggestive of ingravescent cerebral or cerebellar abscess. In conclusion, Dr. Whitehead emphasised the importance in general practice of making an earlier, if less exact, diagnosis in the cases which they had under discussion. Persistent headache, with otorrhœa and no other causative factor, should put the practitioner on his guard against intracranial complications of middle-ear suppuration, and finally, it was important to bear in mind that the most dangerous cases might occur without there being signs or symptoms over the mastoid region.

Dr. W. S. SYME (Glasgow) cited a case in which the intracranial symptoms were attributed to puerperal conditions, whilst really they were due to otitis. This was confirmed three years later when at an operation the lateral sinus was found to be reduced to a thick cord.

Dr. STCLAIR THOMSON (London) pointed out the possibility of nasal complications having to be considered in making a diagnosis. The intracranial complications might be secondary to sphenoidal sinus disease. In washing out the sphenoidal sinus pain was not uncommonly referred to the occiput or the ear on the same side.

Mr. F. HUNTER TOD (London) was opposed to delay. Given a case in which the ear was affected and there was a rigor, then he was in favour of exposing the lateral sinus. He cited cases in which malignant endocarditis was confused with mastoid disease in the diagnosis, and also a case in which furunculosis alone was associated with malignant endocarditis. Uræmia might also confuse the diagnosis.

Mr. W. STUART-LOW (London) was in favour of repeating the lumbar puncture for diagnostic purposes.

Dr. J. STODDART BARR (Glasgow) urged a routine examination of the eyes, as optic neuritis afforded valuable information in several cases.

Dr. A. LOGAN TURNER (Edinburgh) discussed the signs of cerebellar abscess.

Dr. A. BRONNER (Bradford) was in favour of tying the jugular vein if rigors persisted, although the lateral sinus might be normal. He considered that intracranial complications were less frequent than eight or ten years ago, and this he attributed to improved methods of treatment of ear disease by practitioners.

Mr. T. G. OUSTON (Newcastle-on-Tyne) cited a case in which lumbar puncture had been a failure; post mortem the failure was found to be due to the sheaths of the canal being cut off and blocked with old tuberculous disease.

Dr. ANDREW WYLIE (London), Dr. J. WALKER DOWNIE (Glasgow), and Dr. G. WILLIAM HILL (London) also took part in the discussion.

The PRESIDENT of the section, in briefly summing up the debate, pointed out that the exploration of the brain through a septic focus was a serious matter in view of the lack of resisting power of the brain to septic material. He thought that there might be a tendency for practitioners to be led away by published results and to adopt exploratory operations too readily.

Mr. BALLANCE, in reply, agreed that the negative exploration of the brain was a calamity. In cases of possible labyrinthine complication he advised following the disease through from the mastoid operation. Optic neuritis was due to basal meningitis, although perhaps it might only be microscopic in extent. It was therefore an intracranial complication and the case should not be watched but treated.

Dr. WHITEHEAD also replied.

Mr. A. R. TWEEDIE (Nottingham) read a paper entitled "Investigations on 'Deaf Mutes' as to 'Labyrinthine' Nystagmus."

Dr. P. WATSON WILLIAMS (Bristol) gave a demonstration of an Osteoplastic Operation for Accessory Sinus Disease.

Dr. STODDART BARR read a paper entitled

Remarks on Paralysis of the Sixth Cranial Nerve, consequent upon Chronic Purulent Middle-ear Disease, with Reports of Two Cases.

The first case was that of a lad, aged 17 years, who had suffered from purulent discharge from the right ear for 16 months. Headache, vomiting, and slight shivering supervened a fortnight before admission to hospital, while double vision with squinting of the right eye had existed for five days. Double optic neuritis was found in addition to paralysis of the right sixth cranial nerve. The mastoid antrum which was diseased was opened, the sigmoid sinus exposed, and a small perisinus abscess evacuated. The walls of the sinus were covered with granulation tissue. No other pathological changes were found. The paralysis of the sixth nerve passed off in three months and the optic neuritis in six months, leaving normal vision. The mastoid cavity was epidermised in four months. The second case was that of a boy, aged 13 years, who had purulent discharges from the left ear from babyhood. Treatment had been prescribed but had been neglected. Urgent symptoms, consisting of pain in and behind the left ear, swelling and tenderness over the mastoid, vomiting, and bleeding from the nose, commenced four weeks before admission to the hospital, and left facial paralysis with double vision and squinting of the left eye supervened a week later. Double optic neuritis was found present on admission. The radical mastoid operation was performed, revealing here also a perisinus abscess. The walls of the sinus were thickly covered with granulation tissue. The facial paralysis rapidly subsided, but four months elapsed before the function of the sixth nerve had quite recovered, while eight months elapsed before the optic neuritis had completely passed off, leaving, however, normal vision. The operation cavity was dry four months after the operation. The mode of involvement of the sixth cranial nerve in such cases and its frequency and significance were discussed, special reference being made to the valuable work done in connexion with this subject by Professor Gradenigo. Specimens having anatomical and pathological bearing upon the subject were shown.

The paper was discussed by Dr. WATSON WILLIAMS, and Dr. JOBSON HORNE, in thanking Mr. Ouston for it, said that its value had been considerably enhanced by the exhibition of the specimens which supplied the concrete evidence.

Mr. OUSTON read a paper entitled

"A New Operation for Depressed Fractures of the Nose."

After a few introductory remarks upon fractures of the nasal septum and dislocation of the lateral nasal cartilages, Mr. Ouston went on to state that if external deformity resulted from the injury the child was brought for surgical advice and one of the following opinions was probably given: (1) that the child would grow out of it; (2) that nothing could be done; (3) that the surgeon would try to rectify the condition by an operation but that success was very doubtful; or (4) that after the child had attained full growth the deformity could be corrected by the injection of paraffin. Time would show the fallacy of the first opinion. The second was eminently unsatisfactory, albeit honest in intent. The third had been given four times in four cases by Mr. Ouston; the first two results were failures, the third, however, was a success. The method by which this success was obtained was as follows. The patient, a girl, ten years old, had fallen on to her nose a few weeks previously. The upper lateral cartilages were displaced backwards from the nasal bones and separated posteriorly from their attachments to the nasal processes of the superior maxillæ. The lower end of the nasal bones projected with a depression below them where the triangular cartilage was markedly indented. The general appearance was that of a flattened nose with a sharper indentation at the lower trisection of the nasal crest. At the operation a tenotome was introduced subcutaneously through the side of the nose at the site of the depressed nasal cartilage dividing the structures uniting them posteriorly with the nasal bones and nasal processes of the maxillæ. The knife was also carried through the septal cartilage at the level of the posterior border of the lateral cartilages, and this structure with its adherent mucous membrane divided to an extent corresponding to the length of these cartilages. The separation was continued until the whole structure of the nose corresponding to the depressed portion could be easily lifted by the tenotome (transfixing the nose) to the normal level. The nasal bones were then transfixed by a large strong needle as near their common anterior sutures as possible, this being easily effected by means of sharp taps from a metal mallet. The structures of the nose were then transfixed by a second needle at a site beneath the depression and on a plane distinctly posterior to that of the first needle. Strips of gauze were then wound round the two needles on each side respectively in a figure of 8 manner. The upper needle firmly imbedded in the nasal bone acted as a fixed point, and on after which the rhonchus was loudest on the left side, though it was audible on the right. On the 2nd the condition was the same as it had been the previous night, except that he looked more drawn. He now consented to the performance of an operation.

A low tracheotomy under eucaine and adrenalin was done; while waiting after the injection I examined his larynx with the laryngoscope as he thought there was something there, but it was normal. His head was brought over the edge of the table and supported in an over-extended position. Dr. H. A. Engelbach retracted by means of a suture on each side passed through the end of the centre of the cut cartilages. After cocainising the trachea I was able to pass a Kelly's male cystoscope easily and with a forehead light examined the trachea and bifurcation of the bronchi; the right bronchus was readily entered and nothing was found. The left bronchus was also readily entered by pushing the lower end of the trachea to the left with the lower end of the tube, and so the mouth of the left bronchus was exposed. At the lower end of the left bronchus a large plug of mucus was seen. There was some difficulty in wiping this away and coughing also caused much waste of time. When I at length got the mucus away the gum was clearly seen in the lower division of the left bronchus, the entrance of which it appeared to fill. At this stage in manipulating a swab I succeeded in breaking my only useful forceps—a urethral crocodile forceps. I tried to get a wire with a small hook at the end past the gum but there was no space. So Dr. Engelbach and I adjourned while we sent to Messrs. Mayer and Meltzer for another forceps; the man wanted to get it done. When the forceps came I again cocainised the trachea and bronchus and was soon able to get hold of the gum, but after pulling it up an inch it gave and I found a small piece only in the forceps. Now, however, the gum was in the main bronchus and I was able to pass my hooked wire past it as there was a space between it and the wall of the bronchus. I dragged it up to the speculum, and as it was too large to come through this, withdrew the speculum, the wire, and the gum together. A search in both bronchi showed no other piece. I sewed up the trachea with catgut and left part of the superficial wound open. The man had borne the operation well; he had been on the table three hours, a good deal of this time being spent in waiting. Recovery was uneventful. The piece recovered weighed about 9½ grains.

The principle upon which I acted was that of the bronchoscope. As soon as the case came to me I endeavoured to get a bronchoscope but was unable to do so. Messrs. Mayer and Meltzer have since made one for me, but I could not wait for it; and in any case the lower bronchoscopy which I employed would seem to be safer and easier except in very expert hands. The Kelly's cystoscope tube did very well as a speculum and was just long enough to reach the gum, which was 6½ inches from the tracheotomy opening. The urethral forceps was very convenient. The wire was the stylet of a silver catheter and was fairly rigid; I had bent a small hook on the end. It was surprising to find how clearly one could see the trachea, the bifurcation of the trachea, and the bronchi, with their divisions. From the physical signs we judged the body to be in the right bronchus at first, but we thought that it had been coughed up and had fallen into the left bronchus on the day before the operation.

Cape Town.

AN OUTBREAK OF COW-POX.

BY ALAN B. GREEN, M.A., M.D., B.C. CANTAB.,
BACTERIOLOGIST-IN-CHARGE, CALF VACCINE DEPARTMENT, LISTER INSTITUTE OF PREVENTIVE MEDICINE.

THE following is of interest inasmuch as it is a record of a somewhat unusual occurrence—namely, an outbreak of cow-pox in a herd of milch cows. The herd is the property of a farmer in Hertfordshire.

During the middle of March of the present year it was noticed that the teats of several of this herd of cows were cracked or "chapped." This was attributed by the farmer to the east winds which were prevalent at the time, and no importance was attached to it as similar lesions are not infrequent among cows in the early spring. About two weeks after these cracks appeared definite sore places began to develop on the same areas. 25 out of a herd of 27 cows were affected in this way. On April 6th the farmer, a man of about 50 years of age, noticed sore places on both his hands. Both hands became severely inflamed, in consequence of which he consulted Dr. Daniel Wilson of Bushey Heath. The right hand was more affected than the left. Dr. Wilson found papular areas on the fingers and palmar and dorsal surface of the right hand, and one or two papules on the left hand, accompanied by extensive œdema of the surrounding subcutaneous tissues and redness of the neighbouring skin. The axillary glands were also enlarged. A day or two later one or two similar papules developed on the patient's forehead and one on the upper lip accompanied by local swelling and redness and considerable constitutional disturbance. Three or four days later all the papules developed a vesicular stage, the vesicles showing umbilication and presenting the appearance of vaccine vesicles of a severe type. A clear fluid resembling the discharge of vaccine vesicles exuded from the vesicles, and their subsequent course was identical with that of vaccinal lesions of a severe and prolonged attack of generalised vaccinia. The farmer himself had milked the cows and washed their udders. He had not been vaccinated in the ordinary way since childhood.

On April 16th the farmer's son, aged 26 years, who had attended to the cows affected with sore teats and had washed their udders, noticed that both his hands were uncomfortable and on the 17th and 18th papules developed on the palmar and dorsal surfaces, the right hand being considerably more affected than the left. The papules were accompanied by severe local œdema and redness of the surrounding skin. Lymphangitis was set up in the right arm and considerable enlargement of the axillary lymphatic glands, while the temperature of the patient rose to 104° F. on two evenings. The papules became vesicular, showing the distinctive appearance of the vesicles in a case of generalised vaccinia, and their subsequent course was typical of that condition. The patient had not been vaccinated since infancy. On May 17th he allowed me to vaccinate him on his left arm. No vesicle or even papule resulted. The vaccine used was the calf vaccine series which was being issued at the time from these laboratories for human vaccination. The results obtained by medical men with this series are shown by the schedules which have come to hand to be: case success 100 per cent. and insertion success 99·7 per cent. No failures have been reported on any schedule. It may be assumed therefore that the patient on the 17th was immune to vaccination.

On May 1st a farm labourer, aged 39 years, who had been engaged in milking the cows, developed two papules on his right hand. This case followed the same course as the two preceding cases, except that the disease was very much milder. This man had not been previously vaccinated since infancy.

On May 8th another farm labourer, aged 32 years, developed a papule on his right hand. His case was parallel with the one last mentioned. He had not been vaccinated since infancy.

It has been ascertained lately that while the farmer and his son were ill three other cow-milkers said that they had sore fingers on the right hand. Apparently no vesicular stage occurred in these cases, but as their hands were not examined at the time little or no value can be attached to their condition. All the foregoing persons are right-handed.

Only one milker, an old man, says that he has had nothing the matter with his hands.

Bacteriology.—Aerobic and anaerobic cultivations showed the presence of staphylococcus aureus and albus only in the pathological material available—namely, the exudate from the vesicles of the farmer's son's hand. These micro-organisms, as is well-known, are those generally obtained from the vaccine lymph of humans and of animals.

Animal experiments.—For these also the only available pathological material was fluid exudate from the vesicles of the farmer's son's hand. Two guinea-pigs inoculated with this fluid developed typical vaccine vesicles three and four days later at the site of inoculation. Two weeks later these guinea-pigs were inoculated with highly potent calf vaccine and no specific reaction was noticed as a result. A calf inoculated with the fluid from the farmer's son's hand developed typical vaccine vesicles. It was not practicable to vaccinate this animal subsequently with calf vaccine. The vesicles which found in a normal antrum, and one had to discriminate between a pathogenic and a non-pathogenic rôle. He was opposed to packing the antrum after the first 24 hours following the radical operation.

The PRESIDENT of the section summed up the discussion and the openers replied.

Dr. STCLAIR THOMSON agreed that the antrum was dark to transillumination at times after a cure had been effected. The wound in the canine fossa made in the radical operation required no stitches; the parts falling naturally into apposition it closed up of itself.

Dr. LOGAN TURNER was also of the opinion that the lines of treatment should be put upon a scientific basis, and he was not in favour of opening an antrum for the purposes of diagnosis. He also had found that the chronic cases continued to be opaque to transillumination after treatment and when there ceased to be evidence of discharge

Mr. CHARLES A. PARKER (London) read a paper on

Accessory Air Cells in the Septum Nasi, an Unusual Development of the Sphenoidal Sinuses.

He exhibited some skulls and diagrams demonstrating the presence of the cells referred to in the paper.

Dr. WALKER DOWNIE read a paper entitled

"On the Permanence of the Improvement in the Shape of the Nose obtained by the Subcutaneous Injection of Molten Paraffin, based on an experience of over Two Hundred Cases."

Two questions were considered: (1) Was the paraffin after being injected into the nose affected in any way by the external temperature? and (2) Was the result obtained from its introduction permanent? In regard to the first question, Dr. Downie's experience went to prove that climate exercised no effect whatever on the paraffin lying in the subcutaneous tissues, nor did exposure to a high temperature, such as was necessary in the pursuit of certain occupations, affect it in any way. In regard to the second question, he held that if paraffin having a melting-point of from 108° to 110° F. were used, if it were injected in the molten state, and if the necessary precautions were taken to prevent it spreading beyond the depressed area, the paraffin did not subsequently "wander" and it did not become absorbed, but that it remained permanently in the position which it occupied when it became solidified in the tissue.

Dr. JAMES ADAM (Hamilton) read a paper entitled

"Remarks on the Pathology and Treatment of Atrophic Rhinitis"

The paper was based upon the work of the last two years and was limited to 29 cases because on these alone Dr. Adam had had the chance of making a thorough examination. In his introductory remarks he acknowledged his indebtedness for much laborious and careful histological work to Dr. John Anderson, the pathologist to the Victoria Infirmary, Glasgow; for bacteriological observations to Dr. R. M. Buchanan, city bacteriologist, Glasgow; for preparing vaccines from Abel's bacillus to Dr. Ian Struthers Stewart of Edinburgh; and for treating two cases with x rays to Dr. William Allen of Glasgow. Dr. Adam had arrived at the following conclusions: 1. There were two types of atrophic rhinitis, that with and that without sinusitis; they might be the same diseases histologically but clinically and for treatment they were not. In treatment until the rhinologist had found sinusitis he ought to be always ready to revise his diagnosis, and where the pharyngeal condition predominated to suspect sphenoid disease. 2. Atrophic rhinitis was the end stage of a purulent hyperplastic rhinitis, involving first the membrane, then in more than half the cases the sinuses; they by a vicious circle reacted on the membrane. 3. This purulent rhinitis resulted from microbic action and was most likely to occur in persons who were more than usually liable to mucous inflammation or who had structural peculiarities of their sinuses. Crusting and fœtor were favoured by width of nostril and by the presence of Abel's bacillus, the toxins from which might also accelerate atrophy, but fœtor was not a necessary accompaniment, and therefore "ozæna," the name of the symptom, ought to be abandoned as the name of a disease and Gottstein's definition shortened to rhinitis atrophicans. The treatment of the condition was its treatment in the hyperplastic stage All purulent rhinitis in children, especially a sequela of eruptic fevers, ought to be persistently dealt with. Every case of purulent rhinitis ought to be regarded as one of sinusitis till the contrary was proved. The folly of paraffin injection before diseased tissues had been treated was obvious. Mentioning the benefits to be got from cleansing, packing, and the use of the sucker, as also the improvement often got after the treatment of sinusitis, he referred to the following three points. 1. Paraffin injections gave good results when there was no sinusitis, when the membrane was not too thin to hold the paraffin; they should be preceded by massage to strengthen and stimulate the membrane; should be done with solid rather than with liquid paraffin, though he had known both cause thrombosis, and though solid paraffin often came out as fast as injected. By slowing evaporation and preventing crusting it sometimes got rid of the need for douching; by helping to obliterate the glands it aided nature's method of cure He had had fair or good results in only four cases, for he had been experimenting lately with ionisation 2. The recesses of the nasal fossæ were packed with strips of gauze or cotton soaked in a 10 per cent watery solution of argyrol or a 1 to 2 per cent. zinc sulphanilate. One or two thin zinc rods similarly covered were placed amidst the packing and connected to the positive pole, the negative being on the neck, the vestibule insulated with gutta-percha tissue; 10 to 20 milliampères were passed for from 10 to 20 minutes, repeated once in five or seven days. This after two or three months gave good results in two or three not very advanced cases, whether the results would continue to be worth the trouble remained to be seen; one case had relapsed after a severe cold. After the best results by any method such mucous membranes remain very vulnerable and readily take on purulent inflammation on slight provocation. 3 Dionisio claimed good results with light treatment; the tediousness of the method caused Dr. Adam to try the x rays in two cases; this failed, as it could hardly help failing, for want of a proper tube which was now being made.

The proceedings closed with a cordial vote of thanks to the President of the section.

PHYSIOLOGY.

WEDNESDAY, JULY 29TH.

This section met under the presidency of Professor E H STARLING (London).

Dr. J. B. LEATHES (London) opened a discussion on

The Physiology of Purin Metabolism.

He reviewed some of the different opinions held upon this subject up to the present time and proceeded to state the conclusions to which his own experiments had led him. He did not consider it possible to lay down any fixed rule regarding the purin metabolism of any individual in identical conditions. He had found with regard to the secretion of endogenous uric acid that it was markedly increased by fever and exposure to cold and after severe exertions The increased output coincided and terminated with the febrile rise of temperature, coincided with and outlasted by many hours the exposure to cold, followed the exertions and lasted for many hours after them. It was suggested that in all these three conditions the uric acid had its origin in metabolic processes occurring principally in the voluntary muscles and not immediately related to voluntary contractions and work. The daily tide in uric acid excretion, high output in the morning, the maximum being attained about 10 A.M., and low output at night, was not due to retention of uric acid formed during the night; nor was it due to the fact that the digestive organs were inactive during the night, if that were a fact, with the last meal taken at 9 or 10 P.M., as in most of their experiments. It was rather due to the quickened activity of all functions, especially those of the voluntary muscles, which resulted from the rest of sleep. Generally speaking, he considered that the more lively the performance of the functions of the body as a whole, the greater the amount of uric acid produced would tend to be. The endogenous uric acid tide was independent of food. He did not believe in the retention of uric acid in the system, for the kidneys always got rid of it The exogenous secretion of uric acid was, on the other hand, affected by foods but a given food might increase its elimination without its itself containing any purin bodies.

Dr. D. CHALMERS WATSON (Edinburgh) dealt with the clinical aspect of the subject. He referred to the results of his earlier observations on the excretion of uric acid in gout, arrived I found her extremely pale with thin, feeble pulse, which was regular and 88; the temperature was 97·5° F. The tumour in the fornices was as before and there was also a tumour in the left iliac fossa of about the size of a cricket ball; there were great pain and tenderness. Obviously the expectant treatment could not be risked any longer, nor did it seem to me reasonable in view of the premises (four rooms for a man and his wife and six children, one of whom was an imbecile, not to mention dogs, cats, goats, ducks, and chickens) to operate at the patient's home. I injected a quarter of a grain of morphine hydrochloride and four hours later repeated the dose and ordered the patient to be brought in to Nannine on a bed slung in a cart. I telegraphed for a colleague (Dr. Young) to give an anæsthetic and when he came, at 12 noon on May 15th, I operated with my wife and two nurses assisting me.

The tumour now reached half-way to the umbilicus and right across the abdomen. I opened the abdomen in the mid-line and the sheath of the rectus a quarter of an inch from the middle. Immediately below the peritoneum I saw a black mass; I opened the peritoneum, raised the omentum and the transverse colon, and evacuated two and a half pints of black blood and clot. Practically there was no bleeding at the operation. The left tube was found at a distance of one and a half inches from the uterus burst and ragged in its superior aspect; the inner, exposed, ragged surface of the tube was one inch long and three-quarters of an inch in breadth. The embryo could not be found nor any bleeding point. The patient was now cold and pulseless. The tube was ligatured on each side of the rupture and the peritoneum was rapidly closed, as well as the sheath of the rectum, the subcutaneous tissue and the skin, and the patient was put back to bed at 1.30 P.M. A two-pint infusion of normal saline solution was run slowly into the rectum and this was repeated on the following day, the foot of the bed being raised. On the day after the operation the temperature was 100°, falling to normal on the following day and never rising above this afterwards. On the tenth day the stitches (continuous silk) were removed from the skin and a small amount of golden serum was found *in places*. The skin edges had not healed and were approximated with grid-iron indiarubber plaster and in a fortnight from the date of the operation had healed. On July 7th the patient was getting about again and feeling quite well but was not allowed to work.

Had an abdominal surgeon been obtainable I should not have attempted this operation, though its happy result, due, I think, to the large amount of work which Mr. F. C. Wallis generously gave me to do when I was house surgeon to him, has justified it.

Nannine, J. P. Murchison District, Western Australia.

Reviews and Notices of Books.

Adenomyoma of the Uterus. By THOMAS STEPHEN CULLEN, Associate Professor of Gynæcology in the Johns Hopkins University; Associate in Gynæcology in the Johns Hopkins Hospital. Illustrated by HERMANN SECKER and AUGUST HORN. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 270. Price 21*s.* net.

THE interesting group of tumours known as adenomyomata of the uterus of late years have been studied by a number of workers in gynæcology with the result that our knowledge of their structure and mode of origin is much more complete than it was. In the year 1903 Dr. Thomas Cullen, in a review of the literature published in Professor Orth's "Festschrift" reported 22 cases of this kind which he had studied personally. Since that date he has paid special attention to these tumours and in a series of 1283 cases of myoma examined he found no less than 73, or about 5·7 per cent., instances of adenomyomata.

It was in the year 1896 that the important work of von Recklinghausen first drew attention to this curious variety of tumour composed of gland elements and myomatous tissue. At that time, after a careful consideration of all the published cases, von Recklinghausen thought that the glandular elements were derived from the Wolffian ducts. This opinion was based upon the supposed close analogy between the elements of the Wolffian ducts and the glandular structures present in adenomyomata of the uterus. In only one case did he find that the glands were derived from downgrowths of the uterine mucous membrane.

In his previous work on this subject, published in 1903, Dr. Cullen brought forward a good deal of evidence to show that the glands occurring in these tumours were derived in reality from the mucous membrane of the uterus, and his further investigations have tended to demonstrate the truth of this view. Of 50 uncomplicated cases of diffuse adenomyomata of the uterus in every one he has been able to trace the uterine mucosa extending into the myomatous tissue. In five out of six cases of adenomyoma of the uterus, complicated by a squamous-celled carcinoma of the cervix, the origin of the gland elements in the myoma could be traced to the uterine mucosa. Not only in the great majority of cases can such an origin of the gland tissue be established, but that these glandular spaces are in reality portions of the uterine cavity is shown by the fact that often they contain blood evidently menstrual in character, and in a few instances decidual changes have been conclusively demonstrated in them.

We think that no one can read this book without becoming convinced that the author's view as to the nature of these tumours is the correct one. Not only has Dr. Cullen shown that von Recklinghausen's theory is no longer tenable but he further points out that there is a very definite clinical history associated with these tumours. Increased loss at the menstrual periods is accompanied in typical cases by grinding pain in the uterus which is attributed to increased tension, since the islands of mucosa scattered throughout the diffuse myoma swell at the menstrual period and thus increase the size of the organ. As a rule there is no inter-menstrual discharge, as the uterine mucosa is usually quite healthy. The tumours are essentially benign and there is no risk of their recurrence after removal.

This book is a good example of how such a monograph should be written. A large number of cases are recorded in sufficient detail to enable the reader to draw his own conclusions, there are a number of beautiful illustrations, and the results of the author's work are clearly and concisely summarised. This is an excellent work worthy of the high reputation of the author and of the school from which it emanates.

The Theory and Practice of Hygiene (Notter and Firth). Revised and largely re-written by R. H. FIRTH, Lieutenant-Colonel, R.A.M.C., formerly Professor of Hygiene in the Royal Army Medical College; now Officer in Charge of the School of Army Sanitation, Aldershot, &c. Third edition. London: J. and A. Churchill. 1908. Pp. 993. Price 21*s.* net.

ALTHOUGH this volume is nominally the third edition of "Notter and Firth," there has been such a re-arrangement of the subject matter and such a re-writing of the chapters that it constitutes what is practically a new work by Lieutenant-Colonel Firth. The author has had, as all writers who endeavour to combine the science and law of public health appear to have, considerable difficulty in deciding how to treat sanitary law, but although he may not altogether have succeeded in solving the problem he has, we think, made a useful advance. In former editions sanitary law was dealt with separately; in this the general legal provisions appertaining to sanitary authorities are treated of in the first chapter; while the law relating to special subjects, such as water and milk, is dealt with at the end of the chapters dealing with these subjects. In this and was not followed by any unpleasant effects. The question of prevention might be summed up in one word, "latrines." It had been a struggle of years to get employers of labour to recognise the need for latrine accommodation. When he first advocated it he was met by the objection that the coolie would never use them, but experiment had proved that that was not the case.

Dr. G. A. TURNER (Transvaal) read a paper on

Ankylostomiasis in South Africa.

He gave an account of the geographical distribution of ankylostomiasis amongst the natives of South Africa, based on microscopical examination of fæces and on necropsies. The disease was absent from all the temperate parts such as Cape Colony (excepting De Beers mine), Orange River Colony, Basutoland, Bechuanaland, and most of the Transvaal. Gold miners on the Rand, both European and coloured, were not being infected there or, at any rate, only to a very trivial extent, notwithstanding that infection was pouring down the mines daily and hourly. Probably this was due to several factors, such as the acid reaction of the mine waters, the low temperature of some mines, and the dryness of some workings. One mine was an exception to the general rule; it was a deep, wet mine with a high temperature and alkaline-reacting water. In this mine every European employed who went below ground contracted the disease.

Dr. A. MAY (Government bacteriologist, Transvaal) presented

A Preliminary Report on the Inhibitory Action of Dilute Solution of Acid on the Development of the Ova of the Ankylostoma Duodenale.

His experiments showed that dilution of sulphuric acid up to the strength of 0·07 per cent. did not prevent the development of the ova into larvæ but prevented further growth. Dilutions of 0·25 to 1 per cent. of acid seemed to prevent the development of the ova.

Dr. L. NATTAN-LARRIER (Paris) made some remarks on the treatment of ankylostomiasis by thymol and filix mas.

Dr. L. W. SAMBON (London) said that, with Stiles and Manson, he was thoroughly convinced that the proper disposal of the fæces was by far the most important measure for the prevention of ankylostomiasis. All other measures would be useless if the infective excrements continued to be scattered over the soil and they would be unnecessary if the same were properly disposed of. He must say at once, however, that that statement was based on the belief that the endemic anæmia of man was caused by a worm incapable of affecting any other host and that their knowledge of the life-history of that parasite was now correct and complete. Unfortunately those premisses were disputable. In the first place, the endemic anæmia of man was not everywhere due to one and the same parasite. They already knew that besides ankylostoma duodenale they had to consider necator Americanus and triodontophorus diminutus. Possibly other forms would be found. Those already known belonged to different genera, and two of them were known to have a world-wide distribution. Secondly, it was not definitely proved that these parasites belonged to man exclusively, and that all allied forms in the lower animals were specifically distinct. The forms found in apes appeared to be identical with those of man, and Schaudinn had succeeded in infecting monkeys with ankylostoma duodenale. Moreover, other species, such as ankylostoma caninum, occurred in a number of different hosts. Thirdly, there were many points in the life-history of those parasites which were still obscure. They did not know the relative importance of mouth and skin infection. When introduced by the mouth did the larvæ invariably pass straight down to the intestine? Might they not penetrate the walls of the œsophagus? They were rarely found in the stomach and duodenum. They had been seen in the walls of the œsophagus and in the stomach beneath the epithelium. They knew that the immature worms might appear in the jejunum and upper part of the ileum as soon as 42 hours after penetrating the skin, but they did not know how long they might tarry over their migrations. They had been found in the lymph glands and other organs at a stage of growth which as a rule they only attained after reaching the intestine. According to Looss the parasites after penetrating the skin forced themselves into the cutaneous veins and, carried by the blood, reached the right heart, then the lung. Here they passed from the vessels to the air cells, and finally creeping up the air passages they crossed over the larynx and slid down the œsophagus to the stomach and then to the small intestine. Of course Looss had thoroughly proved in the case of ankylostomiasis the truth of the old popular belief that certain parasitic worms might enter the body by way of the skin, and his experiments with ankylostoma duodenale and ankylostoma caninum had been confirmed by numerous and able investigators not only with these worms but also with necator Americanus and strongyloides stercoralis. He was also perfectly aware that, as pointed out by Looss, the larvæ of ankylostoma duodenale reached the lungs and might be found in considerable numbers either in the walls of the air passages or within their lumen. Indeed, Rainey had found them in the trachea half a century before Looss. But as he (Dr. Sambon) had stated elsewhere, he doubted the correctness of the last part of the journey from trachea to jejunum as traced by Looss viâ the larynx—œsophagus—stomach—duodenum, or at any rate he did not believe it could be the usual route. He (Dr. Sambon) believed that the majority of larvæ penetrated the lumen of the jejunum and upper part of the ileum through the wall of the bowel. In evidence he would point to the absence of parasites in the stomach and duodenum, to the intense hæmorrhagic inflammation of the jejunum at the beginning of the infection and entirely subsiding later notwithstanding the presence of enormous numbers of parasites in the intestine, and to the actual presence of immature worms in blood-filled spaces beneath the intestinal mucosa observed again and again by Bilharz, Griesinger, Sonsino, Grassi, and others. Finally, he thought that analogy with the life-history of other intestinal worms supported this mode of entrance. Then, again, they did not know how long the adult worm might live within the intestine. Some said weeks, others months, others years. They knew for certain that the females matured and began to discharge their ova about four weeks after penetrating the skin. The process of egg-laying might continue for a considerable time, but it was unlikely that the longevity of the parasite might explain infections of 8, 15, or 20 years' duration. It would be important to ascertain the exact rôle played by reinfection in such cases. With regard to the anæmia, they were still uncertain whether to ascribe it to blood-abstraction, to venom secreted by the head-glands of the parasite, or to secondary infection. The blood-abstraction theory had been considerably shaken of late since it had been practically demonstrated that the parasite was not a true blood-sucker. The toxin theory had more partisans than facts in its favour; the microbic theory seemed more in accordance with recent investigations. Certainly many individuals harboured the worm without showing any signs of obvious illness, and perfect health did not appear to be inconsistent with the presence of hundreds of parasites. These and many other questions in the life-history of the parasite were of the highest importance with regard to the prophylaxis and treatment of the infection and should be thoroughly worked out because the more complete their knowledge of the bionomics of the parasite the better their chances of efficient prophylaxis and treatment. In the present state of their knowledge, which was no doubt correct in the main lines, they could safely state that the prophylaxis of ankylostomiasis lay chiefly in the proper disposal of the infected excreta. Besides, any measure taken against fæcal contamination of the soil would be amply repaid because it would not only tend to stamp out ankylostomiasis but also many other diseases due to bacteria, to protozoa, or to metazoan parasites which left the body by way of the intestine. And he would again point out, as he had done at a previous meeting some years ago, that whatever was the method employed, human fæces should never be used for agricultural purposes because they were far too dangerous, especially when used for the manuring of vegetables that were eaten raw. It would be a great mistake to rely on fermentative processes or even chemical disinfection to render contaminated fæces innocuous. The powers of resistance shown by the spores of certain worms, the encysted stages of certain protozoa, and the ova of certain worms were almost incredible. If they could not be destroyed in the laboratory how could they expect to destroy them in nature? Whilst modern science had only recently dichroic solution, while platinum and palladium give black solutions. It is not possible to obtain more than a certain strength of solution by such means, and when this is reached the metallic cloud no longer dissolves. At this stage the solution is filtered through fine filter-paper. The liquid must not be sterilised by heat or by means of bacterial filters, as both these procedures destroy its ferment actions. the addition of salts to render it isotonic is also said to diminish its activity, but the utmost care must be taken in preparation to insure sterility. The solutions employed by Professor Robin contain about 33 milligrammes of metal per litre. Examined microscopically no particles are seen, but by means of the ultra-microscope a number of luminous points can be observed. The properties of the solutions appear to be identical in the case of the different metals used except that from the therapeutic point of view those of palladium are the most active. Somewhat similar solutions can be obtained by chemical methods. Professor Robin claims that these substances produce effects in the body similar to those of organic ferments and to those of certain therapeutic serums. He states that all these substances increase the formation of urea, of uric acid, and of urinary indoxyl, that they augment the co-efficient of nitrogenous utilisation without increasing proportionately the oxygen absorbed by the organism. They further affect the hæmopoietic organs, causing a true leucolysis of the polymorphonuclear cells, especially in those conditions where they are increased in number while they augment the numbers of mononuclears. They also exert a microbicide action.

Professor Robin has employed these solutions in a variety of conditions, notably in the treatment of pneumonia, in which disease he claims that they lower the temperature, raise the arterial tension, and often accelerate the crisis, and that if employed sufficiently early they diminish the mortality. He gives details of his methods of treatment in that disease. He administers the bichlorhydrate of quinine in doses of 0·3 gramme night and morning throughout and gives several small doses of calomel. On about the second day of the disease he injects subcutaneously ten cubic centimetres of the solution of the metallic ferment, and this is repeated every day. Pyramidon is also given at night. About 24 hours after the first or second injection a large blister is placed over the site of the pneumonia. It is difficult to estimate the effect of these so-called *ferments* in this somewhat complex method of treatment. Professor Robin has treated 95 cases on these principles, 47 being of severe nature, and has had a mortality of 13·68. In 70 per cent. of the cases the defervescence occurred before the eighth day. Details are given of the use of these substances in many other diseases, but the accounts hardly seem to lead to any striking conviction of their usefulness.

LIBRARY TABLE.

The Edinburgh Stereoscopic Atlas of Obstetrics. Edited by G. F. BARBOUR SIMPSON, M.D. Edin., F.R.C.P. Edin., F.R.C.S. Edin., Senior Assistant to the Professor of Midwifery in the University of Edinburgh; and EDWARD BURNET, B.A., M.B., Ch.B. Edin. With a preface by Pro fessor Sir J. HALLIDAY CROOM, M.D. Edin., F.R.C.P. Edin., F.R.C.S. Edin., F.R.S. Edin., Professor of Midwifery in the University of Edinburgh. In Four Sections, each containing 25 subjects, with descriptive text. Section II London: The Caxton Publishing Company. 1908.—The Second Section of this Atlas, a review of the first part of which appeared in THE LANCET of July 25th, 1908, p. 240, contains 25 subjects with descriptive text. The plates are mainly concerned with the anatomy of the normal pelvis and its contents and specimens of the pregnant uterus at the various months up to the eighth month of gestation. Dissections of the pelvic organs, or indeed of any kind, do not lend themselves so readily to reproduction in photographs as do the various forms of contracted pelves and the results, therefore, are not so satisfactory. The plates illustrating dissections of the female perineum, for example, show but little, and it is practically impossible to reproduce a dissection by photography in such a manner as to be of much value to the student, and the same criticisms apply to the plates illustrating the organs occupying the interior of the pelvis. For these reasons the present section of this Atlas is not likely to prove so useful as the first. The photographs are all good but the subjects are unsuitable to this form of illustration. The main features of this publication have already been noticed and no doubt in the succeeding sections the plates will be as good and useful as were those of the first section.

Rotunda Midwifery for Nurses and Midwives. By G. T. WRENCH, M.D. Lond., late Assistant Master, Rotunda Hospital, Dublin. With an introduction by the Master of the Rotunda Hospital. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 324. Price 6s. net.—Impressed by the difficulties which nurses of average intelligence appear to have in understanding the text-books written for their use Dr. Wrench has been emboldened to try to write a book which shall be sufficiently clear and free from technical terms as to be readily understood by any ordinary pupil midwife. On the whole he has succeeded very well. The teaching contained in this book is that given at the Rotunda Hospital, and the main elementary facts of midwifery practice are set forth in a clear, practical, and convincing manner. As Mr. E. Hastings Tweedy truthfully points out in the preface which he contributes to the book, the difficulties which beset the path of a woman possessed of no technical knowledge who suddenly finds herself placed as a probationer in a large hospital are considerable, and in the case of those women who attempt to satisfy the requirements of the Central Midwives Board by a course of study outside a hospital they must be very great indeed. The art of writing a text-book for junior students or for nurses is not possessed by everyone and considerable credit is therefore due to Dr. Wrench for the success which he has attained. The teaching is dogmatic and there is no ambiguity in the methods of treatment recommended although they may not commend themselves to everyone, and the book is in many ways an epitome of the larger work recently published by Mr. Hastings Tweedy and the author entitled, "Practical Rotunda Midwifery." The author is sound in the advice which he gives to nurses as to the dangers of trusting to their personal experience in the matter of advising their patients and thereby usurping the functions of the medical attendant. In a concluding section Dr. Wrench calls attention to the important duties of the nurse in acting as an intelligent intermediary between the patient and the medical man in cases of danger, and to the fact that coöperation between the nurse and a medical practitioner adds greatly to the safety of the patient whom the nurse is attending. Some of the illustrations are not very artistic but still they are clear and should be intelligible. On the whole this is a capital little book which we can recommend confidently to nurses.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXVII., No. 3. London: C. F. Clay. August 12th, 1908. Price 7s.—The contents of this number are:—1. An article on the Contraction of Muscle chiefly in Relation to the Presence of "Receptive" Substances, Part II., by J. N. Langley, F.R.S. In this article the action of nicotine on the flexor carpi radialis frequent recurring attacks of lymphangitis were not ordinarily attended by any general lymphatic obstruction. The same might be said of the more chronic ulcerations with the exception of that due to the pudenda. In the latter disease the obviously enlarged, no secondary deposits took place, and yet chronic lymphatic obstruction occurred giving rise to swelling of the penis, scrotum, or vulva, resembling ordinary tropical elephantiasis though rarely attaining any great size. With regard to lymphatic bacterial diseases the plague bubo was the one most definitely associated with the tropics. Closely resembling in clinical aspects the rare ambulant cases of bubonic plague were the so-called climatic buboes. In those, also, there was no evidence of lymphangitis, but the glands were enlarged and tender with some febrile disturbance, and in the few cases which he had seen there had been definite suppuration. No plague bacilli were found. The lymphatic diseases more especially associated with tropical conditions were those due to animal parasites. In many of them the eggs were deposited, amongst other places, in the glands, and might, as in schistosoma Japonicum, be very numerous. In such cases the glands were enlarged and fibrotic, but there again no obstructive symptoms occurred. In most tropical countries elephantiasis was common and other evidences of lymphatic obstruction, such as chyluria, were also fairly common. Much speculation as to the causation of that condition had taken place. Lymphatic obstruction was not confined to the tropics; rare cases occurred in England and were indistinguishable from tropical elephantiasis. Personally he had seen two cases. How was it that lymphatic obstruction sufficient to cause chronic œdema, a rare disease in England, in the tropics might affect 5, 10, or 15 per cent. of the population? They knew that elephantiasis might occur from several causes, but its frequency in the tropics claimed a special cause. The discovery of filaria Bancrofti in the lymphatics naturally suggested a plausible hypothesis to account for this difference in frequency. Filariæ were common in the tropics and unknown in temperate climates, as elephantiasis was or nearly so. The connexion between filariasis and elephantiasis was strongly indicated by identity of geographical, topographical, racial and sex distribution, and was further supported by an exactly similar distribution of known intermediate hosts. Thornhill in Ceylon had shown that in natives of Colombo filariasis and elephantiasis were rare compared with certain places a few miles out. Low in the West Indies had proved that a definite ratio held good. In British Central Africa the relationship was very definite; in large tracts of the country there were no elephantiasis and no filariasis. On the Shiré highlands both filariasis and elephantiasis were found only in immigrants. On the lower Shiré river filariasis was common and elephantiasis occurred. Higher up the river neither was found. At the south end of Lake Nyassa he had found no elephantiasis, only one person with filaria and scanty mosquitoes capable of transmitting the infection, whilst at the north end he had observed fairly numerous cases of filaria, several cases of elephantiasis, and an abundance of suitable mosquitoes. Observations of that kind could be multiplied indefinitely. They all confirmed the relationship. The old objection that cases of lymphatic obstruction were the cases in which fewer people harboured filarial embryos than the average population need not detain them. All it meant was that in lymphatic obstruction the embryos were not able to enter the circulation. How did the filaria lead to lymphatic obstruction? In the first place it caused thickening, dilatation, and other changes in the wall of the channel; occasionally it gave rise to hæmorrhage. He had himself seen dilated masses of lymphatics, containing living filariæ, distended with recently coagulated blood Again, suppuration with abscess formation might occur, either as a result of the death of the worm or in some way connected with its presence, and in the contents of such abscesses remains of the worm had been found. Elephantiasis might occur as a direct sequence of a single attack of acute inflammation or after repeated attacks of a similar nature, or gradually without pain or any erysipelatoid attack. He did not think it necessary that all cases of elephantiasis need be assumed to be produced in the same manner by the filaria. In some it might be hæmorrhage, in other perhaps more common it was merely that the lymphatics distended and altered by the filariæ were more liable to inflammation. The acute lymphangitis was probably due to the introduction of bacteria. Manson believed that the adult worms under conditions aborting were the real cause of some cases ruction. The aborted embryos instead of being fully tched as when normally discharged were still coiled up in their egg capsules which, according to the stage of development, might be round or elliptical. Their shorter diameter being larger than the smallest lymphatic channels the ova were stopped in the glands and blocked up all the anastomosing branches till there was complete obstruction. Manson's hypothesis had not received the full consideration which it required. It seemed to have been condemned tacitly as too complicated and involving a whole series of suppositions. On analysis, however, every point in the hypothesis rested on actual observations. It was more than plausible; it was a logical sequence that must almost necessarily follow and gave a complete explanation of the phenomena observed.

Dr. W. T. PROUT (Liverpool) said that in Europeans a bubo which was called "malarial" or "climatic" was occasionally found. As to the former he had seen no evidence; as to the latter, there was undoubtedly a form of suppurative lymphadenitis for which there appeared to be no appreciable cause. The name given to this disease was only an expression of ignorance. He contended that facts of geographical distribution were opposed to the theory of relationship between elephantiasis and filariasis In his opinion elephantiasis was a streptococcal disease.

Sir PATRICK MANSON was glad that Dr. Daniels had given an accurate outline of his views, which were generally misunderstood. He did not say that the hypothesis had been proved; he recognised the propriety of an attitude of doubt towards it, but not of denial. To his way of thinking it was a most probable explanation of the facts.

Dr. SAMBON said that Dr. Daniels had very ably shown that there was much evidence in favour of a relationship between tropical elephantiasis and filariasis. In Europe cases indistinguishable from tropical elephantiasis were occasionally met with; they were looked upon by some as disproving any connexion between filariasis and elephantiasis in tropical countries. He was not going to discuss the various causes which might bring about lymphatic obstruction in Europe, but he wished to point out that a filarial predisposing cause was by no means excluded in European cases of elephantiasis. Filaria Bancrofti had a very wide distribution and was certainly found on the African and Asiatic coasts of the Mediterranean. Possibly it occurred also on the European side. At any rate its occasional appearance there was more than probable; indeed, a well-authenticated case had been described in 1894 by Dr. M. Font y Tomб in a Spaniard from Canet di Mar (Barcelona) who had never left his country. That man suffered from chyluria and enlargement of the scrotum. His blood contained filaria larvæ. There was no reason why filaria Bancrofti should not prosper in certain parts of Europe. They knew that innumerable species of filariæ lived in the mammals, birds, and reptiles of Europe; some also in man, as, for instance, filaria labialis, filaria conjunctivæ, and other ill-determined species. All these filariæ were fostered and transmitted by arthropod intermediary hosts, which might be flies, mosquitoes, or ticks, according to the species Filaria immitis, the "cruel filaria" of dogs, had a very wide distribution in tropical and sub-tropical countries, but it was found also in Northern Europe (France, Germany, Denmark, and England) Like filaria Bancrofti it was propagated by mosquitoes

Dr. J. L. MAXWELL (Formosa) pointed out that the island of Formosa was in practically the same latitude as Amoy on the mainland; the inhabitants were for the most part Chinese immigrants from the Amoy region; the customs, habits, and diseases were with one exception exactly the same, that exception being the presence of filariasis and elephantiasis as a very common disease in the Amoy region, and the almost complete absence in Formosa of both diseases.

Captain J. W. D MEGAW, I.M S., stated the facts which he had observed in two districts in Bengal. In Puri, where elephantiasis was common, in 100 prisoners whose blood was taken at night and examined filarial embryos were found in 15. (Three of the prisoners suffered from elephantiasis; in none of these were filarial embryos found.) In Dinajpur, where elephantiasis wa in 50 prisoners taken at random of adenoma. Throughout the paper reference is made to illustrations which are not contained in the present number of the magazine so that it is difficult to follow some of the statements made as to the histology of the new growths with which the author is dealing.

THE
BRITISH MEDICAL ASSOCIATION.

SEVENTY-SIXTH ANNUAL MEETING AT SHEFFIELD.

THE SECTIONS.

DISEASES OF CHILDREN.

THURSDAY, JULY 30TH.

Sir ALMROTH E. WRIGHT (London) opened a discussion on

The Causation and Treatment of Scurvy, in particular of Infantile Scurvy.

The object of the discussion, the speaker said, should be to seek for (*a*) the pathogenic factor in the scorbutic dietary; (*b*) an explanation of the scorbutic symptoms; (*c*) for a scientific method of diagnosis; and (*d*) for a rational method of prophylaxis and treatment. With a view to eliciting the pathogenic factor in the scorbutic dietary foodstuffs might be divided into three classes: (1) acid, scorbutic (oats, barley, meat, wheat, eggs, rice, and maize); (2) non-scorbutic (sugar, vegetable oils, and animal fats); and (3) alkaline, anti-scorbutic (carrot, turnip, potato, onion, milk, blood, peas, lemon, orange, beans, and woody fibre). These were arranged in order of intensity. The acid series exhibited an excess of mineral acid over base in the ash and the alkaline series an excess of base over acid, while the non-scorbutic were neutral. This suggested that in scurvy there is an acid *intoxication.* Infantile scurvy was associated with a diet of cereals and sterilised milk. Milk that had been boiled clotted loosely with rennet or not at all. On the addition of calcium salts it clotted as fresh milk. They knew that when urine was boiled carbon dioxide was driven off and phosphate of lime was deposited, so that the lime was held in solution by carbonic acid. Milk which had stood for from 12 to 24 hours scarcely clotted at all in its upper layers on addition of rennet, whereas the lower stratum clotted at once, this contrast being due to separation and subsidence of lime salts. The symptoms of scurvy were pain and hæmorrhage in connexion with the periosteum and effusion into muscle sheaths. Free acid would affect the bones, and cases were known in which callus had been absorbed during an attack of scurvy disuniting a recently healed fracture. At Netley six men suffering from scurvy after the siege of Ladysmith showed a diminished alkalinity of the blood, the reaction being almost neutral. When the citrate and tartrate of sodium were administered the symptoms disappeared rapidly, while the alkalinity of the blood increased to normal. Cases of infantile scurvy showed a similar decline in alkalinity, the symptoms disappearing and the reaction becoming normal after three days' treatment with 10 grains of lactate of sodium. Potato, orange-juice, and meat-juice with lime water had affected the disease more slowly. So long as the acid could be neutralised by ammonia in the system no effect was produced on health, and this afforded a temporary defence. Later lime salts were extracted from bone and then from the blood, with manifestation of scorbutic symptoms. The objection to alkaline foodstuffs as treatment was the small amount of effective remedy contained in a large bulk. Lime-juice contained only 0·3 per cent. of citrate of sodium. Lactate of sodium was best and rendered the urine alkaline in 15 minutes. Erosion of bone required lactate of lime and magnesia; in such a condition fruit juices were objectionable as they tended to take up more lime salts.

Professor AXEL HOLST (Christiania) stated that guinea-pigs fed only on bread or oats with water died in a few weeks. After three weeks the molar teeth became loose, the gums hyperæmic, hæmorrhage occurred at the costo-chondral junction, and there was fragility of the long bones with softening and hæmorrhage at the growing ends, these changes being the same as those in adult and infantile human scurvy. Microscopically the lymphoid cells of the red marrow disappeared at the epiphyses, being replaced by a fibrillated reticulum and hæmorrhage. Real scurvy had thus been experimentally produced in guinea-pigs, and could be abolished by an anti-scorbutic diet. Professor Holst considered the acid theory was wrong but was doing more good than some right ones. Fresh boiled potato prevented scurvy, but dried potato or carrot did not do so even when soaked in solutions of calcium or sodium salts. The juice of cabbage was a preventive when fresh but not after having been kept for a month when it became acid, and addition of bicarbonate of sodium did not restore its anti-scorbutic properties. Barley soaked in water did not prevent scurvy, but if allowed to sprout it did. It was then a *living plant, though the* salts contained were the same. The addition of carbonate of lime or citrate of sodium to bread did not prevent scurvy, which appeared to be due to the exclusive use of food devoid of certain unknown constituents. We were accustomed to apply the word enzymes to the causes of biological effects not explained by bacteria and anti-scorbutics possessed a quality peculiar to enzymes, in that they acted in small quantities, though more powerfully in large. Guinea-pigs fed on oats and water died from scurvy; the addition of one ounce of cabbage daily prevented this. If the cabbage were reduced to one gramme daily the animals lived from six to eight weeks and died without getting scurvy. In conclusion, Professor Holst said that in seeking for the cause of this disease they must look for the unexpected.

Dr. R. HUTCHISON (London) said that the consideration of scurvy in children simplified the question by excluding a number of supposed causes, including the ptomaine theory. In them it appeared rather to be due to over-sterilisation of food. The importance of potash salts as a preventive had been over-estimated, except so far as the potassium salts of the vegetable acids were concerned. He did not agree with Sir Almroth Wright's theory. It was found that the anti-scorbutic properties of any food resided in the dialysate which comprised the crystalline portion with the potassium salts of the vegetable acids. The vegetable salts of potash were decidedly anti-scorbutic. Dr. John Thompson treating pyelitis in a scorbutic subject with citrate of potassium found the scurvy *arrested.* Ralfe found the anti-scorbutic foodstuffs more alkaline than the scorbutic, and Bunsen claimed that foods should have an alkaline ash to sustain life. K_2HPO_4, though unsaturated as to base, was alkaline to litmus. Dr. Hutchison considered that the ash of the scorbutic group of foods should be regarded as less alkaline than that of the anti-scorbutic rather than definitely acid. Neutralisation by *ammonia* would diminish acidity and would not be revealed in the ash. He cited also other instances of acid intoxication, such as that occurring in diabetes, which did not give rise to symptoms of scurvy. Citric acid actually increased the acidity of the urine and lime-juice similarly tended to diminish alkalinity. Reduced alkalinity occurred in cachexia and anæmia as well as in scurvy. The coagulability of the blood was to be taken with great caution, and was not shown to be constantly diminished in infantile scurvy, while in scurvy itself there was no constant relation between diminished alkalinity of the blood and the intensity of symptoms. He claimed that there was an unknown factor in the production of the disease still to be discovered. Very few infants developed the disease, though very many were on the same diet.

Dr. E. CAUTLEY (London) said that infants suffering from scurvy were fat and otherwise healthy. No acetone bodies occurred and he had only found the urine ammoniacal once, though this was usual with acid states. The disease was undoubtedly associated with artificially prepared food.

Sir ALMROTH WRIGHT, after replying to the arguments which had been advanced in opposition to his view, said that it was essential to know the actual cause of scurvy for its effectual prevention and to recognise the disease before the extreme phases developed. He considered that diminished alkalinity of the blood was a guide to this and should be looked for in suspected cases.

Dr. W. ESSEX WYNTER (London) read a paper on

A New Specific in the Treatment of Chorea.

After reviewing the methods formerly employed and commenting on the long duration of the attacks, he described the new remedy chloretone, which was trichlor-tertiary-butyl-alcohol. Physiologically this drug in therapeutic doses acted as a powerful sedative to the central nervous

THE LANCET.

LONDON: SATURDAY, SEPT. 5, 1908.

Psycho-Therapeutics.

SUPERSTITION extinguished in one of its manifestations ever tends to recrudesce in some other form. There is a large and seemingly necessary place for it in the life of man, and in what we may call a scientific disguise it occupies the public attention at the present time in a constantly increasing degree. With the growth of a knowledge of hygiene, chiefly derived from the lengthy advertisements of different varieties of nostrums which, with diagrams of the nervous or other systems, ornament our lay press, we are perpetually being confronted by our patients with problems which to us at present insoluble are easy of explanation by those who pretend to a knowledge they do not in fact possess. So it has come about that now, probably to a greater degree than ever before in the history of the world, organised charlatanism reaps its enormous profits. In an interesting Epitome of the *Progress of Psychiatry in America* which was published in the *Journal of Mental Science* for April, 1908, Dr. WILLIAM McDONALD, jun., gave a graphic description of the multitude of "prosperous-appearing establishments flaunting in highly polished brazen letters" such trades as those of spiritualism, clairvoyance, astrology, osteopathy, and palmistry, in Boston, U.S.A., a city which is always claimed by its inhabitants as an abode of the intellectuals. Here, too, is the church built to "Mother EDDY, CHRIST, and JOHN the BAPTIST" for a million dollars. But beyond the territories of that which the majority of us would undoubtedly call superstition there lies a sphere of influence over which science can claim some sort of control and which has been developed in Boston in a remarkable way. At the Protestant Episcopal Church of Emmanuel an effort has been made "to weld into friendly alliance the most progressive neurological knowledge of the schools and a primitive New Testament Christianity as scholarship has disclosed it, with a view to the relief of human suffering and the transformation of human character." A group of medical men connected with the church, who have enjoyed a training in neurology and psychiatry that must be of rather an exceptional character, have formed themselves into a clinique, with the result that worshippers at the church have unusual opportunities for obtaining intelligent advice administered out of a rare combination of religious spirit with scientific knowledge and skill. Dr. McDONALD speaks warmly of the enthusiasm which has been aroused, but the reasons for this are quite easy to see.

"The thing that hath been, it is that which shall be; and that which is done is that which shall be done: and there is no new thing under the sun." Without here endeavouring accurately to define suggestion and persuasion, words about which considerable controversy is even now going on, we may explain psycho-therapy as the art whereby we endeavour to treat a patient by altering in some way his mental state, whether we produce that alteration by giving him a so-called placebo or by encouraging him when he is down-hearted or by the more elaborate methods of argumentation. That this is no new thing is well known to anyone who has ever practised medicine, while the practice at Emmanuel Church finds its prototype in hoary antiquity. In Egypt, long since, the sick were laid in the temples of Isis to await the voice of the oracle which should reveal to them the means of cure, while the priests treated them according to the rules laid down in the sacred books Below the Acropolis at Athens facing out towards the Ægean Sea stood the Temple of Æsculapius and, according to the testimony of votive offerings, marvellous cures were there effected chiefly by psycho-therapeutic measures. The imagination was strongly stimulated and processions to the accompaniment of music, prayers to the god, the sanctity of the surroundings, and, perhaps above all, the personal influence of the priests, contributed to the happy results. To other extraordinary and perhaps less elevating agencies, such as have been used from the earliest times to the present, we can only attribute psycho-therapeutic effects HIPPOCRATES advocated in magisterial terms the skin of the viper for the cure of rashes. Among the Arabian physicians precious stones administered internally had a great reputation; in the Roman Imperial court treacle was vaunted as a panacea against fevers, infectious disorders, and intoxications, while later in history mica panis has had apparently as much efficacy as many of the synthetic preparations. To what can we attribute the good effects of the complicated and nauseous prescriptions of not so very long ago? Are we to deny that any effects at all were produced? Or are we to conclude that effects were then produced on the human body which can no longer be produced, or do we nowadays neglect many valuable preparations which have signally succeeded in times gone by? The effects produced were what may be called legitimately psycho-therapeutical. The success of charlatanism throughout the ages is surely evidence enough, even without a consideration of the obsolete practices of our profession, to convince the sceptical that psycho-therapeutic measures at least have their place in any system of medicine. How often is the medical man confronted with the well-authenticated story of some cure wrought by a "rheumatic ring," by an "electric belt," or by some prescription picked out from the lumber of the past and proclaimed as a specific for the most startlingly dissimilar disorders. How difficult it is to reason with those having faith in such agencies. The point of view of the medical man is diametrically opposite to that of such a patient, for the medical man has learned the limitations as well as the possibilities of the therapeutic art. To set forth those limitations is often to be found guilty of professional jealousy, and one of the most difficult of our labours is to get into the minds of our patients what we can and what we cannot do.

That certain mental states are accompanied by certain bodily states is a matter of common knowledge. Terror and fear may produce profuse sweating, dryness of the mouth, and an alteration in the amount of the renal and intestinal decided tardily and to be inconstant, involving as they did the modifications incident on many generations of subculture, they were disposed to rely chiefly on the quicker verdict of agglutination and phagocytosis. Since they only required to know whether phagocytosis was conspicuous by its presence or absence, they need not follow the elaborate opsonic technique of Wright but simply make an emulsion of the youngest possible culture in 1 per cent. sodium citrate solution in normal saline and mix it with an equal volume of fresh blood from the patient (which was thereby prevented from clotting). Incubated for half an hour, and a glance at the stained film would show whether there was any agglutination and whether there was the immense phagocytosis characteristic of the epidemic form or the more or less complete absence of phagocytosis which they found in their sporadic cases.[2] It had been found that, after the oral administration of urotropine, formaldehyde *might* be detected in the cerebro-spinal fluid. This was tried in two of Dr. Eve's and Dr. Clements's cases without decided effect, and they could not detect it in the spinal fluid by the resorcin test. If the sporadic meningococcus turned out to be as constant in type as the epidemic coccus had been shown to be it should be easy when confronted with a Gram-negative meningitis case to answer confidently these practical questions: (1) Was the case likely to be followed by an epidemic? (2) Should the case be isolated? (3) Was the antiserum of Flexner and Jobling likely to do much good or great harm? (4) Should the case be notified as cerebrospinal fever?—i.e., should the occupants of a house, a street, or a city be needlessly terrified for a non-epidemic case as often happened in the scare times last year?

Mr. H. TYRRELL GRAY (London) read a paper on

Herniæ in which Meckel's Diverticulum was Present.

A case was reported of a male child, aged six months, where this structure was present in a right inguinal hernia. About 60 cases were collected from the literature, of which 42 were tabulated. This list showed the usual preponderance of males in lesions of Mickel's diverticulum, and this structure was present 30 times in inguinal and 12 times in femoral herniæ. The commonest age was shown to be more dvanced in this than in other lesions of the diverticulum nd all cases were strangulated or irreducible. Cases were rouped into two types: 1. Those where the diverticulum r part of it was alone present in the sac. This type ccurred in persons of middle or advanced age, tended o be overlooked on account of the insignificance of the ccompanying symptoms and signs, and formed external ecal fistulæ in 41 per cent. of cases. 2. Those where her viscera were also present in the sac. Cases in ildren belonged exclusively to this type, which presnted the usual symptom-complex and clinical course of rangulated hernia. The danger and unjustifiability of tempting reduction by taxis in strangulated herniæ were lustrated, this practice having resulted in death in each case the present series. The danger of a truss, where avoidle, was also touched on. The extreme liability to perforan of the diverticulum was noted in lesions of this structure, d the possibility of *diagnosis* of its presence in a certain umber of cases was briefly indicated.

DENTAL SURGERY.

THURSDAY, JULY 30TH.

THE attention of the section was directed to a discussion the question of

Teething and its Alleged Troubles.

DR. LEONARD G. GUTHRIE (London), in opening the scussion, reviewed the subject historically. Hippocrates served that "teething children suffer from itching of the ums, fevers, convulsions, diarrhœa, especially when they t their eye teeth, and when they are very fat and costive." ristotle attributed convulsions not to dentition but to erfeeding fat and constipated infants. Gradually the octrine developed that most infantile complaints were not erely associated with teething but were caused by reflex isturbances arising by the efforts of the teeth to erupt rough hard and resistant gums. During the dark ages of e seventh to the fifteenth century the whole science of edicine was hampered by superstition, astrology, witchraft, and magic spells and incantations; the Renaissance bringing with it the revival of Greek study, the authority of Aristotle, Hippocrates, and Galen again became ascendant. Ambrose Paré, writing in the sixteenth century, said: "Children are greatly troubled with their teeth, which cause great pain when they begin to break out of their shell and begin to come forth, the gums being broken (which usually happens about the seventh month of the child's age). This pain comes with itching and scratching of the gums, inflammation, diarrhœa, and often gives rise to fever, falling of the hair, convulsions, and at length death," all these being, as Paré says in another passage, due to the contumacious hardness of the gums or the weakness of the child's nature. An old French proverb, quoted by Jean Seultel in 1671, relates to the eruption of the eye teeth: "Les parens ne peuvent pas bien réjouir jusqu' à ce que les dents sous les yeux applées canines soient sorties." Many curious prescriptions were also cited, including the use of an ointment of blood from a fresh cock's comb. The many vicissitudes in the practice of gum lancing were also considered; T. Willis and W. Harris in the seventeenth century, Arbuthnot and Horlock in the eighteenth century, and West and Clendon in the early part of the nineteenth century were quoted. Dr. Guthrie then turned to the modern side of the question and pointed out that the deaths attributed to teething given in the Registrar-General's report show a steady decrease (178 per 1,000,000 in 1886, 63 per 1,000,000 in 1906). Dr. Guthrie thought that teething was only painful when the gums were unhealthy or inflamed and that they might become so as the result of "common colds," gastro-intestinal disorders from overfeeding or improper feeding, or from bruising and infection of the gums from local injury caused by biting on hard, unclean objects. Oral hygiene in infants was therefore of *greatest importance*. Turgid gums might be scarified, not to liberate the teeth but to relieve local congestion. The operation was seldom necessary. Convulsions were much more frequently due to colic than to the teeth. The physiology of the eruption of the teeth, he said, was still a mystery.

Mr. H. A. T. FAIRBANK (London) considered that to ascribe fits or convulsions to the eruption of teeth was most fallacious. As out-patient surgeon to a children's hospital he had many opportunities for verifying or the reverse the many curious statements relating to the association of teething with reflex phenomena. A unilateral fit was not necessarily caused by unilateral irritation, and gastrointestinal toxæmia frequently produced unilateral convulsions. Even the persistence with which an infant displayed a desire to munch any hard substance was not related to the period of tooth eruption only and the pain caused by bruising of the delicate gum covering the rising tooth was quite as often the source of pain as the eruption of the tooth itself. Stomatitis was not to be referred to the eruption of the tooth but to infection with micro-organisms. In three months' careful examination Mr. Fairbank only saw one case in which inflammation was localised to the portion of gum overlying an erupting tooth. The only reflex phenomenon which could be referred to teething was trismus of nervous origin, not that due to inflammatory inflammation of the muscles of mastication. The commonest tooth to give rise to this species of trismus was the wisdom; much less frequently the first or second molar was the cause. A case of trismus in a child the subject of congenital syphilis, aged 11½ years, was described, the source of the spasm being an unerupted second lower molar; the removal of a large flap of inflamed gum over the erupting tooth relieved the symptoms. Local swellings over erupting teeth were usually due to traumatism and as a rule were septic, although sometimes hæmorrhagic; generally the discontinuance of the septic ring or other *article with which* the child was aiding eruption was the only treatment necessary. Mr. Fairbank had often seen spongy gums in infantile scurvy in edentulous mouths and the presence of the teeth was not necessary to the condition. The distension of the tooth follicle with fluid forming a cyst was rare but a well-*marked instance* had recently come under his notice.

Mr. J. G. TURNER (London), in continuing the discussion, referred to the physiological process of teething and force of eruption as being a normal vital process which varied with the condition of the *individual*, and although limited in man to the period of growth was persistent through life in many animals. The unerupted *tooth* was contained in a bony case; before eruption the bony covering was removed, the removal taking spare rather flaccid muscles, scanty subcutaneous tissue, and pale complexion. He found, moreover, that such individuals possess a labile nervous system, with a tendency to irritability, depression, and hyperæsthesic sensibilities. Finding that these peculiarities were associated with the tendency to various ptoses, to neurasthenia, and the various forms of functional dyspepsia, including Reichmann's disease or hyperchlorhydria, he arrived at the generalisation which we have already summarised. Professor STILLER's views have been accepted by many German authorities, by some *in toto*, but by others with certain reservations. On the other hand, they have been strenuously opposed by other authorities, notably by GLÉNARD. One of the most interesting chapters in the book is that in which Professor STILLER deals with his critics. He has an incisive, caustic style and an admirable critical faculty. GLÉNARD, while admitting that such a condition of the tenth rib exists in cases of enteroptosis, denies that it is of congenital origin and attributes it to the pressure of corsets or belts. MEINERT has investigated the condition of the tenth rib in 120 patients and in 100 cadavers, and states that unless great care is taken it is easy to mistake the eleventh rib for the tenth. Professor STILLER, however, states that the tip of the tenth rib is almost without exception to be found in the nipple line, whereas the eleventh lies in the mid-axillary line. MEINERT further states that the condition of free tenth rib is rare, a criticism which Professor STILLER meets by maintaining that he has overlooked all but the most pronounced forms of the defect. Examination of the condition of the end of the tenth rib in the post-mortem room by MEINERT, TANDLER, and FELDMANN revealed the interesting fact that the end of the tenth rib cartilage is normally bound to the ninth by a loose ligamentous connexion which permits of a certain amount of movement. Professor STILLER therefore assumes that during life in the normal person movement is prevented by the tense condition of this ligamentous union, whereas in the person of asthenic type it is not so; he also lays stress upon a defect in length of the tenth cartilage as well as upon its mobility. He further states that in marked degrees of the condition the ninth rib may be free and in rare cases the twelfth may be missing.

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[2] Vide Houston and Rankin, Brit. Med. Jour., Sept. 15th, 1907.

In discussing the relation of the asthenic constitution to the development of disease it is claimed that this type of organisation strongly predisposes towards pulmonary tuberculosis and chlorosis, and to a lesser degree towards gastric ulcer, achylia, and postural albuminuria. Its relation to pulmonary tuberculosis is very strongly urged; indeed, it is maintained that the supposed typical tuberculous appearance is really that of the asthenic constitution and that the value of the dietetic and hygienic methods of the sanatorium treatment is largely the result of their beneficial effect upon the underlying asthenic habit of body. Professor STILLER's thesis is one of considerable interest and affords material for much thought and for research. It is developed with great skill and is obviously the outcome of prolonged and detailed observation. If it proves on further investigation by other authorities to be correct it may serve to explain many associations which are at present obscure, such as the frequent association of gastro-intestinal disorders with neurasthenia. It may also prove to be useful in regard to prognosis and treatment and in relation to the scheme of education of those in whom the asthenic constitution is recognised in early life.

The Prevention of Tuberculosis (Ireland) Bill.

THE criticisms which some of the provisions of this Bill have evoked have in their turn given rise to a movement intended to aid the promotion of the measure, and at a meeting in Dublin of the Tuberculosis Exhibition Committee of the Women's National Health Association of Ireland, which was attended by delegates from local authorities, some of the points at issue were discussed at length. The outcome of an animated discussion was, as will be seen in the weekly letter from our Irish correspondents, that the principle of notification was approved of by a nearly unanimous vote; and a speech by Sir JOHN BYERS, which we have been able to peruse at length, had in great probability much to do with this result of the debate Sir JOHN BYERS, in supporting a motion in favour of the Bill, drew attention to the fact that many persons felt that as it stood the measure needed amendment and strengthening, and while he thought that Mr. BIRRELL would be quite willing to adopt any modifications which were feasible, he regarded notification as absolutely necessary for dealing with the disease, pointing to the history of the Notification Act in support of his statement. Although there is no need to question the value of notification, it may perhaps be well to remember that it may not be so great an essential as Sir JOHN BYERS seems to think, seeing that, as the history of Ireland itself demonstrates, relapsing fever and, in large part, typhus fever had well-nigh disappeared from Ireland before notification was in force, a fact which surely points to the conclusion that notification, although important and helpful, is not an absolute essential in the case at least of some diseases—and the past history of tuberculosis lends support to a view that it has certain points of resemblance both to typhus fever and relapsing fever. We are in agreement with Sir JOHN BYERS as to the utility of the notification of pulmonary tuberculosis provided that the knowledge thereby obtained is used for helping the patients rather than, indirectly, to render them marked persons to be avoided by their fellows. But we are not altogether in accord with him as to the desirability, at least in the first instance, of compulsory notification, although we know that he takes a broad view of the matter and discountenances extreme measures, having probably, like so many others who have carefully studied this intricate problem, somewhat modified his original position. As to the forms of tuberculosis which should be notified Sir JOHN BYERS is of opinion that all forms, medical and surgical, should be included, although he would be content for the present if all forms of the pulmonary type were notified, but these he thinks that it should be compulsory to notify. He considers that compulsory notification will lead to the notification of those much desired but frequently elusive cases—the early ones. But we doubt whether the experience of compulsory of the protective power of the blood he would reply that he would prefer to make a complete estimation, but that at the present time it was impossible to do so. The opsonic evaluation of the protective power of the blood fluid was, he frankly confessed, an incomplete evaluation, but as at the present time it was the only possible one to obtain it should certainly be employed. A partial evaluation was of more practical use than none at all. Objections had been raised to the effect that a partial evaluation could not be useful as an index of immunity; its employment was not justifiable. To these objections he replied that if repeated examinations extended over years and made in thousands of cases had shown that a low opsonic power was associated with low resistance to disease, and that there was a definite correlation between high opsonic power and curative processes, the conclusion could certainly be drawn that the opsonic evaluation of the blood was of use for the estimation of protective substances in the blood. The further objections might be raised, and indeed had been raised, that the recorded cases were selected, the failures neglected or forgotten, and that the improvement noticed under vaccine treatment was not real improvement but an improvement apparent only to the sanguine and deluded physician. The only possible answer to such objections was to publish certain cases in which prolonged treatment had been carried out and in which charts had been made showing low opsonic power coinciding with a definite objective sign recognisable to all such as high fever, and high opsonic power coinciding with diminished temperature as well as improvement of the clinical symptoms. Sir Almroth Wright said that he intended very shortly to publish a series of ten charts illustrating these facts. He then passed on to consider the question whether it was necessary in all cases of disease to make an opsonic estimation of the blood before proceeding to treat by vaccines. The difficulty of the process was a barrier to its frequent employment and vaccine therapy would be neglected if its use necessitated an opsonic estimation. Experiments had been made on a large number of people and it had been found that in average cases certain definite doses produced the same results; further experiment had determined the size of the dose required to produce the best possible result in average cases. Thus for ordinary staphylococcal infections a dose could be given without first having recourse to an opsonic estimation. Only in certain rare cases which resisted the average dose was it necessary to undertake the opsonic investigation of the individual and prescribe the necessary dose in accordance with the findings of the opsonic index. Sir Almroth Wright turned to the consideration of a further objection that had been raised. It had been said that the opsonic index could be of no value because patients had died while the index was high. The explanation was, that although the general circulating blood fluid might be highly resistant yet the focus in which the germs dwelt might be inaccessible to the circulating blood. The blood in an abscess might have a very poor resistance and the leucocytes in the abscess might be dead, although the blood in the general circulation of the same patient had high resistive powers in its fluid and its leucocytes might be quite healthy. In chronic sinuses the firm wall prevented fresh blood gaining access to the situation where the germs were pent up. The principle to be learned from this fact was that in treatment *the protective substances in the blood must be brought into effective operation at the site of infection.* The importance of this principle could not be over-estimated in practice. He would conclude this general outline of the theory of vaccine therapy by urging those present to remember the two main principles: (*a*) the necessity of producing the highest possible protective power of the blood by correct vaccine dosage, and (*b*) the necessity of bringing that blood into efficient operation at the site of infection. Sir Almroth Wright next considered the treatment of certain diseases specially affecting the skin. Boils could in most cases be cured quite mechanically by administering the ascertained average doses of staphylococci. A carbuncle was less easy to cure, because the blood could not easily be brought into effective contact with the germs. The best method to favour the blood flow in the carbuncle was to administer citric acid internally, thus diminishing the blood coagulability, and locally to apply a solution of salt and sodium citrate in order to decalcify the lymph. He regretted to say that in his hands Bier's method of inducing local hyperæmia by dry cupping had given no good results. In lupus the crusts should be removed and the lymph flow encouraged by a local dressing with a very dilute solution of salt and citrate of sodium. When the flow of lymph was deemed sufficient it could be checked by rubbing into the part a mixture of chalk and calcium chloride, in the proportion of 1 part of calcium chloride to 399 parts of precipitated chalk. The lymph flow should be induced daily by the above method and at the same time tuberculin injections should be administered. In chronic processes such as tuberculosis the resisting power of the blood should be noted repeatedly and the correct dosage accurately determined. In severe cases of lupus streptococci and staphylococci were usually present and it was essential that treatment should also be directed against those micro-organisms. He had had very unsatisfactory results with the superficial dry lupus, usually known as psoriasis lupus, and for this failure he could at present suggest no adequate explanation. In erysipelas the routine dose was 2,000,000 streptococci administered every four days: the results were remarkably good.

After Professor T. C. GILCHRIST (Baltimore) had moved a vote of thanks to Sir Almroth Wright for his lucid and instructive address,

Professor ARTHUR WHITFIELD (London) asked several questions. Was it a fact that a high opsonic index invariably indicated that a correct dosage had been given? He had seen quite a number of cases of boils in which a dose of vaccine had been given, and although 24 hours later a high opsonic index was present a fresh boil had developed in the intervening period of time. Did not this observation prove that the partial evaluation of the blood indicated by the opsonic index was not always an accurate method of ascertaining the size of the dose of vaccine necessary to induce a protective process? On the other hand, vaccine therapy had fallen into undeserved disrepute from failures in cases where medical men had made mistaken diagnoses and treated rodent ulcers with tuberculin, or streptococcal infections with staphylococcal vaccines. It seemed a simple matter to take a specimen of pus from an ordinary boil and have it examined to discover what micro-organism was in operation, but in less simple cases a lack of knowledge of ordinary bacteriological technique on the part of the medical man in attendance had been the cause of failure to detect the disease-producing organism. If the medical man could not carry out these procedures correctly he had better leave vaccine therapy to more competent hands, or that method of treatment would be still further discredited. With reference to Sir Almroth Wright's solution of salt and citrate of sodium, he had found the solution of value in many cases without any vaccine injections. For example, a chronic callous ulcer of the leg could be softened in a week by such a solution applied from time to time to encourage the flow of lymph. On the other hand, cases such as chronic sycosis, which were so difficult and long-standing when treated by ordinary methods, often cleared up after one vaccine inoculation. Impetigo contagiosa could be cured in two days. The failure of lupus to respond to vaccine treatment was very strange: he had never seen a case benefited by it. After treatment by Finsen light the lupus granulomatous tissue became replaced by a fine soft atrophic scar; but after vaccine treatment he had never seen such a scar. The superficial so-called psoriasis lupus ought to be the easiest form to cure, because it occurred in the papillary layer of the skin which was very vascular and ought readily to be bathed in the highly protective substances of blood raised to a high opsonic index after suitable injections.

Dr. W. M. CROFTON (Sutton Bridge, Lincoln) had worked with vaccine therapy in Ireland for three and a half years. He had also used the anti-bacterial sera, employing small and gradually increasing doses every fourth day. He quoted a serious case of erysipelas which had been practically cured in less than a week. He always started with small doses. As another instance of immunisation on these lines he quoted a case of tuberculous disease of the hip-joint treated by 12 doses of tuberculin R., beginning with 1-10000th of a milligramme and ending with one milligramme. The treatment extended over six months. Not much improvement was noticeable until after the sixth dose. The patient was now quite well and had been so for six months.

Professor GILCHRIST said that at the Johns Hopkins University they were using the vaccine treatment empirically spare rather flaccid muscles, scanty subcutaneous tissue, and pale complexion. He found, moreover, that such individuals possess a labile nervous system, with a tendency to irritability, depression, and hyperæsthesic sensibilities. Finding that these peculiarities were associated with the tendency to various ptoses, to neurasthenia, and the various forms of functional dyspepsia, including Reichmann's disease or hyperchlorhydria, he arrived at the generalisation which we have already summarised. Professor STILLER'S views have been accepted by many German authorities, by some *in toto*, but by others with certain reservations. On the other hand, they have been strenuously opposed by other authorities, notably by GLÉNARD. One of the most interesting chapters in the book is that in which Professor STILLER deals with his critics. He has an incisive, caustic style and an admirable critical faculty. GLÉNARD, while admitting that such a condition of the tenth rib exists in cases of enteroptosis, denies that it is of congenital origin and attributes it to the pressure of corsets or belts. MEINERT has investigated the condition of the tenth rib in 120 patients and in 100 cadavers, and states that unless great care is taken it is easy to mistake the eleventh rib for the tenth. Professor STILLER, however, states that the tip of the tenth rib is almost without exception to be found in the nipple line, whereas the eleventh lies in the mid-axillary line. MEINERT further states that the condition of free tenth rib is rare, a criticism which Professor STILLER meets by maintaining that he has overlooked all but the most pronounced forms of the defect. Examination of the condition of the end of the tenth rib in the post-mortem room by MEINERT, TANDLER, and FELDMANN revealed the interesting fact that the end of the tenth rib cartilage is normally bound to the ninth by a loose ligamentous connexion which permits of a certain amount of movement. Professor STILLER therefore assumes that during life in the normal person movement is prevented by the tense condition of this ligamentous union, whereas in the person of asthenic type it is not so; he also lays stress upon a defect in length of the tenth cartilage as well as upon its mobility. He further states that in marked degrees of the condition the ninth rib may be free and in rare cases the twelfth may be missing.

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The Prevention of Tuberculosis (Ireland) Bill.

THE criticisms which some of the provisions of this Bill have evoked have in their turn given rise to a movement intended to aid the promotion of the measure, and at a meeting in Dublin of the Tuberculosis Exhibition Committee of the Women's National Health Association of Ireland, which was attended by delegates from local authorities, some of the points at issue were discussed at length. The outcome of an animated discussion was, as will be seen in the weekly letter from our Irish correspondents, that the principle of notification was approved of by a nearly unanimous vote; and a speech by Sir JOHN BYERS, which we have been able to peruse at length, had in great probability much to do with this result of the debate. Sir JOHN BYERS, in supporting a motion in favour of the Bill, drew attention to the fact that many persons felt that as it stood the measure needed amendment and strengthening, and while he thought that Mr. BIRRELL would be quite willing to adopt any modifications which were feasible, he regarded notification as absolutely necessary for dealing with the disease, pointing to the history of the Notification Act in support of his statement. Although there is no need to question the value of notification, it may perhaps be well to remember that it may not be so great an essential as Sir JOHN BYERS seems to think, seeing that, as the history of Ireland itself demonstrates, relapsing fever and, in large part, typhus fever had well-nigh disappeared from Ireland before notification was in force, a fact which surely points to the conclusion that notification, although important and helpful, is not an absolute essential in the case at least of some diseases—and the past history of tuberculosis lends support to a view that it has certain points of resemblance both to typhus fever and relapsing fever. We are in agreement with Sir JOHN BYERS as to the utility of the notification of pulmonary tuberculosis provided that the knowledge thereby obtained is used for helping the patients rather than, indirectly, to render them marked persons to be avoided by their fellows. But we are not altogether in accord with him as to the desirability, at least in the first instance, of compulsory notification, although we know that he takes a broad view of the matter and discountenances extreme measures, having probably, like so many others who have carefully studied this intricate problem, somewhat modified his original position. As to the forms of tuberculosis which should be notified Sir JOHN BYERS is of opinion that all forms, medical and surgical, should be included, although he would be content for the present if all forms of the pulmonary type were notified, but these he thinks that it should be compulsory to notify. He considers that compulsory notification will lead to the notification of those much desired but frequently elusive cases—the early ones. But we doubt whether the experience of compulsory white hat had been worn and the eyes had been protected by blue spectacles. In November, 1907, he had seen a woman suffering from extensive lupus vulgaris of the face and neck of 25 years' duration. The patient had been in the habit of wintering in a warm climate and it was decided to spend the winter at Helouan in Egypt. During her residence abroad she was advised to carry out systematic prolonged daily exposure to sun rays. The affection had made its appearance in very early childhood. Both cheeks were affected, the right extensively, and also the submaxillary regions on both sides. A large part of the lesion, however, was cicatrised but the right and left cheeks showed centrally situated typical apple-jelly nodules. Various modes of treatment had been tried, including tuberculin and the Finsen light, but with very unsatisfactory results. The patient had commenced heliotherapy at Helouan about Jan. 1st, 1908, and had discontinued it about May 3rd, 1908, when she had returned to this country. The face had been systematically exposed during these four months to the full blaze of the sun for five hours nearly every day. It had blistered from time to time. The first exposure produced six bullæ on the right cheek. This condition had been anticipated before leaving home and the patient had been instructed to use a lotion containing boric acid, calamine, and zinc oxide. As a protection against the sun the head had been swathed in a cloth and the eyes covered with a dark bandage. During these exposures the patient felt physically and mentally slack. In three weeks' time improvement had been recorded. The patient had been seen the day after her return to Scotland and careful examination had failed to discover any apple-jelly nodules, but there remained one or two faintly hyperæmic macules. The quality of the cicatrices was excellent. The general health had greatly improved and the mental attitude was eminently bright and cheerful. This result was very striking, especially when it was remembered that it had taken place in the relatively brief period of four months and had been instituted merely upon the principle of making the best use of available therapeutic measures while wintering abroad.

ELECTRICAL MEDICINE.

THURSDAY, JULY 30TH.

The proceedings were opened by Dr. H. LEWIS JONES (London) who read a paper to introduce a discussion on

Interrupted Currents in Medical Practice.

In his opinion there was a tendency in modern electrotherapeutics to get away from ordinary galvanisation and faradisation, especially in the treatment of muscular weakness, paralysis, and wasting, and to use in place of these currents which vary their magnitude and even direction in a regular rhythmic manner. The rhythmic interrupter worked by a metronome was a very efficient one and deservedly popular. He described a new apparatus by Gaiffe in which static currents were caused to vary in a rhythmic manner. The contractions were certainly not unpleasant but the apparatus was not very suitable for everyday work. For the painless currents, so suitable for testing, he thought the Leduc commutator preferable to the coil as a rule. He considered carefully wound induction coils of small size and having small iron cores to be the best, but if a large coil were used a very short spark gap should be placed in series with the secondary. This allowed only a part of the bigger waves to get through, so that the resulting current was a series of steep but short unidirectional impulses which were *found to have little or no stimulating* action on the sensory nerves.

Mr. W. DEANE BUTCHER (London) concurred in the value of rhythmically varying currents. He mentioned the importance of avoiding unequal pressure of the electrodes, which might cause objectionable results, and admired the use of the "chain-mail" electrodes which adapted themselves very readily to the configuration of the parts. He also drew attention to the fact that main currents were as a rule more painful than the current from batteries and were quite unsuitable for the production of electro-narcosis or any experiments of a more or less delicate nature.

Dr. WILFRED HARRIS (London) spoke of the good results which he had obtained in spastic paralysis by the use of the sinusoidal current administered in a full bath. He also confessed to a partiality for the combined galvano-faradic current which had done good service in his hands. At St. Mary's Hospital his rule was to treat the patients in series with each other.

Brief comments regarding their own practice were made by Dr. DAWSON TURNER (Edinburgh), Mr. G. H. THOMPSON (Buxton), and Dr. A. H. PIRIE (London).

The PRESIDENT of the section (Dr. E. REGINALD MORTON, London), after thanking Dr. Lewis Jones and those who had contributed to the discussion, stated that he had been so impressed with the value of a slowly varying current that he had been using it to the exclusion of almost every other for the past three years. He had settled upon a slow sinusoidal current chiefly for the reason that its generation presented no great difficulty and the generator would require less attention than any other apparatus which he knew of. He treated his hospital patients in parallel from shunt resistances, as this gave one the means to vary the strength of the current to individual cases. The periodicity of the current varied at times from one to two cycles per second. With regard to painless currents for testing he confessed that the Leduc commutator so modified as to give reversals of current had *not quite come up to expectations, but so far* as he had gone he thought that the best results were obtained when the moveable brush was adjusted to give very short impulses at the rate of from 400 to 600 per second. He still hoped that a satisfactorily painless current would be obtained in this way, possessing *as it did so many advantages over coil* currents.

Dr. LEWIS JONES replied.

Dr. DAWSON TURNER read a paper entitled

The Hæmo-renal Index.

The H.R. index, he said, was the ratio of the electrical resistance of the blood to the electrical resistance of the urine.

$$\frac{\text{Electrical resistance of the blood}}{\text{Electrical resistance of the urine}} = \text{H.R. index.}$$

This would be equal in health to three, four, or five whole numbers—e.g., $\frac{900}{225} = 4$ or $\frac{1000}{250} = 4$. The higher the index was the healthier, other things being equal, was the condition of the patient. If the index increased it indicated that the blood contained fewer salts or was richer in corpuscles, and that the urine contained more salts and that the functional activity of the kidney was increasing; if the renal index diminished then the kidney was becoming sluggish and less efficient. An index below 3 was abnormal and suspicious and an index below 2 was serious. Surgical interference in kidney lesions was contraindicated if the index was much below 3. The method was of value in surgical affections of the kidney where one kidney was chiefly affected and where there was a question of its removal; it afforded a means of testing the renal capacity so far as regards the elimination of salts and it was another attempt to apply precise scientific measurement to clinical medicine and surgery. He cited cases illustrating the value of the method as an aid in diagnosis and in directing future treatment.

The paper aroused considerable interest and in reply to questions asked in the course of the discussion, in which Dr. LEWIS JONES, Dr. HARRIS, Dr. PIRIE, Dr. J. A. MACDONALD (Taunton), and the PRESIDENT of the section took part.

Dr. DAWSON TURNER said that the resistance varied very little from hour to hour in any given patient or healthy individual; that the proportion of urea present seemed to have very little influence on the electrical resistance—a point, among others, which he had determined by the examination of a large number of artificial urines—and that sodium chloride was the only constituent that really mattered.

The PRESIDENT of the section in the course of his remarks congratulated Dr. Dawson Turner on the large amount of work which he had done to place the matter on a satisfactory basis and was convinced that the method would become a recognised one in the clinical diagnosis of renal inefficiency.

Mr. DEANE BUTCHER read a paper on

The Therapeutic Action of Radium,

in which he wished to lay stress on its great value in cases of pruritus. He cited cases in which it had proved successful after all other methods had failed, including the x rays. He also gave evidence of its value in birth-marks and rodent ulcer. It was a curious fact that what had been found to be a sufficient dose when applied to tissues had no effect on a the American Indians who regarded it as a specific for sore and inflamed eyes. It was a very popular remedy for this affection with the pioneers in Ohio and Kentucky, who also chewed the root for the relief of soreness of the mouth. Burton, in his "Collections for an Essay towards a Materia Medica of the United States" (1804), refers to the use of a spirituous infusion of the root of golden seal as a tonic bitter and of an infusion of the root in cold water as a lotion for inflammation of the eyes. According to Dr. C. S. Raffinesque, in his "Medical Flora" (1828), the Indians employed the juice or infusion "for many external complaints as a topical tonic," and "some Indians employ it as a diuretic, stimulant, and escharotic, using the powder for blistering and the infusion for the dropsy." He further states that "internally it is used as a bitter tonic, in infusion or tincture, in disorders of the stomach, the liver, &c." About the year 1847 a demand was created for golden seal by practitioners of the eclectic school. It then became an article of commerce and the price soon rose from a few cents a pound to upwards of two dollars a pound. The root was made official in the 1860 edition of the United States Pharmacopœia and has remained official to the present day. It did not appear in the British Pharmacopœia until the issue of the Addendum to the 1885 edition. The wide popularity of the drug at the present day is evidenced by the fact that from 200,000 to 300,000 pounds of the dried root are sold annually. Formerly the drug was entirely collected in the woods by drug diggers, but within the past few years their depredations and the more extended cultivation of land in the United States have been the chief factors in inducing cultivators to pay attention to the growing of golden seal. It is satisfactory to learn that the cultivated roots are even richer than the wild roots in hydrastine, the chief active constituent of the plant. About nine-tenths of the supply of golden seal is used in the United States, chiefly in utero-ovarian disorders. Its remedial action in such cases is ascribed to the hydrastine, while berberine, the other important constituent, is valuable simply as a bitter tonic.

THE DECLINING ENGLISH DEATH-RATE.

THE rate of mortality in England and Wales during last year did not exceed 15·0 per 1000 of the estimated population; it was 1·7 below the mean annual rate during the ten years 1897–1906, and was distinctly lower than the rate recorded in any year for which trustworthy statistics exist. The Registrar-General's returns for the first two quarters of 1908 show, moreover, that the death-rate had further declined considerably below the low rate in 1907. In the first quarter of this year the annual death-rate was 1·0 and in the second quarter 0·8 per 1000 below the rates that prevailed in the corresponding quarters of last year. The mean annual rate during the first six months of this year did not exceed 15·8 per 1000, and was 1·3 below the mean rate in the corresponding period of the ten years 1897–1906. It appears from the last quarterly return recently issued that during the three months ending with June last the crude death-rate in the 76 largest English towns did not exceed 13·7 per 1000, against 14·7, 14·8, and 14·9 in the three preceding corresponding quarters. Thus the crude death-rate in these large towns was 1·1 per 1000 below the mean rate in the same towns during the three preceding corresponding quarters and was slightly below the recorded rate in the whole population of England and Wales. After correction, however, for differences in the age and sex constitution of their population the death-rate in these towns during last quarter is raised to 14·6 for true comparison with the rate of 13·7 in the whole of England and Wales; the corrected rate in 142 smaller towns last quarter was equal to 13·5, and in the remainder of England and Wales (excluding the 218 towns) was 13·3 per 1000. The rate of mortality from the principal epidemic diseases in England and Wales last quarter did not exceed 0·94 per 1000, against 1·48, the mean rate in the three preceding corresponding quarters. The death-rates last quarter from measles, scarlet fever, diphtheria, whooping-cough, and fever (principally enteric) were all considerably below the rates from these diseases in the corresponding quarter of last year. Another eminently satisfactory feature in the mortality statistics for last quarter is a marked further decline in the death-rate of infants under one year of age, which did not exceed 97 per 1000 births registered, against 112, 108, and 110 per 1000 respectively in the corresponding quarters of 1905, 1906, and 1907. In the 76 large towns the mean rate of infant mortality was equal to 100 per 1000 births, and ranged from 46 in Hornsey, 52 in Handsworth, and 70 in Tottenham, to 141 in Rhondda, 160 in Hanley, and 167 in Burnley. The excess of the rates of infant mortality in the Lancashire, as compared with the Yorkshire, towns is again very noticeable, and among the smaller Lancashire towns the rates were equal to 147 per 1000 in Colne, 154 in Darwen, and 172 in Ashton-under-Lyne; whereas, on the other hand, the rates did not exceed 73 in York, 75 in Halifax, 78 in Huddersfield, and 92 in Keighley. It is, moreover, satisfactory to note that the proportion of uncertified causes of death in England and Wales continues to decline. During the second quarter of this year the proportion of uncertified causes of death in England and Wales was equal to 1·4 per cent. of the registered deaths, whereas in the ten preceding corresponding quarters the mean percentage was 1·7. Among the 76 large towns the proportion of uncertified causes of death did not exceed 1·0 per cent. Whereas all the causes of death were duly certified in West Ham, Croydon, Walthamstow, Brighton, Derby, and in ten other smaller towns, the proportion of uncertified deaths ranged upwards in the remainder of the 76 towns to 3·8 per cent. in Birmingham, 4·4 in King's Norton, 6·3 in Warrington, and 7·6 in Gateshead. It would be interesting to have an explanation of the excessive proportions of uncertified deaths in these last-mentioned towns. Is it due to the practice of unregistered medical practitioners or to the neglect to provide any medical attendance during the last illness of the deceased? In either case, however, this defect in the Death Register might be obviated by action on the part of the local coroners. It should further be noted that as the result of the action of the metropolitan coroners the causes of all but 11 of the 15,196 deaths registered in London during last quarter were duly certified.

THE DEATH OF PROFESSOR HENRI BECQUEREL.

A BRILLIANT investigator is lost to the scientific world in the person of Professor Henri Becquerel whose death in Brittany was announced last week. The fact that at the time of his death he was president of the Paris Academy of Sciences is proof of the high esteem in which Professor Becquerel was held by his distinguished scientific colleagues in France. Professor Becquerel's researches on phosphorescence paved the way to the discovery of radio-activity and of the existence of radium in pitchblende as a definite entity by Madame Curie. He obtained impressions on photographic plates wrapped in black paper and exposed to the uranium salts, and proved that this did not necessarily depend upon the exposure of these salts to light in the first instance, or upon their power of absorbing rays and afterwards giving them out, but on their power spontaneously to emit radiations. Professor Becquerel showed that these rays, no retarding action on the progress of the meal through the intestine. Another noteworthy statement by Mr. Thurstan Holland was that as a result of examining a large number of normal and (suspectedly) abnormal stomachs in various positions in this way he had come to the conclusion that not only was the shape of the stomach as given in the text-books a wrong one, but that there was really no true and fixed normal shape of stomach. He considered the use of a bougie loaded with mercury for locating obstructions in the œsophagus to be a distinctly dangerous one and that it did not possess any advantages over the bismuth emulsion which was perfectly safe.

Dr. A. E. Barclay (Manchester) continued the subject, showing a number of slides and diagrams of cases that had been examined by this method. He also showed that percussion was of very little value in determining the size and shape of the stomach. He considered the use of bismuth carbonate to be perfectly safe in spite of the dangers ascribed to it so long as the pure carbonate was used, and he agreed with Mr. Thurstan Holland as to the danger of using the mercurial bougie.

Dr. A. F. Hertz (London) considered that the oxychloride of bismuth was the most suitable salt to use in these examinations for the reason that it was chemically inert in the digestive canal. The carbonate had a neutralising effect upon the stomach contents and would in that way interfere with its normal movements. It was his practice to give two ounces of bismuth mixed with an ordinary meal such as porridge, or bread-and-milk, rather than suspended in mucilage. There was a tendency for the bismuth to stick to the mucous membrane after the main portion had passed on and this was a likely source of error, but not so likely if the bismuth was mixed with food.

Dr. C. Lester Leonard (Philadelphia) showed some lantern slides bearing on this question and took occasion to point out the great value of instantaneous radiography. He showed a radiogram of the stomach in which a fine peristalsis could be seen travelling down the greater curvature of the stomach. This, of course, would have been completely lost in an exposure lasting more than one or two seconds.

The President of the section considered that those present had listened to a very interesting and important discussion. Looking over the work of the section it was easily seen that medical radiography predominated and some of those present might remember that it was freely said and thought that the usefulness of x rays would be more or less limited to surgical cases. Speaking generally, it was more difficult to give diagnostic assistance in medical cases, but the great advances made during the last few years afforded eloquent testimony to the value of the work done. While in pulmonary disease radiography might be able to show very little that could not be discovered by an expert in physical diagnosis, still its value as a corroborative was immense. With regard to the present discussion he did not think anyone would be so rash as to say radiography had not really found out something quite new. It was an important feature of the study of gastric conditions by bismuth and the x rays that the shape and position of the stomach as they were taught to regard it were quite fallacious and that they must now remember that the stomach was a very mobile and elastic organ, having no fixed form or position even under normal conditions. He wished to congratulate Mr. Thurstan Holland, Dr. Barclay, Dr. Leonard, and the others who had taken part in the discussion on the valuable work which they had done. In this class of work he was sure that radiographers would find great assistance from instantaneous and tele-radiography. As in ordinary photography so also in radiography would they find that the rapid exposure would ultimately prevail.

Mr. Thurstan Holland, in his reply, did not agree with Dr. Hertz as to the bismuth sticking to the mucous membrane being a source of error. The amount would be so small that it could not deceive anyone of even limited experience.

Dr. W. Ironside Bruce (London) described

A New Method for the Localisation of Foreign Bodies.

A special apparatus which he had designed was shown and the method of using it was explained. The foreign body having been localised, the same apparatus was again placed in position when the patient was on the operation table and under the anæsthetic and then a needle was passed down and into the flesh, the point coming to rest at the foreign body which it was desired to remove.

Mr. J. Hall-Edwards (Birmingham) read a paper on

X Ray Dermatitis.

This was a very complete and exhaustive treatise on the subject and dealt with as no other person could do in view of the unusual amount of suffering and mutilation which he had himself endured. The paper was illustrated with skiagrams and coloured drawings and coloured photographs by the Lumière autochrome method. It was unfortunate that through lack of time Mr. Hall-Edwards had to abbreviate his paper in the reading.

The President of the section expressed his thanks and indebtedness to Mr. Hall-Edwards for preparing such an excellent paper.

The proceedings of the section terminated with a vote of thanks to the President and to the local honorary secretary (Dr. A. Rupert Hallam, Sheffield) who had made such excellent arrangements for the comfort and convenience of the section.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

Thursday, July 30th.

Mr. George Wilkinson (Sheffield), President of the section, occupied the chair during part of the proceedings, and subsequently Dr. W. Jobson Horne (London), one of the Vice-Presidents, was chairman.

Mr. C. A. Ballance (London) and Dr. A. L. Whitehead (Leeds) opened a discussion on

The Diagnosis of the Intracranial Complications of Middle-ear Suppuration.

Mr. Ballance, in his opening statement, touched upon the cardinal symptoms of (*a*) dural inflammation and extradural abscess; (*b*) venous infection; (*c*) meningitis; and (*d*) brain abscess. In extradural abscess and parasinus abscess there were headache at the site and tenderness. In venous infection fever was constant and high. In meningitis lumbar puncture was of service, both for diagnosis and treatment; negative evidence as regards bacteria and cells was of no value. Four-fifths of the cases of otitic brain abscess were associated with chronic ear disease; in one-fifth of such cases the ear disease was acute. Two instances out of three were not complicated with other intracranial lesions. He next considered the question of the existence or otherwise of an otitic intracranial complication: (*a*) in patients who were obviously seriously ill; and (*b*) in patients who complained of ear disease but who were not obviously seriously ill. In those that were obviously ill the onset was often said to be sudden and at times there was no suppuration; external mastoid signs might be absent. In those who complained of ear disease but who were not obviously seriously ill, death might be hastened by the lack of operation or by an operation limited to the mastoid. Vaccine treatment was most valuable. Speaking of the symptoms associated with labyrinthine suppuration, Mr. Ballance said that investigation of the labyrinth was only possible after the mastoid operation. Some special difficulties in connexion with the diagnosis of intracranial complications of middle-ear suppuration were next considered. Amongst these were mentioned complications arising from concurrent typhoid fever or acute specific disease or illness occurring in the same house; also old ear disease rekindled by septic infection elsewhere, so that the ear became a secondary seat of infection. In conclusion, attention was drawn to the indications afforded by certain modern methods of investigation, and more particularly to the value of leucocytosis.

Dr. Whitehead, in his opening statement, discussed the indications of dural inflammation and extradural abscess. In the former there was commonly persistent headache. A profuse discharge out of proportion to the middle ear was suggestive of an abscess. Vomiting might be absent except in children. He mentioned the relative frequency of optic neuritis in the different forms of intracranial complications. Lumbar puncture he considered more confirmatory than diagnostic. In temporo-sphenoidal abscess the loss of power of naming objects was a valuable differential sign. In cerebellar abscess nystagmus was more frequent than was commonly thought. The rotation of the arm and forearm was difficult in cerebellar abscess. In children typhoid fever, followed by otitis and protracted convalescence, might be the physician and for suggestions for treatment in the school. With very few exceptions it has been found that the parents have carried out the suggestions of the physician. The data derived from a physical examination are generally of direct benefit to the pupil by revealing the presence of disease in its early stages and so increasing the chances of a permanent cure. The teacher, too, finds the reports of value, frequently enabling him to trace mental deficiencies to a physical cause. At Halle the school physician has been greatly helped by various specialists who unselfishly placed their knowledge at the disposal of the authorities in stubborn and unusual cases. In many cases the removal of swollen tonsils or adenoids, which contribute to the languor and dulness of a child, may relieve headache, nasal speech, or deafness, as well as unwillingness or inability to follow the school work. Since the auxiliary school physician most frequently meets with nervous diseases, from abnormal excitability to the most serious phases of brain troubles, it is highly necessary for him to be well versed in neurology. At Halle much assistance was rendered by a university professor who consented to treat children affected with paralysis, epilepsy, or St. Vitus's dance. In addition to his many-sided professional assistance the physician is helpful to the auxiliary schools in other ways. He may prevent wrong ways of treating children in the home and give advice when improper food is provided. He may make the pupil's school work easier in various ways, particularly in helping to form vacation colonies in the woods and other suitable places. While the authorities prefer to intrust the work only to a physician who is interested in school hygiene and child-study, it is often very hard to find an experienced physician who is willing to undertake the work. Consequently the auxiliary school physicians in Germany are mostly young men. In addition to a knowledge of school hygiene the auxiliary school physician finds it advantageous to be familiar with psychology and psychiatry. The ideal school physician realises that the highest aim of education is to better the physical as well as the mental condition of the pupils, and he coöperates with the teacher in the attainment of this aim. Thus he may advise the teacher with regard to the length of recitations, the number of intermissions, and the order of subjects in the daily programme. The bulletin contains a number of forms of health reports and is of interest to physicians connected with schools, particularly schools for those who are mentally deficient.

MUSSELS AND TYPHOID FEVER.

AN interesting and instructive preliminary report upon the relationship of mussels to typhoid fever has recently been presented to the health committee by the medical officer of health of Birmingham (Dr. John Robertson). The report has been prepared by the assistant medical officer, Dr. G. F. Buchan, and though it is not conclusive it points to definite and serious sewage contamination of a much-eaten shell-fish, and it suggests that certain standards of purity should be established and that the sale of mussels falling below the standard should be prohibited. During the past four years 74 cases of typhoid fever have been recorded in Birmingham in which the patient had eaten mussels within four weeks of the commencement of the symptoms of the disease. The source of the mussels eaten by the patients could not be traced except in one case, but the number of cases pointed to the necessity for an inquiry into the general bacteriological condition of the mussels delivered to the Birmingham market. Mussels from 15 known sources were examined and evidences of definite sewage contamination were found. The data sought for were the total number of micro-organisms present in one mussel and the number of the following organisms: bacillus coli communis, bacillus enteritidis sporogenes, streptococcus, and bacillus typhosus. Bacillus typhosus is the only one of the four which causes typhoid fever and it was the only one not found in any of the specimens examined, but the other bacilli and the streptococci, which are accepted as criteria of pollution, were present in greater or smaller numbers, indicating a contamination of the sources from which the shell-fish were derived pregnant with danger which may spring into active life at any moment. In the circumstances it is clear that if a bacteriological standard could be fixed to indicate the boundary line between the mussels which might be considered as comparatively safe and those which should be condemned as food a great advance would be made, and the health authorities would be provided with data which would facilitate their attempts to force the owners of mussel beds to take proper precautions. Dr. Buchan suggests the following standards as indicating that the contamination is so great that the shell-fish reaching or passing them should be condemned as unfit for food. As regards the total number of organisms present, 1,000,000,000 per mussel either by gelatin or agar count. As regards special organisms, more than 1000 spores per mussel of bacillus enteritidis sporogenes, more than 10,000 streptococci per mussel, more than 1000 "coli" organisms of 5¾ or 5½ value, and more than 10,000 "coli" organisms of 5 value, the value of the "coli" organisms being estimated by their powers of fermenting glucose and lactose, of producing indol and fluorescence, and their action upon saccharose. If these standards were applied in Birmingham then five of the sources from which the 25 samples were obtained would be condemned.

"PIGEON DIPHTHERIA."

THE results of a collective inquiry into the 1907 epidemic of so-called "diphtheria" in wood pigeons, organised by *British Birds* under the direction of Mr. C. B. Ticehurst, M.R.C.S., L.R.C.P., have recently appeared in the pages of that magazine, and will, no doubt, awaken fresh interest in the disease. Though the epidemic in question was practically restricted to migratory flocks frequenting the beech woods of the Thames valley, still it reached such proportions that one spot is mentioned, on the borders of the three counties Bucks, Berks, and Oxon, where more than 4000 diseased pigeons had to be disposed of. On the other hand, a spot map of England which accompanies the report shows that the disease has a widespread distribution, for sporadic cases are reported from Cumberland, Yorkshire, Norfolk, and Essex—Scotland, Wales, and Ireland, however, appear to be exempt; and none of the evidence collected affords any support to Dr L. W. Sambon's suggestion[1] of an intimate association between pigeon "diphtheria" and diphtheria in the human subject. The lesions observed in the diseased birds during life and post mortem are fully dealt with, but the chief interest attaches to the bacillus isolated from these lesions, which Mr. Ticehurst has satisfied himself by inoculation experiments on a wild wood pigeon and a blue racer respectively is the causative factor in the disease. This bacillus agrees more closely with the bacillus diphtheriæ columbarum than the one which is so frequently found in these epidemics and which has a closer relationship to the bacillus of hæmorrhagic septicæmia; and it is a significant fact that this particular epidemic investigated by *British Birds* does not appear to have spread to pheasants and partridges or to mammals. In his report Mr. Ticehurst assumes that the mucous membrane of the fauces and hard palate is the site of infection, and suggests that the probable methods by which tightening the strips the lower needle carrying the depressed structures before it, was lifted upwards and forwards, thus rectifying the deformity. Some local swelling of the parts resulted but no constitutional disturbance. The child, who was a good little patient, suffered no after-pain and appeared quite happy and contented during the ten days in which the needles remained *in situ*. On removing the needles it was seen that small pressure ulcers had formed at the sides of the nose where the tightened gauze had been in contact with the skin; these, however, healed in a few days. Six months had elapsed since the operation and the nose so far had maintained its shape. Whether the nose would continue to grow in the way that it should grow was, however, a question which only the future could determine. The reason of the failure in the previous cases was due to inability to maintain the corrected position of the parts until fixed by the process of healing.

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[1] THE LANCET, April 18th, 1908, p. 1143.

FRIDAY, JULY 31ST.

Dr. **STCLAIR THOMSON** opened a discussion on

The Methods of Dealing with Suppuration in the Maxillary Sinus,

with a paper of which the following is an abstract.

The methods available are: (1) spontaneous resolution, aided by general hygiene, the administration of drugs, topical applications, and the extraction of teeth; (2) nasal lavage (*a*) through the ostium maxillare, or (*b*) through the antro-nasal wall; (3) buccal lavage (*a*) through the canine fossa, or (*b*) through a tooth socket; and (4) *operations* through the antral walls (*a*) by an opening through the canine fossa only (Desault's or Küster's operation), (*b*) by an opening through the canine fossa and a second opening through the antro-nasal wall (Caldwell-Luc operation), (*c*) the Caldwell-Luc operation, as modified by Denker and by Boenninghaus, and (*d*) by an opening through the antro-nasal wall only (proposed by Mikulicz and Krause, and further developed by Claoué, Réthi, and others). The selection of the most suitable method will depend on whether the suppuration is (1) acute and recent; (2) uncomplicated and chronic; or (3) complicated with suppuration in other cavities. 1. An acute sinusitis may last several weeks and resolve without operation. Or it may become subacute and take six months before disappearing without surgical interference. 2. As regards an uncomplicated, chronic, maxillary sinusitis, it will have to be considered whether the classification of Lermoyez into (*a*) chronic empyema, and (*b*) chronic sinusitis, is always available and how it influences treatment. Mahu's method of gauging the capacity of the affected sinus and thus forming a conclusion as to the condition of its mucosa might also be debated. 3. When complicated with suppuration in other cavities, the first point to be decided, if possible, is whether the maxillary sinus is simply a receptacle for pus secreted elsewhere. The next point is the order in which the sinuses should be operated on when they cannot all be treated at one sitting. Conclusions: 1. In cases which come under observation while in the acute or subacute stage, spontaneous resolution may be expected. If cure is delayed puncture and lavage through the antro-nasal wall are indicated. If a suitable tooth socket is available, lavage through the alveolar border might be employed instead. All suspected teeth should be removed. 2. In chronic, uncomplicated maxillary sinusitis the best hope of complete cure is effected by the Caldwell-Luc operation. The intra-nasal route requires full consideration and discussion is invited on its indications, methods, and results. Permanent lavage through the alveolus is reserved for patients where more radical measures are objected to and when age or health does not permit them. The drawbacks of this method must not be forgotten. 3. In complicated cases a complete diagnosis should be formed before starting surgical measures. Alveolar drainage, when available, should first be instituted, both to facilitate diagnosis and to diminish the septic intensity of the retained contents. The ethmoid next demands treatment and the sphenoidal orifice should be enlarged. A frontal sinus operation should take precedence of the maxillary. If the latter is being drained through a tooth socket the radical operation can be deferred until (by progress) it is determined that the antrum is really diseased and not simply a reservoir. If alveolar drainage is not available then an intra-nasal opening should be made at the time of the frontal operation. A sound tooth should never be sacrificed, as the curative effect of alveolar drainage is uncertain. Free drainage being of prime importance plugs should be avoided.

Dr. **LOGAN TURNER** submitted the following proposition for consideration. Could any assistance regarding the best method of procedure be derived from a study of any one or any combination of the following points: (1) the age of the patient; (2) the duration of the discharge from the sinus; (3) the presence or absence of nasal polypi; (4) the etiology of the condition, nasal or dental infection; (5) transillumination of the sinuses; (6) cytology of the discharge; and (7) the bacteriology of the discharge. If treatment by lavage were decided upon did the nasal or buccal route give the better result? Dr. Turner then considered in detail the foregoing points. 1. As regards age, the older cases were cured just as well as the younger by lavage. Age made no difference but lavage was preferred in old people. 2. Recent cases he regarded as those under one year's standing and 84 per cent. of the cases in his series had been cured by lavage. Cases in which the discharge from the sinus had extended over one year he regarded as chronic. 8 per cent. of the latter cases that had come under his care had been cured by lavage. 3. As regards the presence or absence of nasal polypi, out of 180 cases only 18 had polypi; of these 18, 15 were treated by lavage and 10 were cured. In 19 cases with no polypi lavage had failed to effect a cure. The presence of polypi was generally evidence of some other sinus being affected. 4. As regards the etiology of the condition, out of 180 cases the etiology was definite in 117. As regards the question of nasal or dental infection, bad teeth were not to be readily accepted as the cause. Passing to the cytology and the bacteriology of the discharge, the pus was examined cytologically in 25 cases and bacteriologically in 62. In recent cases staphylococci were found in 72 per cent. and streptococci in 21 per cent. In chronic cases lymphocytes and myelocytes were looked for; the latter were not found, probably on account of there being not much bone affection. The more advanced changes in the epithelium lining the antrum occurred in the lower part, the ciliated epithelium might still be present in the upper part, as was found in a case after six years' duration of the discharge. The presence of streptococci and squamous cells indicated that the radical operation was called for, whilst the presence of staphylococci indicated that lavage might suffice.

Mr. **HERBERT TILLEY** (London) said that lavage in the acute stage relieved the pain and the case got better more quickly. He advocated the removal of the anterior third of the inferior turbinate body in the radical operation.

Mr. **C. A. PARKER** (London) was in favour of the performance of the intra-nasal operation in the first instance. It was free from the slight risk of the Caldwell-Luc operation, and if it did not suffice then the latter could be proceeded with.

Mr. **R. H. WOODS** (Dublin) considered that the inferior turbinate body of the nose was treated with too little respect in operations for the relief of suppuration in the antrum; it was removed too often.

Dr. **DAN MACKENZIE** (London) was against alveolar puncture and was in favour of the intra-nasal operation and of the use of a larger intra-nasal tube.

Dr. **WATSON WILLIAMS** spoke in favour of the Caldwell-Luc operation through the canine fossa as more reliable than the intra-nasal methods.

Dr. **N. C. HARING** (Manchester) remarked that the latent cases were dark to transillumination after the operation. He was against the intra-nasal operation.

Mr. **STUART-LOW** spoke of the regeneration of the mucous membrane lining the antrum.

Mr. **GEORGE JACKSON** (Plymouth) referred to the presence of polypi and the importance of treating caries of the ethmoid. If omitted, recurrence was liable to take place.

Dr. **JOBSON HORNE** (London) attributed the divergence of opinions as to lines of treatment to a lack of knowledge of the etiology. He expressed his thanks to Dr. Logan Turner for his paper which had gone in the right direction to supply that knowledge. Dr. Horne referred to some researches which he made into the bacteriology of the disease some ten years previously, the results of which practically coincided with those of Dr. Logan Turner. Incidentally he mentioned that some of the organisms referred to were not uncommonly peroneal tendons. Lipoma of the peroneal tendon sheaths was diagnosed. There were also flatness of the anterior arch of the foot and hammer toe. An incision three inches long was made from below the external malleolus along the course of the peroneal tendons. The tendon of the peroneus longus presented three cauliflower-like growths, each of the size of a small pea, occupying about an inch of the external surface of the tendon. Between these the surface of the tendon was roughened. A section of the tendon including the growths was excised. Extending the opening in the tendon sheath behind the malleolus a growth resembling a fibro-lipoma presented. This extended about two inches along the tendon and was connected with the sheath. It was also excised. The tendon sheath was closed by continuous catgut suture. Convalescence was uneventful except for slight pain. The patient was allowed to walk on the tenth day and felt some pain about the external malleolus and up the calf, which was relieved by massage and hydrotherapy. Microscopic examination showed that the tumours consisted of adipose tissue crossed by broad bands of cellular connective tissue in which ramified large numbers of injected vessels. The surface of the tumours was completely invested by an extremely vascular layer of this tissue. The vessels as a whole were larger than capillaries and in places showed dilatation into cavernous spaces with irregular contour. None of the vessels had a muscular coat, and for the most part the wall consisted only of an endothelial layer. The arteries of the growths were abundant, of large size, and normal. Lipoma with telangiectasis was diagnosed. The growth connected with the tendon sheath was not microscopically examined but appeared to be a fibro-lipoma. Only two similar cases appear to have been reported, both by Professor Pets Leusden. Both occurred on the tendon of the flexor longus pollicis—one in a girl aged four years, the other in a boy aged two years. Pain on snapping the fingers called attention to the condition. The thumbs were flexed at the interphalangeal joint and could not be fully extended. On passive extension a nodule was felt over the tendon of the flexor longus pollicis. The nodules were removed and showed proliferation with branching of the blood-vessels and considerable thickening of the media of some of them. In his own case Dr. Legg does not believe that the growths removed were true lipomata. He thinks that they were due to tearing of the tendon in the injury five years previously, during the healing of which an inflammatory lipoma from metaplasia formed, subsequently degenerating telangiectatically.

THE friends of the late Dr. Edith Pechey-Phipson having expressed a desire to raise some tribute to her memory a committee has been formed to carry out the two following objects: 1. The foundation of a post-graduate scholarship, to be held by a medical woman, who comes from India or who proposes to work in India; post-graduate study to be carried on in any place or any country approved by the trustees. 2. The building and endowment of one or more additional bungalows at the Nasik sanatorium for women and children. Donations should be sent to the honorary treasurer, Sir Montagu Turner, Chartered Bank of India, Hatton-court, Threadneedle-street, London, E.C.

THE medical session at the University of Manchester will be inaugurated by an address delivered on Oct. 1st, at 4.30 P.M., by Sir Thomas Clifford Allbutt, K.C.B., M.A., M.D. Cantab., D.Sc., LL.D., F.R.S., Regius professor of physic, University of Cambridge.

A White Paper was issued on Monday last, August 31st, containing a supplementary circular by the Board of Educ tion offering to local education authorities explanations questions in connexion with the Education (Administrati Provision) Act, 1907, and with the Code of Regulations f Public Elementary Schools, 1908.

Dr. Ziemann, a German naval surgeon of high rank wh also has the title of Professor in the University of Berli has been appointed head of the Medical and Sanita Department in the Cameroons.

Professor Robert Koch has been appointed by the Germa Government to attend the International Tuberculosis Co gress at Washington as its representative.

THERE is general ground for satisfaction in the report f the year 1907 which has just been issued from the Arm Medical Department.

POST-GRADUATE STUDY.

POST-GRADUATE study is divided into three main divisio —the general study of professional subjects (including th special study of some branch), the study of state medicine, and the study of tropical medicine. We have alread described in the Students' number of THE LANCET, published on August 29th, 1908, the provision made fo instructing graduates in the last two divisions, mentionin the procedure necessary to obtain diplomas or certificates fo proficiency in them. The following article shows th principal arrangements existing for general post-graduat instruction, and some little repetition has been necessary:—

LONDON.

The London Post-Graduate Association.—The London Post-Graduate Association is now so well known that it is hardl necessary to remind our readers that it is composed of the following hospitals and medical schools (general and special)—viz.: *General Hospitals:* Charing Cross, Guy's, King's College, St. Mary's, St. Thomas's, University College, and Westminster. *Special Hospitals:* The Brompton Hospital for Consumption and Diseases of the Chest, the Hospital for Sick Children (Great Ormond-street), the London School of Tropical Medicine, the National Hospital for the Paralysed and Epileptic (Queen-square), and the Royal London Ophthalmic Hospital, late Moorfields (City-road). One ticket (the charge for which is 10 guineas for a three months' course, or 15 guineas for six months) admits the holder to the clinical instruction in the wards and out-patients' departments, the operations, necropsies, and other hospital practice of all the institutions mentioned above. The holder is also entitled to attend any special post-graduate classes which may be held from time to time at any of the general hospitals named so that he need not be unable to keep himself apace with modern advances. For the purpose of enabling qualified medical men to keep up to date in their work we can heartily recommend the scheme offered by the London Post-Graduate Association, which thus places the best of all the hospital work in London at the disposal of its ticket-holders. The office of the association remains as before at the Examination Hall. Further particulars may be obtained by writing to the Secretary, the London Post-Graduate Association, Examination Hall, Victoria Embankment, London, W.C., or by personal application between the hours of 11.30 A.M. and 1 P.M., and 2 P.M. and 3 P.M. any week-day except Saturday.

Medical Graduates' College and Polyclinic.—This institution affords to medical practitioners special facilities for acquiring technical skill and for advancing their medical and scientific knowledge. The building contains lecture- and consulting-rooms, a pathological and clinical laboratory, a Roentgen-ray room, an ophthalmoscope room, a museum, a library, and reading- and waiting-rooms, &c. Cliniques are given on each working day of the week except Saturday at 4 P.M., and a lecture on medicine, surgery, or their special branches is delivered daily except on Fridays and Saturdays, at 5.15 P.M. Classes are also held in otology, laryngology, which had proved that in typical cases of gout there was an actual increase in the excretion of uric acid in the urine in place of a marked decrease as was formerly supposed. He was in perfect agreement with Dr. Leathes as to the lack of evidence of the retention of uric acid in the system on which some writers laid stress. In recent years the view that uric acid was the cause of gout had been almost universally abandoned; coincidently, there had occurred a widespread adoption of the view that excess of purins was the main etiological factor in the development of the disease. Dr. Watson desired to raise a protest against the too ready acceptance of this view, since its general acceptance at the present time would retard knowledge of the etiology of the disease. There was no clinical or experimental evidence to indicate that the purins were responsible for inducing the clinical features of acute or chronic gout. His investigations had shown that diet could modify the structure of different tissues without apparently in many instances modifying the general health of the subject. There was little doubt that in these circumstances the chemistry of the animals was modified and also their predisposition to different diseases. He thought that future investigations into the pathology of purin metabolism and gout should include not only a study of metabolism along well-recognised lines but also an investigation into the structure and functions of important glands along lines suggested by the results of recent researches.

The discussion was continued by Dr. E. I. SPRIGGS (London), Sir LAUDER BRUNTON (London), Professor T. H. MILROY (Belfast), Dr. GUSTAV MANN (Oxford), Dr. F. G. HOPKINS (Cambridge), and the PRESIDENT of the section.

THURSDAY, JULY 30TH.

The chief interest of the work of the section on this day centred in a discussion on

The Causes of Dyspnœa.

Dr. J. S. HALDANE (Oxford), in opening, defined dyspnœa as any condition in which the breathing is accompanied by undue effort or discomfort or is very distinctly abnormal in type. He gave a short general summary of the factors regulating the activity of the respiratory centre, showing that under normal conditions the amount of air breathed was so regulated as to keep the partial pressure of CO_2 in the alveolar air and arterial blood constant, deficiency of oxygen having no influence in the matter. Different influences passing up the vagus nerve had an important influence in guiding the action of the respiratory muscles, but had little or no influence on the amount of lung ventilation. If the amount of CO_2 in the alveolar air became abnormally low the respiratory centre was excited by a lower partial pressure of CO_2. This modification was probably due to the formation of some substance, such as lactic acid, to which the respiratory centre was sensitive and which acted in the same direction as CO_2. He claimed that deficiency of oxygen played no part in regulating the respiratory centre. Various pathological conditions which are accompanied by dyspnœa were reviewed in the light of the conclusion just stated.

Dr. LEONARD E. HILL (London), who followed, attached much importance to the oxygen amount as a respiratory regulator.

Dr. M. S. PEMBREY (London), Dr. R. J. EWART (Liverpool), Dr. HOPKINS, and the PRESIDENT of the section also took part in the discussion.

Dr. P. T. HERRING (Edinburgh) read a paper, illustrated by a lantern demonstration, upon Changes in the Pituitary Body after Thyroidectomy.

The following papers were also accepted by the section. By Dr. N. H. ALCOCK (London): A New Apparatus for Chloroform Anæsthesia with Known Percentages of Vapour. By Dr. J. S. GOODALL (London) and Mr. H. G. EARLE: The Pancreatic Juice in Glycosuria. By Dr. GOODALL: Appetite—An Attempt at Analysis of the Psychic Factor. By Professor R. J. ANDERSON (Galway): The Question of Suggestion in its Physiological Aspects.

TROPICAL DISEASES.

THURSDAY, JULY 30TH.

The proceedings were resumed in this section, Lieutenant-Colonel Sir HAVELOCK R. CHARLES, I.M.S., being in the chair.

Sir PATRICK MANSON (London) opened a discussion on

Sanitation in Reference to Ankylostomiasis in the Tropics.

He said that it might have been thought that considering the vast extent and importance of her tropical possessions Great Britain would have been the first to grapple with the ankylostomiasis problem. It was not so, however, and it was, indeed, little to her credit that the youngest of colonising powers, the United States of America, had been first in the field and by her efforts in Porto Rico, Havana, and Panama had set them an example and shown what could be done by intelligent and energetic tropical sanitation. Ankylostomiasis occurred in all tropical and subtropical countries; in some rural districts 50 to 90 per cent. of the inhabitants were infected. Some writers regarded it in the aggregate as a more serious scourge than even cholera or yellow fever. Surely it was a matter of primary importance that if at all feasible the problem of a special and appropriate sanitation should be faced. The life-history of the cause—namely, of the worm—was adequate basis on which to found such sanitary measures, and that life-history they now knew. They might attain success by expelling the mature worm or by preventing the hatching out of the egg, or by killing the larva, or by preventing contact of the larva with the skin, or they might succeed by combination of two or more of these methods. Any attempt to eradicate ankylostomiasis by the administration of anthelmintics to the entire population of an infected area was bound to fail. It would be greatly beneficial as regards the individuals treated but not radical as regards the community because the drugging could not be efficiently carried out and fresh infection would constantly be introduced from without. Other relatively expensive measures such as the compulsory use of shoes to avoid contact with contaminated soil would never be employed. In common with many others he regarded fæcal disposal as the crux of the ankylostomiasis problem. Under ordinary conditions of native life it was the only practicable method of effectively dealing with the endemic, and meanwhile he thought that other measures had better not be pressed so that all available funds and energy should be directed to carrying out the least expensive, least irritating, and most efficient—viz., fæcal disposal. It was quite feasible, in his opinion, to get the coolie or native to drop his excrements into a hole in the ground and without contaminating the surrounding soil. The ankylostoma eggs in the absence of oxygen would not hatch, or if hatched out the larvæ would have no opportunity of getting at the human skin. In tropical countries treatment of fæces by chemicals or desiccation was out of the question if only on the score of expense. In European-owned or large native plantations or factories there would be no difficulty in establishing appropriate methods for the disposal of fæces. The Government had merely to decree that latrines of a particular type must be used and to enforce their use by fine if necessary, but it was otherwise with native villages and scattered communities. To get at these he would suggest that the responsibility for the observance of a latrine ordinance should be fixed on some local notable or head man selected by each village, community, or district, that he should be made responsible to the medical officer of the district, who in turn would be responsible to the surgeon-general of the colony, and that an inspector-general should be appointed for each group of colonies and be responsible to the Secretary of State for the effective carrying out of ankylostomiasis prophylaxis. As a subsidiary measure he would suggest making use of local post offices for the sale at cost price of anthelmintics just as had been done so successfully in India in connexion with quinine. The scattering broadcast of leaflets or posters explaining in simple language the symptoms, nature, treatment, and prophylaxis of ankylostomiasis, and above all the teaching in schools, would be of much value. Should these measures prove successful more attention might be given to the prevention of the introduction of ankylostomiasis by coolie-ships and otherwise. The matter of ankylostomiasis was a serious one for the tropics and should be faced.

Dr. W. F. LAW (British Guiana) read a paper on

Ankylostomiasis in British Guiana.

He said that ankylostomiasis was a serious disease in British Guiana. The infection was being regularly conveyed from India by newly arrived immigrants. Possibly it did not exist in the colony prior to immigration. Now it was widely distributed and affected to a very serious degree the health of the labouring population. With regard to treatment he preferred β-naphthol to thymol. It was quite as efficacious obtained leave for further professional study, and the certificate of attendance at the college during such leave is recognised by the Admiralty. The college is recognised by the University of London for hospital practice before the M.D. degree and by the Royal College of Surgeons for the necessary work before the Fellowship examination. The pathological laboratory has just recently been completely reorganised and placed in the hands of the pathologist, Dr. G. C. Low, who attends there during the whole day and gives instruction in Bacteriology and Microscopy and Tropical Medicine. A special class meets on three mornings a week from 11 to 1, and post-graduates joining the class can work in the laboratory at other times under the guidance of the pathologist. A class meets 12 times and commences at the beginning of each month. The fee for this class in bacteriology and microscopy is £3 3*s*. The fee for the hospital practice, including all ordinary demonstrations and lectures, is £1 1*s*. for one week, £2 2*s*. for one month, £5 5*s*. for three months, £8 8*s*. for six months, £12 12*s*. for one year, and is £25 for a life ticket; all fees to be paid in advance. A practitioner who cannot attend the whole course may attend any ten lectures or demonstrations during the session for a fee of £1 1*s*. A vacation class is held each year in August, the fee being £2 2*s*. for the course of one month, including hospital practice, or a ticket for a fortnight's hospital practice, including the lectures, can be obtained for £1 11*s*. 6*d*. The fee for a three months' course of instruction in the administration of anæsthetics, including a special class, is £3 3*s*., or without the class, £2 2*s*. A ticket for any of the above courses will be issued at any date. Arrangements can be made for gentlemen working for higher university examinations to be coached. The Winter Session will commence on Monday, Oct. 7th. A Special Course of six Lectures on the Medical Inspection of School Children has just been established. This course embraces points to be observed in the Medical Inspection of Children and in the Examination of their Teeth, Eyes, Throat, Nose, and Skin. The course will be completed in one week, and the fee is £1 1*s*. All communications should be addressed to the Dean, Mr. L. A. Bidwell, Post-Graduate College, West London Hospital, Hammersmith-road, W.

North-East London Post-Graduate College.—This post-graduate school is established in connexion with the Prince of Wales's General Hospital, Tottenham, N., which is recognised by the University of London as a place of [illegible] r the M.D. and M.S. degrees and [illegible] l the India Office for purposes of [illegible] are there afforded to qualified medical practitioners for taking part in the work of an active general hospital of 125 beds and for attending demonstrations of various branches of medicine, surgery, and gynæcology, with opportunities for clinical instruction in diseases of the eye, ear, throat, nose, skin, in fevers, psychological medicine, the administration of anæsthetics, and dentistry. Cliniques, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed on every afternoon of the week except Saturday. Special limited classes are arranged in gynæcology, the surgical diseases of children, including orthopædic surgery, diseases of the throat, nose, and ear, diagnosis of diseases of the chest, diagnosis of diseases of the nervous system, ophthalmoscopy and refraction, analysis of gastric contents, clinical examination of the blood, diseases of the skin, abdominal surgery, radiography, bacteriology, and medical electricity. The fee for a three months' course of study, which may be begun at any time, in any single department, is one guinea. A fee of three guineas admits to the whole practice of the hospital for a similar term (one month two guineas), and a perpetual ticket for the practice of the hospital may for the present be obtained on payment of a fee of five guineas. Medical practitioners who have attended a three months' course in any department are eligible for appointment as clinical assistants in those departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. A pathological museum and a pathological laboratory are available. A reading- and a writing-room, containing a reference and lending library, is provided, and tea may be obtained. The hospital is connected with the Telephone Exchange (No. 23, Tottenham).

The lecturers are as follows:—In General Medicine: Dr. Percy Kidd, Dr. R. Murray Leslie, Dr. G. P. Chappel, Dr. A. J. Whiting, Dr. A. G. Auld, and Dr. T. R. Whipham. In General Surgery: Mr. John Langton, Mr. Walter Edmunds, Mr. H. W. Carson, and Mr. J. Howell Evans. In Gynæcology and Obstetrics: Dr. Arthur Giles. In Diseases of the Eye: Mr. R. Philip Brooks. In Diseases of the Ear, Throat, and Nose: Mr. H. W. Carson. In Diseases of the Skin: Dr. G. Norman Meachen. In Fevers (at the North-Eastern Fever Hospital, St. Anne's-road): Dr. Frederic Thomson. In Diseases of Children: Dr. G. F. Still. In Diseases of the Chest (at the Mount Vernon Hospital and the Northwood Sanatorium): Dr. J. E. Squire. In Psychological Medicine (at the Colney Hatch Asylum): Dr. S. J. Gilfillan. In Tropical Medicine: Mr. James Cantlie. In Radiography and Medical Electricity: Dr. A. Pirie. In the Administration of Anæsthetics: Mr. A. de Prenderville and Dr F. H. Wallace. In Pathology and Bacteriology: Dr. G. G Macdonald. In Clinical Pathology: Dr. Basil Price.

The opening lecture of the winter session, in conjunction with that of the North-East London Clinical Society, will be given at the hospital at 4 P.M. on Oct. 8th by Mr. Jonathan Hutchinson, F.R.S. Further information, with prospectus and syllabus of lectures and demonstrations, may be obtained from the Dean of the School, Dr. A. J. Whiting, 142, Harley-street, London, W.

PROVINCIAL.

Birmingham.—At the University of Birmingham special courses for post-graduates have not yet been instituted, except in the subject of Advanced Bacteriology (January to March) and Clinical Pathology and Bacteriology (April to June), but the various departments of the University are open to graduates who can attend any of the systematic courses on payment of a fee. Graduates may also work in the laboratories under the supervision of the professors for a small fee to cover the incidental expenses. Applications for information should be made to the Dean.

Bristol.—Courses of post-graduate instruction adapted to the requirements of those proceeding to the M.D. degree of the Universities, each lasting about 12 weeks, will be held at the Bristol Royal Infirmary and General Hospital. The course will consist of: (*a*) clinical demonstrations on cases selected from the wards and from out-patients in medicine, obstetrics, dermatology, and laryngology; and (*b*) tutorial classes in medicine, obstetrics, pathology, laryngology, bacteriology, and dermatology. Classes in clinical medicine will be held twice a week—once at the Infirmary and once at the Hospital—by Dr. F. H. Edgeworth at the Infirmary and by Dr. J. Michell Clarke and Dr. J. O. Symes at the Hospital. Classes in obstetrics will be held once a week on alternate weeks at the Infirmary and Hospital by Dr. Walter C. Swayne and Mr. D. C. Rayner respectively. A class in pathology will be taken once a week in the museums of the Infirmary and Hospital on alternate weeks by Professor Walker Hall and Dr. Carey Coombs respectively. Six demonstrations on dermatology will be given by Dr. J. A Nixon and Dr. W. K Wills at the Infirmary and Hospital. Six demonstrations on laryngology will be given by Dr. Watson Williams at the Infirmary. A practical course in bacteriology consisting of six demonstrations will be held by Professor Stanley Kent at University College. A tutorial class in medicine will be held on one evening a week by Dr. G. Parker, Dr. Newman Neild, and Dr. J. R. Charles in rotation and a similar class in obstetrics will be taken once a week by Dr. Walter Swayne and Mr. Rayner alternately. The fees are as follows:—For the whole course, £7 7*s*.; for classes in clinical medicine, pathology, laryngology, and bacteriology and tutorial class in medicine, £5 5*s*.; for classes in obstetrics, pathology, and bacteriology, £3 3*s*.; and for clinical medicine and obstetrics only, £3 3*s* Applications to attend the classes should be made to Dr. Walter Swayne, 56, St. Paul's-road, Clifton, Bristol.

Cambridge.—Long vacation courses are held at Cambridge during the month of July and the first fortnight in August. This year the course included lectures and demonstrations on general and special pathology by Professor G. Sims Woodhead, on bacteriology for medical students by Dr. Louis Cobbett, an advanced course on bacteriology for students of sanitary science by Dr. G. S. Graham Smith, a course in pharmacology by Professor J. B. Bradbury and Dr. W. E. Dixon, and a series of lectures and demonstrations on protozoal diseases by Dr. G. H. F. Nuttall. The pathological and pharmacological laboratories are open to apprehended the cause of endemic anæmia and was only just beginning to consider what steps might be taken for its eradication, the ancient Egyptians appeared to have had a correct knowledge of its etiology and to have adopted measures for its treatment and prophylaxis. According to Scheuthauer and Joachim the famous papyrus Ebers (1550 B.C.) rightly ascribed the disease to an intestinal worm, and von Oefele had pointed out that a connexion between the disease and the carrying and handling of sand was fully recognised. Might not the extraordinary veneration of the ancient Egyptians for the dung-beetle, the Ateuchus sacer of modern entomologists, be connected with the prophylaxis of ankylostomiasis and other infections spread by the means of contaminated fæces? He made the suggestion merely as a matter of archæological curiosity. They all knew what an important part the scarab played in the theogony of the banks of the Nile. This remarkable insect was represented on all the monuments of the Pharaohs from the great Delta to the very heart of Nubia: it was carved of all dimensions and in every possible material more frequently than any other figure. Evidently the ancient Egyptians, perfectly cognisant of the benefit derived from this wonderful scavenger beetle, looked upon it as a tutelary god. That suggestion seemed to him more plausible than any of the fanciful reasons hitherto advanced to explain why they considered the dung-beetle as sacred. In support was the fact that other animals likewise had been consecrated by the Egyptians in order to protect and to preserve them on account of the beneficial action which they exercised in keeping down vermin. He need but mention the cat, the kestrel, the viper —natural enemies of the plague-conveying rat. In 1900, in the Roman Campagna, he had had the opportunity of studying the habits of the sacred dung-beetle, and he had been struck by the rapidity with which excreta, scarcely dropped, were cut up, formed into pellets, and buried deeply in the soil. It would be impossible to find a more perfect method of fæcal disposal.

Dr. C. W. DANIELS (London) stated that he did not think sufficient importance had been attached to the destructive action of certain dipterous larvæ, particularly those of the sarcophagidæ, which lived in the fæces till nearly mature and destroyed all thin-shelled entozoal eggs. He was not in favour of compulsion by government and thought that more could be done by quiet action on the part of the medical authorities than by active government action which might defeat its own ends.

Dr. F. M. SANDWITH (London) said that he used to be an ardent exponent of the virtues of thymol, but the severe effects produced in some patients had caused him now for some years to prefer β-naphthol or the combination of eucalyptol, chloroform, and castor oil. The important question of prophylaxis could be most easily and most cheaply met by preaching the doctrine of early burial of fæces in dry earth or sand. The ankylostoma eggs could not develop without moisture. Ankylostomiasis as an endemic disease should be treated as regards fæcal disposal as they had learnt to treat epidemics of cholera and enteric fever.

The PRESIDENT of the section said that Dr. Sambon had referred to the sanitary work of the ancient Egyptians; he might also have referred to the better known sanitary laws of Moses. What did the Hebrew do when going to the field in the early morning. He had a "paddle upon his weapon" and making a hole he buried and covered up his deposit therein. Thus were destroyed myriads of ankylostomes. The crux of the whole question, as Sir Patrick Manson had said, was fæcal disposal. He believed in education. If they got at the children in a generation they would have the adults.

Sir PATRICK MANSON, in reply, said that he was glad to gather from what had been said that the section was quite in sympathy with his remarks on the desirability of an effort being made to mitigate the plague of ankylostomiasis in the tropics, and further that the method of attack should be directed towards fæcal sanitation.

Dr. ROBERT T. LEIPER (London) stated that that very morning he had been able to examine, together with Dr. Sandwith, a supply of worms from an anæmic boy sent by Dr. T. L. Bancroft of North Queensland and that he had found both ankylostoma duodenale and necator Americanus. This record of the presence of both known forms in Australia was highly interesting and rounded off their information of the geographical distribution of the "American" form.

Dr. A. PLEHN (Berlin) read a paper on

The Diagnosis of Latent Malaria.

He said that three phases might be distinguished, a first phase or "primary period of latency," lasting from the moment of infection to the first pyrexial attack and characterised by nervousness, dyspepsia, more or less anæmia, and the presence of basophilic granules in the erythrocytes; a second phase made up of "intermediate periods of latency" intervening between the single paroxysms and characterised by the presence of parasites, particles of pigment in the leucocytes, especially the large mononuclears, basophilic granules in the erythrocytes, and relative increase of the large mononuclears; and finally a third phase, or "final period of latency," following the last recurrence of fever and not usually lasting over six months. He pointed out that the presence of urobilinuria might indicate the presence of latent malaria when all other signs were wanting. It was not a specific sign like the presence of gametes in the blood; it was merely a symptom of liver disturbance and might not be present in every case of malaria, but its presence after malarial fever and in the absence of any other cause which might explain the liver affection certainly proved that the malarial infection was not entirely spent.

Dr. E. MARCHOUX (Paris) read a paper on

Dysenteric Amœbæ and Liver Abscess.

Sir PATRICK MANSON said that it was a matter of gratification to the Section of Tropical Diseases that men of the high standing of Dr. Plehn and Dr. Marchoux thought it worth their while to be present there and to take part in their work. Both of them had served a long apprenticeship in tropical pathology and had attained positions of special distinction in that department of medicine. The importance of recognising latent malaria was especially great in regard to Great Britain and her tropical possessions. Any method that would enable them to recognise when a man was the subject of latent malaria or when he was free from infection would be a welcome addition to practical medicine. The presence of basophilic granules in the erythrocytes was an unreliable test, for they occurred in many other infections, notably trypanosomiasis. With regard to the administration of quinine, those who had been in the habit of taking it as a prophylactic in tropical countries should continue its use for at least three months after their return to England and intermittingly for a further period of one to two years. He had many times seen the disregard of this practice culminate in attacks of blackwater fever, sometimes fatal.

Dr. MALCOLM WATSON (Federated Malay States) read a few remarks on Rare Nervous Symptoms seen in Malarial Patients.

Dr. SAMBON said that blackwater fever had been mentioned both by Dr. Plehn and Sir Patrick Manson in conjunction with malaria, and he seized the opportunity again to state most emphatically that blackwater fever was a disease entirely distinct from any of the known forms of malaria. Many years had passed since he first pointed out that blackwater fever was a specific disease more closely allied to the babesia infections of the lower animals and to yellow fever than to malaria. Now he was more than ever convinced of the correctness of his hypothesis, and information which he had been able to gather tended to show that the disease might be conveyed by the agency of ticks.

FRIDAY, JULY 31ST.

Dr. DANIELS opened a discussion on

Lymphatic Diseases in the Tropics.

He said that in practically all tropical diseases some implication of the lymphatic system did or might occur, whether the diseases were due to bacteria, protozoa, or metazoan parasites. In many the lymphatic condition was only of diagnostic value, as it led to little or no direct ill effect. In many of the protozoal diseases enlargement of the glands might be met with. In trypanosomiasis the superficial glands, especially those of the neck, were early involved and were of great diagnostic value: not only could the enlarged glands be readily felt but trypanosomes were more readily found on gland puncture than in the peripheral blood. Cutaneous breaches of continuity from biting arthropoda, ticks, flies, mosquitoes, and the like, and in some places from leeches, were so frequent that naturally lymphangitis and adenitis were more common than in England. It was therefore of interest to notice that such surgery will be treated simultaneously. The clinics in the Royal Infirmary will also be arranged so far as possible to correspond. Notices of operations will be posted daily at the entrance to the infirmary. The fee for the surgical course is 10 guineas. The medical course extends over the same period as the surgical—viz., from August 31st to Sept. 26th. It is divisible into two independent fortnights. The fee for either fortnight is 3 guineas, while for the four weeks the composite fee is 5 guineas. In addition to special medical clinics, clinics on diseases of children and medical ward visits, series of clinics will be held upon neurology, dermatology, diseases of the eye and the exanthemata, while series of demonstrations will be given upon medical anatomy, morbid anatomy, tropical diseases, the pathology of the eye, and infant feeding. Those attending the general course may also attend any of the surgical clinics or ward visits in the Royal Infirmary and Royal Hospital for Sick Children which are held between the hours of 11 and 1.30. In addition to the two courses above referred to a number of classes will be in progress admission to which will be open to anyone who has entered for either the surgical or the general course on payment in the case of each class of an additional fee of 1 guinea. These classes are clinical bacteriology, diseases of the blood (this class is specially intended for those who have some previous knowledge of the methods of blood examination), practical gynæcology, diseases of the ear, nose, and throat, ophthalmoscopy, and errors of refraction. These classes, the attendance upon which is limited, are so arranged that they do not clash with each other or with the important classes included under the general course. Each day throughout the course a lecture will be delivered at 5 o'clock upon some subject of general interest. These lectures are open to all those attending either the surgical or general course. Accommodation may be obtained during September at one of the residences of the University Hall. Information regarding other accommodation may be obtained from the secretary. The committee of the University Union has decided to open the building during September for the use of graduates attending the course. Graduates of any university are eligible for temporary membership for one month on payment of a fee of 5*s.* The Union, which adjoins the University buildings, contains a library, reading-rooms, dining hall, smoking-room, billiard-room, &c. Copies of the syllabus of the September course may be obtained from the secretary, the Faculty Office, University New Buildings, Edinburgh.

Glasgow.—At Glasgow the possibilities for post-graduate work are considerable and in almost every department graduates have opportunities for acquiring more special knowledge or carrying on original work. In pathology, courses in "Practical Bacteriology" and "Pathological Histology" for graduates will be commenced in the pathological department of the Western Infirmary on Monday, Oct. 19th. The courses will extend over eight weeks, each class meeting thrice weekly. The fee for either course is £3 3*s.*, and for both courses £5 5*s.* In the Pathological Institute there is a limited number of rooms specially fitted up for research work and arrangements can be made for graduates who are desirous of engaging in work of this nature. Those interested in embryology may take out the practical course, or if they desire to do special work may obtain the use of a table in the embryology laboratory with such guidance and help as the lecturer can give. The University also has the right of nomination to a table in the laboratory of the Marine Biological Station at Millport. This station is happily circumstanced as regards the richness and variety of the fauna which can readily be obtained and kept alive in the tank rooms under approximately natural conditions. It thus offers facilities for various kinds of biological study and particularly for physiological and pharmacological work on the marine invertebrates. Further information regarding the station can be got from the honorary secretary, Mr. Geo. Middleton, 83, Bath-street, Glasgow. Post-graduate instruction in public health laboratory work is given in the University laboratory during both winter and summer sessions, and opportunities are offered under prescribed conditions for original research work. As regards physiology and materia medica the new laboratories are now in working order and every facility is afforded to those wishing to engage in original research work. During the winter months classes in physiological chemistry and physiological psychology will be conducted by the University lecturers in these subjects. In the eye infirmary Dr. A. F. Fergus conducts every autumn a course of post-graduate instruction on refraction testing and on squint. The course extends over a period of two months and the meetings are held twice weekly—namely, on Tuesdays and Fridays in the afternoon. At Anderson's College Medical School the Public Health Laboratory course, conducted by Dr. Carstairs Douglas, is open to all qualified medical practitioners (including women), and is recognised for the Diploma in Public Health by the University of Cambridge, the Scottish Conjoint Board, and the Irish Colleges. The laboratory is fully equipped and the complete course in Chemistry, Bacteriology, and Microscopy is carried out. It is supplemented when desired by a three months' course of lectures on Sanitation, Vital Statistics, and Sanitary Law, attendance on which enables candidates to dispense with three months of the outdoor Public Health work. The course will commence on Oct 15th. As regards Operative Surgery, graduates desirous of taking out a course in this subject can obtain the necessary facilities by arrangement with the Dean of Anderson's College. The new Maternity Hospital, only opened last May, gives exceptional scope for post-graduate work. There are 110 beds and a large out-door department. Two physicians are on duty at a time and there is a daily clinique. The fees for post-graduate work are £3 3*s.* for a month, £6 6*s.* for three months, and £10 10*s.* for six months. There is also a residence in the hospital grounds, for 15 persons, and available both for graduates and students, board and lodging being charged at £1 7*s.* 6*d.* per week. Post-graduate classes are conducted at the Royal Infirmary during the autumn months. The different courses are as follows:—1. Clinical Medicine: (*a*) Dr. G. S. Middleton, at 9.30 A.M., on Mondays, Wednesdays, and Fridays during September, beginning Sept. 2nd; (*b*) Dr. T. K. Monro, at 4.30 P.M., on Thursdays, Sept. 3rd, 10th, 17th, and 24th; (*c*) Dr. J. M. Cowan, at 4 P.M., on Friday, Monday, and Tuesday, Sept. 25th, 28th, and 29th. 2. Clinical Surgery: (*a*) Mr. John Barlow at 4 P.M., on Tuesdays, Sept. 8th, 15th, 22nd, and 29th; (*b*) Mr. J H. Pringle, at 4 P.M., on Tuesdays and Thursdays, Sept. 1st, 3rd, 8th, and 10th; (*c*) Mr. John A. C. Macewen, at 11 A.M., on Tuesdays, Sept. 1st, 15th, and 29th. 3. Hæmatology: Dr. Walter K. Hunter, at 4 P.M., on Wednesdays, Sept. 2nd, 9th, 16th, 23rd, and 30th. 4. Surgical Diseases of the Urinary Organs: Dr. David Newman, at 4.15 P.M., on Tuesdays and Fridays, Sept. 1st, 4th, 8th, 11th, 15th, 18th, and 22nd. 5. Clinical Examination of the Urine: Dr. John Henderson, at 4 P.M., on Tuesdays and Fridays, Sept. 1st, 4th, 8th, 11th, 15th, and 18th. 6. Gynæcology (*a*): Dr. G. Balfour Marshall, at 10 A.M., on Tuesdays and Fridays, Sept. 18th, 22nd, 25th, and 29th. 7. Diseases of the Ear: Dr. J. Kerr Love, at 4 P.M., on Wednesdays, Sept. 2nd, 9th, 16th, 23rd, and 30th, and at 11 A.M., on Thursdays, Sept. 3rd, 10th, 17th, and 24th. 8. Diseases of the Eye: Dr. A. Maitland Ramsay, at 2 P.M., on Mondays, Wednesdays, and Fridays, and at 8 P.M., on Thursdays and Fridays during September. 9. Diseases of the Skin: Dr. Alex. Morton, at 10 A.M., on Wednesdays, Sept. 2nd, 9th, 16th, 23rd, and 30th. 10. Diseases of the Throat and Nose: Dr. Robert Fullerton, at 10 A.M., on Tuesdays and Fridays during September. 11. Electro-therapeutics: Mr. James R. Riddell, at 9.30 A.M., on Tuesdays and Fridays, Sept. 1st, 4th, 8th, 11th, 15th, 18th, 22nd, and 25th. 12. Gynæcological Pathology: Dr. G. Balfour Marshall and Dr. W. D. Macfarlane, at an hour and on dates arranged to suit those attending. The fee for attendance at each of the above classes is £1 1*s.*; for any three of them, £2 2*s.* 13. Gynæcology: Dr. W. D. Macfarlane, at 10 A.M., on Tuesdays, Thursdays, and Saturdays. Two courses—first from Sept. 1st, second from Oct. 1st. Fee for each course, £2 2*s.* 14. Operative Surgery: Mr. Henry Rutherfurd and Mr. James Battersby, at 3 P.M. daily, beginning Sept. 2nd. Fee, £3 3*s.* 15. Bacteriology: Mr. David M'Crorie and others, five days a week for three months, beginning Oct. 6th. Fee, £3 3*s.*

IRELAND.

Belfast.—At Queen's College a course in clinical pathology, consisting chiefly of practical instruction, is given during the summer session, and, should a sufficient number desire to attend, a post-graduate course of practical work in the application of methods of chemical physiology to clinical the blood taken at night showed no filarial embryos. (None of the prisoners in this jail [300 in number] suffered from elephantiasis.)

Professor S. A. POWELL (Bombay) said that in many Indian birds—owls, kites, &c.—filariæ were common in the lymphatics and subcutaneous tissues like filaria Bancrofti in man, but they did not find any elephantiasis so far as he was aware. He might add a few figures bearing on the relative incidence of filariasis and elephantiasis. In Cachar, where elephantiasis was rare except when imported, of 256 indigenous persons whose blood he had examined only one showed filariæ. In Bombay, where elephantiasis was not uncommon, of 363 night bloods examined 18, about 5 per cent., showed filariæ. On the other hand, the families of seven cases of elephantiasis, 43 persons, showed no case of filariasis. That filariæ produced inflammation was undoubted. The phenomena of inflammation had been often studied in the cornea of the rabbit. In the swampy districts of India nature often gave them a beautiful demonstration in the case of filaria in the eye of the horse. He had often watched the course of the disease. A white worm about one and a half inches long was suddenly seen in the anterior chamber of the horse's eye, darting about like a miniature eel in an aquarium; usually the aqueous humor and cornea remained quite clear for about 48 hours, then both became steamy, iritis set in, and in four days' time the cornea was dead white and opaque unless the worm had been removed.

Professor A. CASTELLANI (Ceylon) described a palliative treatment of elephantiasis by means of thiosinamin or fibrolysin injections and methodical bandaging, followed by removal of portions of the redundant skin when most of the fibrous tissue had been absorbed.

The PRESIDENT of the section disputed Manson's theory of elephantiasis. The anatomical arrangement of the lymphatics—as to distribution and valvular mechanism—prevented the ova from passing from one side of the body to the other and the theory demanded the presence of an aborting female in many and various parts to account for the clinical fact that the disease in the scrotum was usually symmetrical. After complete removal of a scrotal tumour there was no return of the trouble, although the so-called "obstruction" remained. But a recurrence would surely follow if the least amount of unhealthy tissue remained in penis or perineum. This showed that the disease was in the parts removed and not in those that were left. He spoke at length of treatment.

Dr. NATTAN-LARRIER described some interesting cases of sleeping sickness with nervous and mental symptoms.

Dr. DANIELS then replied. With regard to the symmetrical condition of the scrotal affection he said that that was common to all conditions where the loose cellular subcutaneous tissues of the scrotum were involved. The non-infection of other members of families he had observed in British Guiana with regard to filariasis. Frequently one member only of a family was infected. A person with elephantiasis having no embryos in his peripheral blood was not so likely to infect other members of the family as a person with filariæ and without lymphatic obstruction.

Mrs. BONTE SHELDON ELGOOD (Cairo) read a paper on

Bilharziosis among Women and Girls in Egypt.

It showed that the disease was common in young girls, even in those who did not bathe and who used filtered water only. Town children were frequently affected. Bilharziosis was rare in adult women who might, however, have suffered from it in youth. European women and girls were not known to suffer from it, though in the towns they drank and washed in water from the same source as natives used. Water, however, was not stored in European households. Infection was probably not due mainly to bathing, as had been suggested. It was possibly due to faulty storage of drinking water or to the eating of raw vegetables and fruit washed in dirty canals or rivers.

Dr. M. ARMAND RUFFER (Ramleh, Egypt) said that he was of opinion that women in early life were as much infected as were men. Infection might be due to ablutions and was possibly rectal.

Dr. SANDWITH said that Dr. Ruffer's suggestion would hardly explain the prevalence of bilharziosis in the English soldiers in South Africa.

Sir PATRICK MANSON said that Mrs. Elgood had made a most important contribution towards the solution of the problem of the etiology of bilharziosis which for many years had been languishing for want of new facts. He disputed Dr. Ruffer's suggestion of infection per anum.

Dr. SAMBON then moved a vote of thanks to the President for the admirable manner in which he had conducted the business of the section.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 4th, 1830.

REMARKABLE CASE OF LONGEVITY.

AT the meeting of the Medico-physical Society of Florence, on the 13th of December, Dr. Buzzi related the case of a female of his acquaintance, who at that time was 94 years of age, and in the history of whose life there were some rather curious circumstances. Her family had been remarkable for longevity; her father died in his 106th year, her grandfather, by her father's side, in his 109th year, and her mother's father in his 89th year; the latter had, even at his old age, been remarkable for his bodily strength. The woman herself had been rather a delicate child, she was married in her fifteenth year; in the third month of her marriage she menstruated for the first time, and in the fourth she became pregnant; in five years she had borne three children. At this period her husband died, and she became soon afterwards subject to hysterics, which it is stated were most effectually obviated by violent exertion; she was passionately fond of dancing, hunting, and riding on horseback, and frequently, when heated, threw herself into a river or a cold bath. This mode of life brought on violent headache, which with slight intermissions continued to her 40th year, when it yielded to the abrasion of the hair; it always returned, however, as soon as the hair had grown to about two inches in length. In other respects, she was in perfect health, in very good spirits, and of most extraordinary appetite, in which she also fully indulged; three chickens, or from five to six pounds of roast meat, and twenty oranges or peaches, were just sufficient for her breakfast. In her 45th year, her eldest son (who at the time of the report was 77 years old, and in the full enjoyment of health) received, in battle, a wound in the left breast, and the fright which this accident caused, produced, strangely enough, a hæmorrhage from her left breast; the discharge was not copious, but continued for two years. Her menses had always been rather scanty, and she had frequently been subject to various hæmorrhages. In her 53rd year menstruation ceased, but reappeared eight months afterwards, and *continued regularly to her 94th year*, which is the age she had attained at the time of the report. She is rather of small stature, but of very robust frame, and possesses the full use of all her senses; she sleeps only five hours, gets up at day-break, and takes a walk of several hours; her manner of life is extremely simple, and though her appetite is rather strong, her meals are frugal, especially if compared with what she formerly had been used to. She sleeps an hour after dinner, the rest of the day she is continually engaged, being employed either in domestic affairs or reading; she walks very much, and so quick, that sometimes young people are scarcely able to follow her. Six years ago she met with an accident and broke both arms, but was perfectly cured within four weeks. At present she is in perfect health; at night only she has sometimes slight attacks of dyspnœa and agitation; when they occur, she gets up and opens the window; the fit then generally subsides, if not, she goes out into the open air, and after about half an hour's walk, feels perfectly well again.—*Ann. di Med. Fis. di Maggio e Giugno*, 1830, page 595.

THE BRITISH ASSOCIATION.—Since the provisional programme of the Chemistry Section of the British Association was announced the following additional papers have been promised: (1) the Liquefaction of Helium, by Professor Dr. Kamerlingh Onnes; (2) Anticipations and Experiments on the Liquefaction of Helium, by Sir James Dewar; and (3) Note on a Volatile Compound of Cobalt with Carbon Monoxide, by Dr. Ludwig Mond and others. These communications are awaited with great interest.

from measles, 42 from scarlet fever, 37 from diphtheria, and 21 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases during the week under notice were equal to an annual rate of 4·3 per 1000, against 2·3, 3·6, and 4·3 in the three preceding weeks; in London the death-rate from these epidemic diseases last week did not exceed 3 5. No death from any of these epidemic diseases was registered last week in Northampton, Ipswich, or Great Yarmouth, whereas the annual death-rates therefrom ranged upwards in the other large towns to 10·0 in *Hanley*, 10·7 in Walsall, 11·3 in Hull, 12·1 in Middlesbrough, and 16·4 in Rhondda. The deaths attributed to diarrhœa in the 76 towns, which had steadily increased in the 11 preceding weeks from 63 to 1133, declined slightly to 1124 in the week under notice, but caused annual death-rates ranging upwards to 10·0 in Hanley, 10 6 in Hull, 11·6 in Middlesbrough, and 15·3 in Rhondda. The 64 fatal cases of whooping-cough showed an increase of 15 upon the number in the previous week, while the 56 of measles showed a decline of 14; whooping-cough was proportionately most fatal in Walsall, Devonport, and Gateshead, and measles in Stockport, Warrington, Bury, and Rochdale. The 37 deaths from diphtheria were fewer by nine than those in the previous week, but included 14 in London and its suburban districts, seven in Birmingham and its suburbs, and three in Manchester and Salford. The 42 fatal cases of scarlet fever showed a marked increase upon recent weekly numbers, including 16 within the metropolitan area, four in Birmingham and Smethwick, seven in Liverpool and Bootle, and three in Manchester. Of the 21 deaths referred to "fever," three occurred in Norwich, in which city 31 deaths have resulted from this cause since the beginning of this year. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had increased in the six preceding weeks from 2573 to 2844, had declined to 2825 on August 29th; the number of new cases of this disease admitted to these hospitals during the week under notice were 377, against 343 and 392 in the two preceding weeks. *The deaths in London referred to* pneumonia and other diseases of the respiratory organs, which had been 132, 128, and 106 in the three preceding weeks, rose again to 132 in the week under notice, and exceeded by nine the corrected average number in the corresponding week of the five years 1903–07. The causes of 42, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 47 other smaller towns during the week under notice, while in London all but two of the 1327 causes of death were certified; eight uncertified causes of death were, however, registered in Liverpool, four in Birmingham, three in Sheffield, and two each in Warrington, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 12·8 and 13·4 per 1000 in the two preceding weeks, further rose to 15·2 in the week ending August 22nd. During the first eight weeks of the current quarter the annual death-rate in these eight towns averaged 13·5 per 1000, and exceeded by 0·7 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·6 in Aberdeen and 12·7 in Edinburgh and in Paisley, to 16·5 in Glasgow and 21·1 in Greenock. The 536 deaths in the eight towns showed a further increase of 65 upon the numbers in the two preceding weeks, and included 107 which were referred to the principal epidemic diseases, against 61, 73, and 79 in the three preceding weeks; of these 107 deaths, 63 resulted from diarrhœa, 19 from whooping-cough, 15 from "fever," seven from diphtheria, and three from measles, but not one either from scarlet fever or small-pox. These 107 deaths were equal to an annual rate of 3·0 per 1000, which was 1·3 below the mean rate from the same diseases during the week in the 76 English towns. The deaths attributed to diarrhœa in the eight towns, which had been 30, 47, and 48 in the three preceding weeks, further rose to 63 in the week under notice, [illegible] four in Edi[illegible] The fatal cases of whooping-cough, which had been 15 and 18 in the two previous weeks, further rose last week to 19, including ten in Glasgow, four in Dundee, and three in Edinburgh. The 15 deaths referred to "fever" showed a marked increase upon recent weekly numbers, eight being certified as enteric and seven as cerebro-spinal meningitis; of these 15 deaths 12 were recorded in Glasgow, six certified as enteric and six as cerebro-spinal meningitis. The seven deaths from diphtheria, of which three occurred in Glasgow, exceeded the numbers in recent weeks. Two of the three fatal cases of measles were returned in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 54 and 45 in the two preceding weeks, rose to 48 in the week under notice, but were five below the number returned in these towns in the corresponding week of last year. The causes of 11, or 2·1 per cent, of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·7 per cent.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 12·8, 13·4, and 15·2 per 1000 in the three preceding weeks, further rose to 15·4 in the week ending August 29th. During the first nine weeks of the current quarter the annual death-rate in these eight towns averaged 13·7 per 1000 and exceeded by 0·6 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 9·9 in Leith and 10·4 in Perth to 17·9 in Paisley and 21·7 in Dundee. The 544 deaths in the eight towns showed a further increase of eight upon the numbers returned in the three preceding weeks, and included 96 which were referred to the principal epidemic diseases, against 79 and 107 in the two previous weeks; of these 96 deaths, 60 resulted from diarrhœa, 17 from whooping-cough, ten from "fever," five from diphtheria, three from measles, and one from scarlet fever, but not one from small-pox. These 96 deaths were equal to an annual rate of 2·7 per 1000, which was 1·6 below the usual rate from the same diseases during the week in the 76 English towns. The deaths attributed to diarrhœa in the eight towns, which had increased from 30 to 63 in the four preceding weeks, declined again to 60 in the week under notice, and included 29 in Glasgow, 14 in Edinburgh, seven in Dundee, five in Paisley, three in Aberdeen, and two in Greenock. The 17 fatal cases of whooping-cough were fewer by two than those in the previous week; 11 occurred in Glasgow, three in Dundee, and two in Paisley. The deaths referred to "fever," which had been five and 15 in the two preceding weeks, declined again last week to ten, of which six were certified as cerebro-spinal meningitis and four as enteric; seven of the ten occurred in Glasgow, two in Edinburgh, and one in Dundee. Of the five deaths from diphtheria, two were returned in Glasgow and two in Dundee; and two of the three fatal cases of measles occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 45 and 48 in the two preceding weeks, further rose to 75 in the week under notice, and exceeded by 23 the number returned in these towns in the corresponding week of last year. The causes of 22, or 4 0 per cent, of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 16·8, 18 5, and 20·9 per 1000 in the three preceding weeks, further rose to 24·1 in the week ending August 22nd. During the first eight weeks of the current quarter the death-rate in Dublin averaged 19·2 per 1000; the mean rate during the same period did not exceed 11·8 in London and 12·3 in Edinburgh. The 182 deaths of Dublin residents during the week under notice showed a further increase of 24 upon the numbers returned in the three preceding weeks, and included 44 which were referred to the principal epidemic diseases, secretions. Mental impressions have a notable influence upon menstruation, pregnancy, and lactation in women, while the term melancholia is expressive of a marked mental state correlated with a bodily one as marked. Depressing surroundings and emotions have an undoubted effect upon the nutrition of the body, and, in the predisposed, emotional states, perhaps of no great intensity, produce at times various functional palsies. On the sensory side there is little doubt that if special attention be paid to a viscus abnormal feelings with regard to it can be educated into prominence. If these and many other facts can be adduced to indicate the marked ill-effects which can be produced upon the body by mental states, so also may many be adduced which indicate that these ill-effects can be, and constantly are being, neutralised by causes as psychical in character as those which produced them. Herein lies the value of psycho-therapeutics—it is an organised and rational appeal to the highest psychic centres to assert themselves and to prove their superiority to centres that are lower. The good effects of the method are, as might have been expected, most marked in the functional disorders of the nervous system. Applied patiently and persistently by *those* capable *of* differentiating organic from functional disease the method is of the greatest value; applied indiscriminately to organic disease it is doomed to failure except in so far as that all patients, whether suffering from organic or functional disease, are rendered more *comfortable* by confident and cheery optimism on the part of the medical attendant and less *comfortable* by a gloomy pessimism. The use of *psycho-therapeutics* is no new thing, however novel it may appear to be in the circles in which it is becoming a craze, but its *systematisation* and reasoned application is a matter of the *last* quarter of a century. To our profession is happily *due the* scientific use of the method and it is a pity that *it should be exploited* by certain pseudo sciences the practitioners of which are not instructed enough to understand what happens to their *patients. The latter* are generally drawn from a neurotic class whose members, even though intelligent and *educated, are* singularly credulous, although their faith in any one method *of healing* is little likely to be long-lived.

To CHARCOT and those who *delight to call him* master, DÉJERINE, BRISSAUD, and others of the French school, is due the honour of having definitely established psycho-therapeutics as a principle *of* treatment, and the mere mention of their names is a guarantee *of the* scientific value of the achievement. Anyone who *has* had the pleasure of seeing M. DÉJERINE'S ward in the Salpêtrière *and* the crowd of patients who are there treated by *this method* with the aid of its adjuvants isolation and alimentation, must have been struck by the remarkable character *of the results*. It is not given to all to possess the *winning personality* of M. DÉJERINE but it is open to many *more* than now make the attempt to use his methods with *considerable hope* of success. His late *internes* M. CAMUS and M. PAGNIEZ have not long since published a work "*Isolement et Psychothérapie*" which contains an admirable exposition *of* the practice at the Salpêtrière and a detailed history of the use of the method in times gone by. We commend this book to our readers.

The Asthenic Constitution.

AFTER many years' study of the various conditions to which the names of floating kidney, gastroptosis, enteroptosis, Glénard's disease, nervous dyspepsia, hyperacidity, and neurasthenia are applied, Professor STILLER found that they frequently occurred in association with one another in the same person and that the individuals suffering from them conformed to a type showing certain anatomical peculiarities, notably a mobile condition of the tenth rib and a more or less characteristic bodily conformation. He therefore integrates these various groups of symptoms into a nosological or clinical unit, to which he applies the name of morbus asthenicus[1] and of which he regards the anatomical features as developmental stigmata. He further regards the condition as of congenital origin and points out that it is not infrequently found in several members of the same family and that it is *often transmitted* hereditarily. He even goes so far as to say that when in a child he finds an "atonic" habit of body and the costal sign of mobility of the tenth rib he regards these as premonitory of the development in the future of neurasthenia, dyspepsia, and enteroptosis.

It is of some interest to trace the reasoning by which Professor STILLER has arrived at his conclusions as set forth in the chapter in his book devoted to the history of the various conditions found in association with the asthenic constitution which he postulates. He briefly summarises the history of the condition of floating kidney which was known so far back as the sixteenth century but was first established clinically by RAYER in 1841. Next he refers to LEUBE'S epoch-marking studies in connexion with the conditions of nervous or functional dyspepsia in 1878, although he admits that these conditions were recognised by English, French, and American observers before that date. He then refers to BEARD'S well-known observations on the condition to which he applied the name neurasthenia in 1869. Professor STILLER regards GLÉNARD'S observations dating from 1887 on the condition with which his name is now associated as marking a notable advance, because of the recognition of the association of floating kidney with other visceral proses. Then coming to his own personal observations, he first noticed in the year 1891 during the examination of patients with enteroptosis that they frequently *presented* a *peculiarity* in regard to the tenth ribs the ends of which often caused noticeable projections beneath the abdominal wall instead of being closely applied to the cartilage of the ninth, and further that they were often freely moveable—indeed, they were found to conform more to the type of the eleventh and twelfth, with blunt-ended cartilage instead of a more prolonged one reaching to a fine apex as in the normal. On further investigation he found that this abnormality was usually associated with a characteristic habit of body to which he applied the term of "atonic habit." Briefly stated, this comprises a delicate build *of* skeleton, a long, narrow, and flat chest, sloping ribs, with broad intercostal spaces and an acute epigastric angle,

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[1] Die Asthenische Konstitutionskrankheit (Asthenia Universalis Congenita; Morbus Asthenicus) (*The Asthenic Constitutional Disease*), von Professor Dr. Berthold Stiller. Stuttgart: Ferdinand Enke. 1907. Pp. 228. Price 8 marks.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1908.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,795,757	—	1942	589	—	100	1	27	310	10	2979	6·5	—	114	39	42	66	—	11	—	171	443	1·0	4757	10·3	82
West Districts.																										
Paddington	150,923	—	73	19	—	3	—	1	6	1	103	7·1	—	—	3	1	—	—	1	—	8	13	0·9	129	8·9	76
Kensington	182,752	—	31	11	—	3	1	2	9	1	58	3·3	—	2	—	1	—	—	—	—	11	14	0·8	144	8·2	101
Hammersmith	124,012	—	41	25	—	2	—	—	4	—	72	6·1	—	—	—	—	2	—	—	—	5	7	0·6	100	8·4	67
Fulham	171,562	—	53	30	—	1	—	4	4	—	92	5·6	—	4	1	4	1	—	—	—	13	23	1·4	147	8·9	91
Chelsea	75,049	—	16	16	—	2	—	1	2	—	37	5·1	—	—	—	2	1	—	1	—	3	7	1 0	79	11·0	76
City of Westminster	170,545	—	38	14	—	6	—	1	9	—	68	4·2	—	—	1	1	3	—	2	—	2	9	0·6	175	10·7	90
North Districts.																										
St. Marylebone	126,867	—	53	11	—	5	—	—	10	—	79	6·5	—	—	—	2	—	—	—	—	2	4	0·3	132	10·9	43
Hampstead	92,654	—	17	2	—	4	—	—	2	—	25	2·8	—	—	2	1	1	—	—	—	—	4	0·5	53	5·9	47
St. Pancras	237,075	—	101	22	—	2	—	—	20	—	145	6·4	—	2	1	—	6	—	—	—	5	14	0 6	235	10·3	80
Islington	349,091	—	145	40	—	10	—	3	9	—	207	6·2	—	2	4	6	8	—	1	—	9	30	0·9	361	10·8	66
Stoke Newington	54,015	—	15	4	—	1	—	—	3	1	24	4·6	—	2	—	—	—	—	—	—	—	2	0·4	47	9·1	102
Hackney	235,253	—	93	17	—	5	—	3	15	2	135	6·0	—	1	2	—	3	—	—	—	8	14	0·6	211	9·4	75
Central Districts.																										
Holborn	54,466	—	13	3	—	1	—	—	6	—	23	4·4	—	—	1	—	1	—	—	—	2	4	0·8	78	14·9	49
Finsbury	96,007	—	41	19	—	6	—	1	—	—	67	7·3	—	—	1	1	4	—	1	—		16	1·7	149	16·2	106
City of London	19,252	—	3	2	—	—	—	—	1	—	6	3·3	—	—	—	—	—	—	—	—	1	1	0·5	24	13·0	77
East Districts.																										
Shoreditch	115,227	—	63	17	—	10	—	—	8	1	99	9·0	—	3	2	—	1	—	1	—	13	20	1·8	147	13·3	117
Bethnal Green	131,066	—	82	16	—	4	—	—	16	—	118	9·4	—	8	5	1	4	—	—	—	11	29	2·3	169	13·4	93
Stepney	310,706	—	282	52	—	2	—	1	36	—	373	12·5	—	18	4	4	5	—	—	—	14	45	1·	389	13·1	113
Poplar	171,516	—	77	22	—	1	—	—	13	1	114	6·9	—	14	2	—	5	—	—	—	12	33	2·0	196	11·9	75
South Districts.																										
Southwark	210,442	—	53	22	—	2	—	1	27	—	105	5·2	—	10	1	—	4	—	—	—	10	25	1·2	263	13·0	118
Bermondsey	127,910	—	66	27	—	2	—	—	14	—	109	8·9	—	13	—	2	—	—	—	—	7	22	1·8	160	13·0	90
Lambeth	321,344	—	129	23	—	7	—	2	20	3	184	6·0	—	16	4	3	3	—	1	—	7	34	1·1	299	9·7	77
Battersea	183,873	—	136	18	—	4	—	—	10	—	168	9·5	—	1	1	2	2	—	1	—	3	10	0·6	142	8·1	54
Wandsworth	289,506	—	73	31	—	7	—	3	15	—	129	4·6	—	1	—	4	4	—	1	—	3	13	0·5	246	8·9	76
Camberwell	280,022	—	95	30	—	3	—	1	20	—	149	5·5	—	10	3	4	5	—	—	—	5	27	1·0	258	9·6	78
Deptford	117,539	—	51	19	—	2	—	1	10	—	83	7·4	—	2	—	1	—	—	1	—	4	8	0·7	119	10·6	100
Greenwich	109,110	—	20	12	—	2	—	—	6	—	40	3·8	—	2	—	1	1	—	—	—	3	7	0·7	88	8·4	62
Lewisham	156,627	—	39	29	—	1	—	—	5	—	74	4·9	—	2	—	—	1	—	—	—	—	3	0·2	112	7·5	46
Woolwich	131,346	—	43	35	—	—	—	2	10	—	90	7·1	—	1	1	1	1	—	—	—	1	5	0·4	105	8·3	67
Port of London	—	—	—	1	—	2	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous laryngitis.

notification elsewhere justifies this belief, and it is incumbent upon those who support it to furnish the evidence for the creed.

The experience of Germany is, we think, to the effect that relatively early cases can be secured without compulsory notification in a country where there is a system such as the German Workmen's Insurance, the "invalidity" branch of which has exercised such a happy influence upon tuberculosis in Germany. We are much interested to see that Mr. LLOYD-GEORGE has had his attention drawn to this subject during his recent investigations in Germany, and we hope that by way of furthering the health and social reform of our working classes he will ascertain how far such a system could be grafted on to our friendly societies and other organisms of similar nature. A statesman who would introduce this system into England would thereby erect for himself a monument which would last for all time—these words savour of exaggeration, but we believe them to be accurate. In the meantime, we are inclined to think that Mr. BIRRELL would be well advised to do all in his power to promote voluntary notification, and in instances in which the compulsory measure may seem to be desirable to allow it only under the conditions which obtain in Sheffield and Bolton—i.e., that no person suffering from pulmonary tuberculosis shall be subject to the provisions of the penal clauses applicable to such a disease as small-pox. Sir JOHN BYERS refers to the fall in the death-rate from tuberculosis in New York, where compulsory notification had been in force for several years, and he presumably implies that such fall is due to the notification and the measures taken in consequence of the facts revealed. But we are under the *impression* that there was an enormous fall in the death-rate of tuberculosis in that city before the introduction of notification, so that it is a difficult matter to determine how far, if at all, such fall has been hastened by the measures taken. In dealing with tuberculosis we are face to face with a vast social problem, and it is only by a thoroughly scientific study of all the facts that we can hope for a sure advance. Ireland is in a condition of general sanitary backwardness, as is shown by the fact that typhus fever is still with her, and, this being so, she cannot easily develop plans of campaign which might be successfully applied in a country where there is an elaborate system of sanitary organisation. But we have every hope that the Prevention of Tuberculosis (Ireland) Bill will, when further considered and amended, form a useful stimulus for a general advance in the sanitation of the country.

Annotations.

"Ne quid nimis."

THE MEDICAL MISSIONARY.

IT did not need the discussions at the Pan-Anglican Congress or at the General Assemblies of the Church of Scotland to indicate the vast field opened up by imperial expansion for the young practitioner of medicine. Co-extensive with every colony or "sphere of influence" under the British flag the medical arm has made its coöperation felt as a powerful auxiliary in the absorption of subject races and in their assimilation to the standards, moral and intellectual, of the central power. If British colonisation is the envy of rival nationalities, it owes it to the fact that solicitude and practical care for the well-being of the populations committed to its charge form an inspiring principle of its government, shown in its provision for the ailing and the injured as well as for the sanitary conditions under which the individual can live and thrive. Year by year the demand for the duly qualified practitioner and the hospital nurse invites into the missionary field an augmenting number of the British youth of both sexes whose professional equipment keeps pace with the growing wants of the communities in which they work and whose remuneration tends to increase in proportion. These communities are being gradually educated up to appreciate the value of the medical man's service, and while gratuitous assistance is freely and fully meted out in the hospitals and itinerant ambulances established for the very poor the payment of a fee for attendance is becoming the rule with those of the native population who can afford it. More than one medical speaker at the Pan-Anglican Congress dwelt on this fact—Mr. H. White, drawing on his experiences in Persia, and Dr. Ernest F. Neve, after years of work in Kashmir, concurring in the opinion that "men did not value what cost them nothing," and that fees were cheerfully paid by those whose means had been enhanced by the improved conditions of life vouchsafed to them. The self-respect thus manifested in backward races is one of the reassuring signs of the success of the civilisation brought to bear upon them and is of special significance in presence of the fact that jealousy and distrust on the part of the native population make one of the chief obstacles which the medical missionary has had to overcome. Again, on the part of the practitioner himself it is of the best augury to find him so alive to the growing responsibilities of his office that he is insisting on the necessity of post-graduate teaching as supplementary to his equipment. This, added to the unique experience which he enjoys, particularly in tropical latitudes, cannot fail to fit him more and more for coöperation with the pioneers of pathological and clinical research whose labours in those regions are steadily minimising the risks to life incurred by the European resident, while bringing the local sanitation up to a standard which must react for good on the natives themselves. A career, in fact, is opening attractively out for the medico-missionary aspirant whose life-work need not be circumscribed by the original scene of his labours but may be transferred to one or other of the Schools of Tropical Medicine of which so auspicious a commencement has been already made, and which, before the century is much older, will have so increased in number as to draw to their chairs the more accomplished and successful of that branch of the profession. Honourable ambition, going hand in hand with philanthropy and nature-study, has thus inspired more than one "pioneer of Empire" who, from Livingstone onwards, has bequeathed a record which cannot but tempt the brave young British soul to find an outlet for his energies in fields so fraught with opportunity, so replete with the prizes that wait upon the service of man.

THE HISTORY OF HYDRASTIS CANADENSIS.

IN an interesting bulletin[1] dealing with hydrastis canadensis or golden seal Miss Alice Henkel and Mr. G. Fred Klugh refer to the early history of the plant which now furnishes one of the most important of the drugs produced in the United States. As in the case of many other native American medicinal plants, the early settlers became acquainted with the properties of golden seal through

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[1] Circular No 6, Bureau of Plant Industry, United States Department of Agriculture, 1908, pp. 19.

Correspondence.

"Audi alteram partem."

THE NEW REGULATIONS FOR THE DEGREE IN MEDICINE OF THE UNIVERSITY OF LONDON.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to an article on the Revised Curriculum for the Degree in Medicine at the University of London which appeared in your columns on August 8th and which contains the following sentence: "The new regulations at the University will not, we understand, come into force for a year." As this sentence taken by itself may lead to some misapprehension, I beg to draw the attention of your readers to the following important announcement made in the Regulations, viz.:—

> *Note.*—The [illegible] Examinations, Parts I. and II., and [illegible] dicine will be held for the last time [illegible] 09.
> [illegible] Degrees and the Second Examina[illegible] d II., under Revised Regulations, 1909.

Students preparing for the medical examinations to be held in July, 1909, should therefore acquaint themselves without delay with the new curriculum.

I beg also to draw your attention to the fact that in order not to inflict hardship by bringing into force without due notice the important change affecting the length of the medical course on which you comment, the Senate have provided that certain exemptions shall be granted to students who have passed the Preliminary Scientific Examination, Part I., or the First Examination for Medical Degrees, in or before July, 1910. (See Regulations for Internal Students, Appendix, p. v., and Regulations for External Students, Appendix, p. iv.)—I am, Sir, your obedient servant,

ARTHUR W. RÜCKER, Principal.

University of London, South Kensington, S.W., August 25th, 1908.

ALBINISM IN MAN.

To the Editor of THE LANCET.

SIR,—The monograph on albinism in man for which you allowed us to appeal for material in your columns some four years ago, and in the preparation of which we have since been joined by Mr. C. H. Usher of Aberdeen, is now passing through the press. Through the generous assistance of many medical men in various parts of the world we have obtained pedigrees which, with already published cases, cover nearly 500 albinotic stocks and contain between three and four thousand albinos. We have also nearly a hundred photographs of albinos of various races. We shall, however, be very grateful to any of your readers who can, without much delay, send us additional cases. Whilst all data will be welcomed, there are several countries from which information is especially desired, and we shall be thankful to any foreign medical journals that will kindly copy this request. (*a*) Spain—total absence of information; wanted references to literature and pedigrees of albinos. (*b*) Germany—more material required or references to recently recorded cases, especially in North and North-western Germany. (*c*) European Russia and Asian Siberia—material hitherto very sparse. Is there any recent information about the "Spotted Tartars"? (*d*) China and S.E. Asia—material scanty. (*e*) American Indians—only published cases are known to us; any new material will be most welcome. (*f*) Natives of Australia and New Zealand—not many cases as yet, we should be very glad of more. In all pedigrees as many relatives as possible should be included, in addition to the parents and brethren of the albino; the albinos, perfect or partial, should be described individually. In photographs, especially of natives, a normal individual should be taken side by side with the albino; there should be a strong light and a dark background. Lastly, we shall be glad of any information on the following points:—(*a*) Congenital partial albinism, piebald skin dating from birth and stationary; (*b*) leucoderma that has become stationary; (*c*) leucoderma, whether stationary or progressive, affecting several members of the same family, ascendants, or collaterals; several such cases are known but further instances are much needed; (*d*) loss of eye-pigment or any eye trouble associated with leucoderma; (*e*) association of any form of leucosis with Addison's disease (Levi gives a number of such cases); (*f*) pigmented sarcoma occurring in albinos. Material sent to either of us, as below, will be duly acknowledged under the sender's name in our memoir.

We are, Sir, yours faithfully,

KARL PEARSON
(Biometric Laboratory, University College, London, W.C.).
E. NETTLESHIP
(Hindhead, Haslemere, Surrey).

August 22nd, 1903.

THE SALARY OF MEDICAL INSPECTORS OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I shall be obliged if you will grant me the hospitality of your columns in order that the subjoined facts may be made known as widely as possible. The county borough council of this town are about to advertise for applications for the post of medical inspector of elementary school children at the salary of £200 per annum for whole-time services, no provision being made for increase of salary after a period of one or more years. As the town has a population of about 90,000 and has 15,000 children regularly attending school—the admissions and discharges averaging 2000 yearly—the members of the profession here consider the salary offered to be inadequate and incompatible with the performance of the duties in the most efficient manner, and hope that members of the medical profession who might think of applying for the post will consider carefully whether it is in the interests of the medical body as a whole that such small salaries should be accepted.—I am, Sir, yours faithfully,

Wigan, August 27th, 1903. A. E. HODDER.

A COMBINATION OF ABNORMALITIES.

To the Editor of THE LANCET.

SIR,—This report of a post-mortem examination will, I think, be interesting to your readers. I was assisted by Dr. W. A. Milne and Mr. J. B. Conner. The man was found dead on the premises of some large engineering works, and as no one saw him fall or receive any injury, a doubt was raised as to the cause of death. He was working on a stage about two feet from the ground. His companion, who had his back to him, not getting the assistance he expected, turned to see why this was so, and was astonished to see the deceased lying "huddled up" on the ground. He was found to be dead. The relations claimed that the deceased had been killed in the course of his work, and as I could not find externally the cause of death a [illegible] was held. The peculiar combination [illegible] warrants putting the results on record. Besides having a complete transposition of all his organs the man had marked brain and heart abnormalities.

REPORT OF POST-MORTEM EXAMINATION.

External appearances.—The body is that of a well-nourished adult male. Post-mortem rigidity was well marked and there was extensive post-mortem lividity. There were small abrasions on the right eyelid, right ear, and over the occiput. There was no wound through the skin on any part of the body. No fracture of a bone was found.

Internal appearances.—[illegible] we found that all the organs in both [illegible] idneys, spleen, pancreas, stomac[illegible]; lungs were also healthy, the left having thr[illegible]. The

Heart.—The heart was lying with [illegible] pulmonary, aortic, and tricuspid va[illegible] mitral valve was malformed. One cusp was large and greatly thickened all along its free or lower border; the other cusp measured only one-quarter of an inch from [illegible] free edge and was also rather thick. [illegible] left ventricle was hypertrophied. [illegible] shape, being small in the frontal region and very large [illegible]. On removal of the skul[illegible] lly. While removing the [illegible] uid poured out to the [illegible] and examined the brain showed marked abnormalities. Both lateral ventricles were greatly enlarged, being 6½ inches long and 2 to 2½ inches in the other diameters. The brain substance was very thin in all parts; in no part was it more than one inch thick.

I am, Sir, yours faithfully,

Greenock, N.B. EDW. MACKAY, M.B., C.M. Glasg.

notification elsewhere justifies this belief, and it is incumbent upon those who support it to furnish the evidence for the creed.

The experience of Germany is, we think, to the effect that relatively early cases can be secured without compulsory notification in a country where there is a system such as the German Workmen's Insurance, the "invalidity" branch of which has exercised such a happy influence upon tuberculosis in Germany. We are much interested to see that Mr. LLOYD-GEORGE has had his attention drawn to this subject during his recent investigations in Germany, and we hope that by way of furthering the health and social reform of our working classes he will ascertain how far such a system could be grafted on to our friendly societies and other organisms of similar nature. A statesman who would introduce this system into England would thereby erect for himself a monument which would last for all time—these words savour of exaggeration, but we believe them to be accurate. In the meantime, we are inclined to think that Mr. BIRRELL would be well advised to do all in his power to promote voluntary notification, and in instances in which the compulsory measure may seem to be desirable to allow it only under the conditions which obtain in Sheffield and Bolton—i.e., that no person suffering from pulmonary tuberculosis shall be subject to the provisions of the penal clauses applicable to such a disease as small-pox. Sir JOHN BYERS refers to the fall in the death-rate from tuberculosis in New York, where compulsory notification had been in force for several years, and he presumably implies that such fall is due to the notification and the measures taken in consequence of the facts revealed. But we are under the impression that there was an enormous fall in the death-rate of tuberculosis in that city before the introduction of notification, so that it is a difficult matter to determine how far, if at all, such fall has been hastened by the measures taken. In dealing with tuberculosis we are face to face with a vast social problem, and it is only by a *thoroughly* scientific study of all the facts that we can hope for a sure advance. Ireland is in a condition of general sanitary backwardness, as is shown by the fact that typhus fever is still with her, and, this being so, she cannot easily develop plans of campaign which might be successfully applied in a country where there is an elaborate system of sanitary organisation. But we have every hope that the Prevention of Tuberculosis (Ireland) Bill will, when further considered and amended, form a useful stimulus for a general advance in the sanitation of the country.

Annotations.

"Ne quid nimis."

THE MEDICAL MISSIONARY.

IT did not need the discussions at the Pan-Anglican Congress or at the General Assemblies of the Church of Scotland to indicate the vast field opened up by imperial expansion for the young practitioner of medicine. Co-extensive with every colony or "sphere of influence" under the British flag the medical arm has made its coöperation felt as a powerful auxiliary in the absorption of subject races and in their assimilation to the standards, moral and intellectual, of the central power. If British colonisation is the envy of rival nationalities, it owes it to the fact that solicitude and practical care for the well-being of the populations committed to its charge form an inspiring principle of its government, shown in its provision for the ailing and the injured as well as for the sanitary conditions under which the individual can live and thrive. Year by year the demand for the duly qualified practitioner and the hospital nurse invites into the missionary field an augmenting number of the British youth of both sexes whose professional equipment keeps pace with the growing wants of the communities in which they work and whose remuneration tends to increase in proportion. These communities are being gradually educated up to appreciate the value of the medical man's service, and while gratuitous assistance is freely and fully meted out in the hospitals and itinerant ambulances established for the very poor the payment of a fee for attendance is becoming the rule with those of the native population who can afford it. More than one medical speaker at the Pan-Anglican Congress dwelt on this fact—Mr. H. White, drawing on his experiences in Persia, and Dr. Ernest F. Neve, after years of work in Kashmir, concurring in the opinion that "men did not value what cost them nothing," and that fees were cheerfully paid by those whose means had been enhanced by the improved conditions of life vouchsafed to them. The self-respect thus manifested in backward races is one of the reassuring signs of the success of the civilisation brought to bear upon them and is of special significance in presence of the fact that jealousy and distrust on the part of the native population make one of the chief obstacles which the medical missionary has had to overcome. Again, on the part of the practitioner himself it is of the best augury to find him so alive to the growing responsibilities of his office that he is insisting on the necessity of post-graduate teaching as supplementary to his equipment. This, added to the unique experience which he enjoys, particularly in tropical latitudes, cannot fail to fit him more and more for coöperation with the pioneers of pathological and clinical research whose labours in those regions are steadily minimising the risks to life incurred by the European resident, while bringing the local sanitation up to a standard which must react for good on the natives themselves. A career, in fact, is opening attractively out for the medico-missionary aspirant whose life-work need not be circumscribed by the original scene of his labours but may be transferred to one or other of the Schools of Tropical Medicine of which so auspicious a commencement has been already made, and which, before the century is much older, will have so increased in number as to draw to their chairs the more accomplished and successful of that branch of the profession. Honourable ambition, going hand in hand with philanthropy and nature-study, has thus inspired more than one "pioneer of Empire" who, from Livingstone onwards, has bequeathed a record which cannot but tempt the brave young British soul to find an outlet for his energies in fields so fraught with opportunity, so replete with the prizes that wait upon the service of man.

THE HISTORY OF HYDRASTIS CANADENSIS.

IN an interesting bulletin[1] dealing with hydrastis canadensis or golden seal Miss Alice Henkel and Mr. G. Fred Klugh refer to the early history of the plant which now furnishes one of the most important of the drugs produced in the United States. As in the case of many other native American medicinal plants, the early settlers became acquainted with the properties of golden seal through make such an effort. Therefore the committee sitting at Berne suggested, on behalf of the International Association of the Medical Press, that the secretaries of sections should consider it a part of their work to remain after their section had adjourned and there read out slowly to the press men gathered round the summary of the speeches. These are generally written on the spot by each speaker to whom headed paper on a cardboard and a pencil are handed directly he sits down. Of course, this system is not good. A speaker desires to follow the discussion and to listen to the answers made to his observations instead of writing a summary of what he himself has said. It would be much better if a shorthand writer, employed by the congress, could take down the speeches as they are delivered. This, however, has rarely been done; not only because of the cost but because the different languages in which the speeches are delivered are not all understood by the shorthand writers. Therefore each speaker has to summarise in writing his own speech, and it is these summaries that should be placed at the disposal of the press representatives after the meetings of the sections, though, of course, care must be taken that they are not removed from the section room. But the speaker who has anything of real importance to say and has any experience of such congresses will be careful himself to write a summary and to have, at his own expense, a few hundred copies printed beforehand in the three or four official languages and to see that a copy is placed in each pigeon-hole at the door of the press room.

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[1] Circular No 6, Bureau of Plant Industry, United States Department of Agriculture, 1908, pp. 19.

The organisers of the congress, on their side, have to give indications to the members of the congress so that the latter may find the printers and the translators whom they need. On this much of the success of the congress depends, unless competent translators in each section translate the speeches the moment that they are delivered. This, however, means that each speech has to be delivered three or four times over. At Washington it would be four times, since the Spanish language has been added to the three usual official languages—namely, English, French, and German. When only one language is spoken then every effort should be made to speak in French, as this is by far the best understood of all modern languages in such gatherings. Germans, Russians, English, and all the Latin races know French better than any other foreign language. The fact that at the International Congresses of Medicine, of Hygiene, and at these latter and more recently created Congresses on Tuberculosis, there have been no efficient translations has robbed these vast and imposing assemblies of much of their practical usefulness. Where a scientific discussion only is held translations are not so necessary. Those who do not understand may ultimately in some report or translation find out something of what was said or intended. But a fairly good translation seems to be indispensable where a vote is given on some proposed and practical question. For instance, at Washington in Section VI. the laws and ordinances relating to tuberculosis, especially with reference to notification, are to be discussed. Someone is almost sure to move a proposition in favour of compulsory notification. This is a very important practical question and there are many others as important. For members to vote on them without thoroughly understanding what has been said seems somewhat farcical. On the other hand, if there are no such resolutions, what is the use of holding these congresses? The legislator outside and the general public are waiting for men of science and those who have the necessary special knowledge to give the needed advice. Then there is the whole question of sanatoriums, farms, camps, and dispensaries for the prevention and cure of tuberculosis. How far are these worth the expenditure and who should bear the financial burden—the State, the commune, or the individual? What preventive measures, especially in regard to children and unwholesome employment, has the State the right to take? This is a burning question on the other side of the Atlantic with the scandal of child labour in the cotton mills of the Southern States. On this and many other problems men of science have to make a pronouncement. Not many are shareholders in child-worked mills. Most are men of science and only men of science. They do not seek for the votes of electors. They at least, and generally speaking, should be able and willing to pronounce an impartial opinion guided only by the desire to save human life. But to do this in a really imposing manner everyone should hear and understand all the arguments brought forward, no matter what be the language in which they are presented to the congress. Then the principal arguments and the results in regard to these practical and legislative proposals should be made widely known by the popular press. The general elector will not read the official reports of the congress but he does read a daily paper. The mission of the congress is twofold. It is purely scientific in its first three or four sections, but the other sections are constantly dealing with practical, social, and legislative problems.

To turn to another perhaps less important matter, there is the question of excursions. In Paris the support of the general press in the campaign against tuberculosis was so welcome that the newspapers were encouraged to help in every way. It will be remembered that the *Matin* organised the gala representation at the Châtelet Theatre, the *Figaro* gave a grand fête at its offices, and it was *Le Journal* that managed the notable excursion all the way to the Riviera and Monaco. One or two special trains were retained for each of the excursions which were organised by the congress. The farthest was to the Pyrenees. Then there were special trains for Montigny, near Douai, where M. Loubet, then President of the Republic and Honorary President of the Congress, accompanied by some 200 members, went to inaugurate a new sanatorium. On the same day—it was the Thursday of the week—100 members went to Berck-sur-Mer, another 100 to Bligny, and yet another equally numerous body to the sanatoriums of Villiers-sur-Marne, Ormesson, and Noisy-le-Grand. By having all the excursions on the same day each body of excursionists was kept within reasonable limits as to numbers, so that they were easily and well entertained at each place visited. Though the members paid for these journeys the sum was much less than the ordinary railway fare would have been and they enjoyed the luxury of first-class corridor trains which correspond to the American Pullman cars.

Consequently, members attending international congresses want to know what excursions there will be, when they are to take place, how long they will last, and what they will cost. The organisers of the congress, on their side, would like to know how many are coming before making their plans. But this is a vicious circle; no one will promise to come before knowing what will be done on arriving. The foreign committees have repeatedly asked the organisers at Washington what excursions and entertainments are to take place. On the other hand, the Washington committee has been persistently asking the national committees how many members they were going to send over. But the national committees can only send the names of those who have promised to go and many persons will not make up their minds till they see the programme. To-day, however, and even if a satisfactory programme were now issued and proved attractive to those who have hesitated to go, it would not be of much service. It is quite certain that only very few could at this late hour find berths on the steamers which, as already pointed out, are more crowded in September than in any other month of the year.[1] Therefore, and so far as Europe is concerned, the committee of management at Washington may be certain that there will not be many more members than those already announced.

According to the latest news from Washington it appears that the members of the congress are to be entertained at Philadelphia on Sept. 24th and 25th, in Washington during the week following, in Baltimore on Oct. 5th, in Boston on the 6th and 7th, and in New York on the 8th and 9th. It seems hardly conceivable that the entire congress will proceed to these towns or that it will be possible to lodge the members when they get there. On the other hand, no information is as yet forthcoming as to the basis on which a selection will be made. Then there are to be excursions from New York to the sanatoriums at Saranac and Liberty, which are in the northern part of the State of New York. But no details are as yet given. Further, I am informed that some French members of the congress will go to Canada for a considerable time before the congress meets, and they are to be entertained at Boston on Sept. 20th. It is to be hoped there will be efficient which are now identified with his name, cannot be reflected, refracted, or polarised, and also that they have the power of penetrating many solid substances, also of ionising gases through which they pass, and of producing fluorescence when they impinge upon screens prepared with such materials as zinc sulphide and barium platinocyanide. These researches were the dawn to the discovery of radium and of the radio-active properties of several bodies. France mourns the loss, at the comparatively early age of 56 years, of such a promising student of nature's laws and phenomena, and England will sincerely share her grief.

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[1] THE LANCET, July 25th, 1908, p. 252.

UNTOWARD EFFECTS FOLLOWING THE INJECTION OF ANTITOXIN.

ERYTHEMATOUS and urticarial rashes and arthritis are well-known consequences which sometimes follow the injection of antitoxin in diphtheria. They are due not to the antitoxin but to the horse serum in which it is contained. Rarer and more serious consequences—syncope and even sudden death—have been described. Among the fatal cases the best known is that of Professor Langherans's child. In another case reported by Escherich, a fine boy, aged 11 months, was seized with laryngitis, and as a precautionary measure antitoxin was injected. He died a few hours later with sudden failure of the heart. In both these cases no morbid condition was found except an enlarged thymus. As this condition is one of the signs of the lymphatic state in which children are liable to sudden death there is some doubt whether the fatalities should not be ascribed to it rather than to the antitoxin. Antitoxin is almost invariably a perfectly safe remedy, but the possibility of these serious effects should not be overlooked. In the *Journal of the American Medical Association* a remarkable series of cases in which they occurred has been recorded during the present year. In three sudden death took place. The following case is recorded in the issue of Feb. 8th by Dr. E. L. Boone. A well-developed, apparently strong boy came under observation on August 30th, 1907, the second day of an attack of sore-throat. His temperature was 102° F. and the pulse 110, and there was a little membrane in the pharynx. A mild attack of diphtheria was diagnosed and 4000 units of antitoxin, marked "good until Feburary, 1908." were injected below the scapula. The boy was lying on his face and did not even cry out when the needle was inserted. As Dr. Boone turned away and laid down the syringe the boy gave a loud cry of distress and sat up in bed catching at his throat with both hands and giving a choking cough or two. He cried out that his head hurt him and that he could not breathe and continued to clutch at his throat. In a few seconds his face became cyanosed, his pupils dilated, and his eyes were staring. Froth ran from his mouth and there was occasionally a harsh, brassy cough with a peculiar cry. A convulsion occurred and the respiration stopped, but the heart continued to beat for some time. Stimulants were administered hypodermically and artificial respiration was performed until death, which occurred five or six minutes after the injection of the antitoxin. Two cases of collapse are also reported. The following one is recorded in the issue of July 4th by Dr. F. W. Thomas. A boy, aged 15 years, who had always been healthy, had a large mass of diphtheritic membrane in the pharynx; the respirations were rapid, and the pulse was 120. 4000 units of antitoxin were injected. Immediately the countenance became anxious and the face and neck quickly became livid. The boy gasped for breath and cried out that he was being smothered and had a pain at his heart. Froth poured from his mouth and he clutched at his throat. In his eyes was a peculiar death-like stare and the pupils were widely dilated. Soon he went into convulsions, throwing himself from side to side of the bed. Finally, he dropped back unconscious, the pulse disappeared, and death seemed imminent. Heat was applied to the extremities, hot coffee was injected into the rectum, and strychnine, atropine, and nitroglycerine were given internally. After lying in this state for an hour and a half the throat was filling with membrane which threatened to cause suffocation. 3000 units of antitoxin were injected and an hour later 2000. Respiration was weak and rapid and the extremities were cold and blue. Three hours later respiration began to improve and a faint pulse could be detected for the first time for six hours. Consciousness was soon regained but there was much prostration. At 9 A.M. the next day 3000 units of antitoxin were given and the dose was repeated at 1.30 and 5.30 P.M., making in all 18,000 units administered in 22 hours. The improvement in the pulse and respiration became more noticeable, but the membrane did not begin to separate till the fourth day. On the eighth day there were severe muscular and articular pains and the characteristic eruption, and the eyes became bloodshot. Dr. Thomas gave further antitoxin in spite of the untoward effects of the first dose, because he thought the toxæmia of the disease so severe that recovery was impossible without such heroic measures. In an editorial article in the same journal this series of cases is discussed and it is pointed out that the symptoms are similar to those observed in animals infected with an alien serum in what is called the anaphylactic state—i.e., sensitised or rendered susceptible by previous injections of the serum. In sensitised guinea-pigs injections of horse serum are followed in five or ten minutes by dyspnœa, scratching at the mouth, paralysis, convulsions, and death. As the patients had not previously been treated with antitoxin it is suggested that they may have been sensitised by partaking of horseflesh (unwittingly) or even by some other food. We may suggest that the dangerous symptoms may have been due to the injection of some of the serum into a vein—a recognised danger of hypodermic injections. In favour of this are the immediate production of the symptoms and the fact that no symptoms were produced by further injections.

THE RÔLE OF THE PHYSICIAN IN SCHOOLS FOR MENTALLY DEFECTIVE CHILDREN.

AUXILIARY schools for the training of mentally defective or weakly endowed children were first established in Germany but they are now found in most European countries and in the United States. An interesting bulletin, consisting of a translation of a course of lectures on the auxiliary schools of Germany by Dr. B. Maennel, has been issued by the United States Bureau of Education.[1] The bulletin gives the reasons for the establishment of such schools and the conditions under which they are conducted. The physical development of the children as well as the hygienic conditions in the school are inquired into by the school physician. He makes a physical examination every three months, recording the results on a printed form which accompanies the child from class to class until he leaves the school. If a child needs special medical treatment the principal is notified of the fact and the parents are informed by a printed notice that the child should be placed at once under the care of a physician or sent to a polyclinic. The health report calls for particulars as to general constitution; height, weight, and chest measurement; difficulty of speech (if present); the condition of the mouth, nose, teeth, eyes and ears, breast, abdomen, spinal column, and extremities; the presence or otherwise of skin diseases or parasites; and as to signs of disease. Columns are also provided for the general comments of between the last-named date and July 26th (August 8th) 262 cases and 125 deaths. This would bring the totals from the beginning down to August 8th (New Style) to 360 cases with 172 deaths. It is probable that these figures are somewhat less than the actual numbers.

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[1] Bulletin No. 376, Bureau of Education, Washington, D.C., pp. 137.

In consequence of this serious extension of cholera in Southern Russia the Constantinople Board of Health has imposed the following measures on arrivals from Russian ports. Persons arriving from any port on the Black Sea and Sea of Azof situated between Sulina (excluded) and Batum (included) will be subjected to a medical visit, and the effects of third-class passengers and crews will be disinfected. These measures will be applied "facultatively" in the lazaret of Sinope or in that of Monastyr Aghzi (at the mouth of the Bosphorus). Arrivals from Rostof, Taganrog, Novorossiisk, and Batum will be subject to five days' quarantine and disinfection, to be applied in the Sinope lazaret; passengers from these ports will further be liable to five days' surveillance in their place of destination. The importation of the following objects from Russia to Turkey is prohibited: caviare, fish (fresh, smoked, or salted), soiled body linen and clothes (imported as merchandise), bedding and furniture that have been used, rags, old papers and journals, carpets and embroideries that have been in use, old sacks and baskets, fresh animal products, hoofs, claws, horsehair, down, raw silks and wool, raw hides, untanned skins, and fresh skins.

Pilgrim ships from any Russian ports in the Black Sea will be subjected to five days' quarantine, disinfection, and rat destruction, to be applied in the Sinope lazaret; the five days will begin to count only from the moment when the disinfection process is completed. Such ships will pass through the Bosphorus and Dardanelles in quarantine; their pilgrims will not be allowed to land anywhere before reaching the Hedjaz; they will go straight to the Abn-Saad lazaret, near Jeddah. The ships may, however, take in water, coals, provisions, and other pilgrims in the lazarets of Monastyr Aghzi, Clazomene (Smyrna), and Beirût. Ships with more than 1 per cent. of pilgrims on board (calculated on their registered tonnage) will be treated as pilgrim ships. Ships with large numbers of emigrants or similar masses will be subject to the same measures as pilgrim ships in the Sinope lazaret. Finally, it may be noted that the Alexandria Quarantine Board has prohibited pilgrims from Russia, Turkey, and the Balkan countries from landing in Egypt; they must pass the Suez Canal in quarantine. This decision has caused some dissatisfaction here, as Turkey and the Balkan countries are so far entirely free from cholera or other disease.

Constantinople, August 20th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University and the Working Classes.

THE University course of Social Study Lectures, which was promoted in the interests of the working classes, has proved so successful that an attempt is being made to develop and to extend it and to establish a workers' college. As a preliminary to a more ambitious attempt the University has placed at the disposal of the Workers' Education Association a lecture-room, a reading-room, and a library. The object is to popularise definite and serious study and to encourage discussion and social intercourse. Any working man or woman may become a member and it is hoped that each student will pursue a systematic course of reading and write exercises or essays. The subjects proposed for the coming term include economics, industrial conditions, law for social workers, British institutions, and sanitation and hygiene. The lectures upon sanitation and hygiene are to be delivered by Dr. John Robertson and from a medical point of view are of the greatest importance, for by their means a knowledge of the essentials of healthy life may gradually be scattered amongst the people.

The Health of the City.

Dr. Robertson's report upon the quarter ending June 27th last repeats the tale with which we are getting so familiar —a low and decreasing death-rate and a still more rapidly falling birth-rate. The death-rate was 14·8 per 1000, that being a record for the second quarter. The birth-rate was 28·4 per 1000, which contrasts badly with the average of 31·9 for the past ten years. Measles was decidedly less prevalent than in the same quarter last year and was responsible for only six deaths, whilst in 1907 it proved fatal in 155 cases. Whooping-cough, on the contrary, was decidedly more prevalent and more fatal, resulting in 119 deaths, as against 62 in the same quarter of the previous year. The results as regards scarlet fever, enteric fever, and tubercle were not greatly different from those of the same quarter of 1907, except that the enteric fever was of a somewhat virulent type, but the number of cases of diphtheria (161) was decidedly less than in the same period of 1907, when 245 cases were notified.

West Bromwich District Hospital.

The financial report presented at the annual meeting of the governors of the West Bromwich District Hospital must be the cause of serious concern to all well-wishers of the hospital, for it reveals a deficiency account of £1766 as contrasted with £1217 in the previous year. Some reference was made to abuse of the out-patient department, especially by people who claimed that they subscribed to the institution through the Hospital Saturday Fund, but the matter was dropped when it was stated that a conference was to be held to deal with the whole question of the out-patient department.

Sept. 1st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ptomaine Poisoning.

THE repeated occurrence of attacks of illness, often fatal, from ptomaine poisoning after eating what has seemed to be perfectly wholesome food is a proof, if any were needed, that the subject is well deserving of the attention of those specially skilled in preventive medicine. At present the victims are helpless. There was an inquest the other week at Greenfield, near Saddleworth, on a boy aged 13 years. He was a member of a band which was playing at a cricket match. During an interval he and a companion went to a shop and bought a pie which the two ate between them. One died and the other was said to be in a dangerous condition. The medical man in attendance, Mr. G. Stonehouse, in giving evidence, said that others were suffering from ptomaine poisoning and that all his patients had eaten pies made by the same firm. He considered this disease to be a bacterial infection and that bacteria were still alive in the boy's body, because he was "breaking out in blotches." He believed the jelly in the pies was the peccant matter and that the recent hot weather would favour bacterial growth and development, while the putrefaction would not be perceptible to taste or smell. The maker of the pies deposed that they were made on the Thursday afternoon, that he and other employees partook of them, and that none of them were affected. "The pies were jellied after being made, the jelly being made from bones and cowheels." It does not appear whether the pies were eaten by the maker and his workpeople before or after being "jellied." Bones may be fresh or otherwise and cowheels likewise, but the jury, after giving the verdict of ptomaine poisoning, added that no blame attached to the makers of the pies. A woman ate part of a pie on August 1st; she was taken ill and died after a few days' illness. Tinned salmon was the cause of illness in a boy living near Burnley and possibly caused the death of his father, for after eating some of the salmon he went to bed and was found dead the next day. At Hanley a verdict of "Death from ptomaine poisoning from eating pork" was returned on August 7th. A young man, aged 26 years, was taken ill after eating a pork chop for his dinner and died in hospital. Mr. J. M. Longford, in his evidence, said that pork and shell-fish were peculiarly liable to contain "ptomaine poison in hot weather." On August 24th an inquest was held at Mossley on a case of suspected ptomaine poisoning. A woman about a fortnight before her death had some potted meat. She was seen some days afterwards by Dr. A. W. Harrison who suspected poisoning and said that the whole of the symptoms pointed to bacterial infection. He was of opinion that septic pneumonia from which she died was caused by something that infective material reaches these situations is by means of "exudation" from the throat of a diseased bird "coughed" out on to the plumage of a neighbouring healthy bird which subsequently takes up the bacilli during the process of preening itself, or by the ingestion of infected food (e.g., an acorn) previously regurgitated from the gullet of an infected bird. Altogether the report is an excellent piece of work, and leads us to hope that if opportunity offers *British Birds* will continue an investigation which has already yielded such interesting results.

THE WORKING OF THE MIDWIVES ACT IN MANCHESTER DURING 1907.

THE report of the Manchester Midwives Supervising Committee to the City Council of the work done by its officials under the Midwives Act, 1902, during the year 1907 contains a great deal of interesting information. In his annual statement the medical officer of health, Dr. J. Niven, calls attention to the good work done by the executive officer, Dr. Margaret Merry Smith, and points out that the work of supervision, excellent as it is, does not and cannot cover the whole ground. As he remarks, the investigation of stillbirths and the investigation of cases in which the midwife has called in medical aid for other conditions than puerperal fever offers a field of useful work which has not yet been cultivated. A letter was addressed by the supervising committee to the Lord President of the Privy Council representing the necessity for requiring that a midwife should at every visit take the temperature of the lying-in woman, and the advisability of the inclusion of a rule to that effect in the revised rules of the Central Midwives Board. No such rule was inserted, possibly because the Board doubted the feasibility of its being properly carried out at the present time, but the following resolution was sent to the various local supervising authorities, calling their attention to the importance of instructing and encouraging midwives practising within their area in taking and recording regularly the pulse and temperature of the lying-in woman in every case under their care. The report of Dr. Smith notes that the improvement shown in 1906 in all departments of the work has been fully maintained. The addresses and demonstrations provided for the midwives were well attended and a further series of the same kind is now being given. 11,128 women were attended by midwives in Manchester during the year 1907, or more than half the total number of cases of labour. The influence of the midwives in the prevention of infantile mortality, as Dr. Smith points out, must be great, and she records with pleasure that a very good response was made by them when a scheme for the voluntary notification of live births was initiated in the city in December, 1906. By this means the health visitor for the district is able to visit the child as soon as possible after the tenth day and to keep him or her under observation. Of the 153 midwives who announced their intention to practise in Manchester during the year 1907 three were struck off the roll. Of these one still appears to attend a large number of lying-in cases, and as she works in a district where there is no health visitor there is little control over her work. 94 cases of puerperal fever were notified and 20 of these ended fatally. The report contains full particulars of the work done in supervising the midwives and several useful tables are given showing the total number of midwives practising and giving particulars as to their qualifications, the birth-rate and the number of cases of puerperal fever, the number of instances in which a midwife called in a medical practitioner, and the reasons for doing so, and the total number of stillbirths. The difficulties which are likely to arise in future years in providing a sufficient number of midwives is called attention to by Dr. Smith who points out that the difficulty lies largely in the fact "that the people themselves prefer to employ the midwife who is easy-going as regards payment and cleanliness, and refuse to employ the more highly trained and competent women who insist on the provision of clean garments and require the recognised fee for her attendance." This aspect of the matter is too often overlooked by those who write on the question of the provision of midwives. Dr. A. Knyvett Gordon's report on the treatment of the cases of puerperal fever admitted into the Monsall Fever Hospital is most interesting. 49 cases in all were admitted, with a total mortality of 12, or 24·4 per cent. The average interval of time which elapsed between the calling in of the medical man by the midwife or the admission of the patient into the hospital was four and a half days. Dr. Gordon considers that the incubation period of puerperal fever is probably 48 hours, and as in 15 of the 23 cases attended by a medical man a longer period than this elapsed before the onset of symptoms he considers that the medical man is possibly not to blame for the infection but that it may well have been due to the nurse. In the cases attended by midwives the average day on which the onset of the symptoms occurred was the fourth, and therefore, according to the author of the report, the bulk of the cases admitted to the hospital were not instances where the infection occurred at the time of delivery. Dr. Gordon believes that this is true of cases of puerperal fever generally. When we consider, however, the considerable limits of time within which the incubation period of nearly all the acute infectious diseases, or, indeed, of practically any disease of this type, may be compassed it seems hardly likely that that of puerperal fever has such a short and definite duration as Dr. Gordon would wish to assign to it, and we doubt whether the deductions founded by him on this assumption will be borne out by future observations. In 27 of the cases a pure cultivation of the streptococcus was found present in the uterus and in five cases it was present with other organisms. In all but four of the cases the uterus was curetted on the admission of the patient to the hospital with a sharp curette followed by the application to the raw surface of undiluted izal fluid. The mortality of these cases was 22 per cent. Dr. Gordon is of opinion that curetting does good in these cases since in 79 cases treated on general lines without curetting 37 died, or 46 per cent., while the curetted cases have shown a steady mortality of about 24 per cent.—a figure which we are inclined to believe is equal to, if not slightly greater than, the normal mortality of the disease when large numbers of cases are considered. Polyvalent antistreptococcic serum was administered in seven cases in doses of 100 cubic centimetres. Dr. Gordon considers that antistreptococcic serum is only likely to be of value in cases where the general infection is severe and the local lesion slight. Stress is laid upon the great importance of modified open-air treatment, good nursing, and the need for prolonged after-care in these cases. These reports are of great value and interest and show how well this important work is being carried out in Manchester.

TRAUMATIC FOCAL TELANGIECTASIS OF A TENDON.

IN the *Boston Medical and Surgical Journal* of July 16th Dr. A. T. Legg has reported a case of a rare condition—traumatic focal telangiectasis of a tendon. A single woman, aged 33 years, went to hospital with the history of having sprained her ankle five years previously. After this she occasionally felt pain and stiffness in the ankle, especially in the morning, which disappeared after walking. During the last year the pain and stiffness were constant. There were marked tenderness below and behind the external malleolus and slight thickening along the course of the esults entail an indirect expense on the owners which more han balances any apparent saving.

Overcrowding in the County of Durham.

The conditions under which people live in the area under his control is evidently a source of serious concern to Dr. Hill. In spite of the large number of new dwellings erected during 1906 the "gross overcrowding" was apparently in no way relieved. In many of the district officers' reports reference is made to the overcrowding in houses and also to the necessity for improving the housing conditions. The medical officer of health of Chester-le-Street calls attention to the fact that some of the new houses erected in one of his districts did not contain the required accommodation for a working man's family, and he expresses the opinion that legislation should be introduced to deal with the floor space of rooms in order to prevent restriction in their area. In consequence of a representation by the county council as to the insanitary condition of a large number of back-to-back houses in one part of the county, the Local Government Board caused an inspection to be made by one of its medical inspectors, but his report had not been received at the time of writing. The county council has itself had, "after vainly endeavouring to induce the local authority to adopt Part III. of the Housing Act and erect workmen's dwellings, and having failed also in their efforts to persuade the owners of collieries to provide the necessary dwellings for their workmen," to carry out a scheme for the erection of workmen's dwellings. The results of this apparently serious condition of overcrowding in the county of Durham are to be found indicated in Dr. Hill's annual report. Thus, among the "chief causes" of the high rate of infant mortality Dr. Hill puts first the "gross overcrowding of dwellings which exists." Speaking of diarrhœa, he says "it is, unfortunately, a fact that however careful a mother may be it is impossible to insure healthy infant life in many of the dwellings in our industrial districts"; and in another place, "the ill-effects of improper feeding, bad housing, and the pollution of the soil and air about dwellings are certain to manifest themselves in a high diarrhœa death-rate." The provision of adequate hospital accommodation and the more frequent use of that already provided are urged, on the ground that it is quite impossible effectually to isolate cases of scarlet fever, or, as a matter of fact, any cases of infectious disease in a large proportion of the dwellings in the industrial districts of this county. Again, under the head of phthisis and tuberculosis it is reported that the death-rate from phthisis in rural districts was only 0·97, but in the urban districts 1·19. "Nearly all phthisical patients benefit considerably as a result of sanatorium treatment, but, unfortunately, the patient on leaving the sanatorium has often to return to home or industrial conditions where it is impossible to continue the essentials of sanatorium treatment and a relapse occurs. If proper housing and suitable employment could be secured for phthisical patients on their leaving sanatoria a very much larger proportion would be permanently benefited."

The Causes and Control of Infectious Diseases in the County of Durham (1906).

The control of infectious diseases is one of the main responsibilities of the medical officer of health. Every year adds something to our knowledge of epidemiology, and perhaps the most interesting fact which has recently come to light in this connexion is the so-called "carrier," the person, that is to say, who either does not suffer from the disease himself or contracts merely a mild form of the disease in virtue of his own immunity or partial immunity to that particular organism is, nevertheless, able to carry it from the infected to the healthy, or who, having recovered from an attack of a specific disease, harbours the organism in his body for long periods of time and so may be an unsuspected source of possible danger to others for very long periods of time. The existence of "carriers" is fully recognised by Dr. Hill in the references in his annual report to the infectious diseases. In connexion with diphtheria he expresses his regret that it is unfortunate that medical practitioners do not make more use of the facilities granted by the county council for bacteriological examination of material from suspected cases of the disease, and records his opinion that it is certainly desirable that in the case of children who have suffered from diphtheria a bacteriological examination of the throat should be made after all symptoms have disappeared and before they are permitted to return to school. Besides these unrecognised mild cases of the disease and still infectious convalescents certain other possible causes of the spread of the disease are mentioned. Of these, the attendance at school of ailing children or children from infected houses is important. Some local medical officers complain that pressure is used by the education authority to force such children to attend school in order to keep up school attendance averages. And while in the general opinion direct infection at school and in the home was the chief cause of the prevalence of diphtheria, in Durham itself the increased prevalence was attributed to the new sewerage scheme involving the "disturbance of the soil about dwellings." Scarlet fever "now inspires no dread in the majority of our working-class population," and that on account of the very mildness of the type of disease at present prevailing. The parents are therefore careless about the isolation of children suffering from the disease and to this and to "mild unnotified" cases the spread of the disease is attributed. Enteric fever has been steadily and rapidly increasing in the county of Durham during the last five years, 674 cases in 1902 and 1090 cases in 1906. One epidemic in 1906 was clearly traced to the milk-supply from a dairy farm which was dependent for its water-supply on a grossly polluted and badly constructed shallow well. In another outbreak there was evidence of some mild unrecognised cases of the disease having occurred and, as a result, specific pollution of conveniences and probably of the drains and sewers. In other places where the disease was prevalent the infection was attributed to defects of drainage and insanitary conveniences, possibly infected by unrecognised cases and, in a few cases, direct infection is stated to have been the cause of the spread of the disease. With regard to tuberculous diseases, voluntary notification in the places where it had been in force was most unsatisfactory. Commenting on the value of sanatorium treatment, Dr. Hill says that it is now generally recognised that as a rule a permanent cure can only be effected when the disease is dealt with in an early stage, but that there is very little doubt that, in all cases, sanatorium treatment prolongs the life of a patient and is of educational value. One district has decided to utilise its small-pox hospital for the reception of advanced cases of pulmonary tuberculosis on preventive rather than on curative grounds. On the subject of milk and tuberculosis Dr. Hill states that now that it has been proved that tuberculosis in the cow and the human subject is one and the same disease the necessity for the early detection of tuberculosis in the cow is evident, and it is therefore desirable that periodical veterinary inspection of all milch cows should be enforced. In many districts the purity of the milk-supply and the means necessary to insure it receive but little attention.

Sept. 1st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Cardiff Infirmary.

IN the supplementary report of the board of management of the Cardiff Infirmary for 1906 it was pointed out that there was urgent need for increasing the number of beds in the institution and it was suggested that a new pavilion should be erected, with accommodation for 64 patients, together with a six-bed ward to be used for isolating any cases of infectious disease which might inadvertently gain admission to the infirmary. The estimated cost (£30,000) of this additional building has already been subscribed and the committee is now met with the problem of maintaining the beds when the pavilion is completed. The total income during 1907 from all sources was £11,486 and the expenditure amounted to £14,190, and it is estimated that after about two years from now the expenditure will reach some £18,000 annually. Very generous response has been made to the appeal for further subscriptions. Mr. John Cory, who is already an ardent supporter of the infirmary, has offered to give a sum equal to 25 per cent. of all additions made to the subscription list. Mrs. John Nixon has given 10,000 guineas to endow ten beds. Mr. Henry Webb has endowed three beds, and one bed has been provided for with a donation of 1000 ophthalmology, radiography, anatomy, nervous diseases, microscopy, urinary analysis, gynæcology, practical bacteriology, mental diseases, hygiene and public health, and operative surgery. Extra classes in any subject are formed to suit the convenience of practitioners unable to attend those already provided. Special tutorial classes are held for practitioners reading for the higher examinations. A complimentary ticket available for three successive days will be issued to any practioner upon presentation of his visiting card. A monthly journal, the *Polyclinic*, recording the work done in the college, is issued free to subscribers and members. The annual subscription for medical practitioners of either sex, holding qualifications granted in any British dominion, is 1 guinea. Full information can be obtained from the medical superintendent at the college, 22, Chenies-street, Gower-street, W.C. The autumn session will commence on Monday, Sept. 14th.

The Hospitals of the Seamen's Society.—In connexion with these hospitals there are two post-graduate schools—viz., (*a*) the London School of Tropical Medicine; and (*b*) the London School of Clinical Medicine.

(*a*) *The London School of Tropical Medicine.*—The school buildings, laboratories, museum, library, &c., are within the grounds of the Branch Hospital Royal Victoria and Albert Dock (Station, Connaught-road, Great Eastern Railway). Opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the service or going abroad. In the hospitals of the society are to be found cases of tropical diseases such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning on Oct. 1st, Jan. 15th, and May 1st respectively. The laboratory, museum, library, &c., are open daily and clinical instruction is given daily in the wards of the hospitals. The School Course is recognised by the University of Cambridge for its Diploma of Tropical Medicine and Hygiene. Classes are arranged for advanced Helminthology, Protozoology, and Entomology. The lecturers in the School are: Sir P. Manson, F.R.S., Dr. Andrew Duncan, Dr. L. Westenra Sambon, Dr. J. M. H. Macleod, Professor R. Tanner Hewlett, Mr. James Cantlie, Mr. E. Treacher Collins, Dr. F. M. Sandwith, Mr. K. W. Goadby, and Professor W. J. Simpson. The Director is Dr. C. W. Daniels. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students who must be qualified or in the fifth year of their medical studies. Prize: the Craggs prize of £50 is awarded yearly.

(*b*) *The London School of Clinical Medicine* (for qualified practitioners only).—The lecture rooms, pathological laboratories (two), museum, and operative surgery class-rooms, are in the *Dreadnought* Hospital at Greenwich, and the whole hospital of 250 beds with its Out-patient Departments is open to students from 10 A.M. till 5 P.M. Medical, Surgical, and Special Department In-patient Cliniques are held upon every afternoon except Saturday by the senior members of the staff and operations are performed daily, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the assistant physicians and assistant surgeons daily in the forenoon. Practical classes are arranged each session in the following subjects: The Practice of Medicine; the Practice of Surgery; Diseases of the Eye; Diseases of the Throat, Nose, and Ear; Diseases of the Skin; Diseases of the Nervous System; Operative Surgery; Clinical Pathology, Microscopy, and Bacteriology; Mental Diseases; Radiography; Dental Surgery; the Administration of Anæsthetics: Hygiene and Public Health; Gynæcology; Surgical Diseases of Women; Surgical Diseases of Children; Medical Diseases of Women; Medical Diseases of Children; Applied Anatomy; and Midwifery. Three sessions of three months' duration are held in each year, beginning on Jan. 15th, May 1st, and Oct. 1st. Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals. Male patients chiefly are received as in-patients by the Seamen's Society, but arrangements have been entered into with the Royal Waterloo Hospital for the reception of graduates who desire instruction in diseases of women and children; with the Bethlem Hospital for those who require tuition in mental diseases; and with the General Lying-in Hospital, York-road, for the prosecution of study in midwifery. These hospitals are situated on the south side of the river, are directly linked to the *Dreadnought* by both railway and tramway, and are affiliated to the London School of Clinical Medicine. The certificates of the school are recognised by the Admiralty, the War Office, and the University of London (for the higher degrees). The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology on the cadaver. The hospital also offers a wide field for the study of venereal diseases and there is a special department with open-air wards for the treatment of tuberculosis. The teaching staff consists of: Sir Dyce Duckworth, Dr. Frederick Taylor, Dr. J. Rose Bradford, F.R.S., Professor R. Tanner Hewlett, Dr. Guthrie Rankin, Sir William H. Bennett, Mr. Albert Carless, Mr. William Turner, Mr. Lawrie H. McGavin, Mr. L. Vernon Cargill, Sir Malcolm Morris, Mr. L. A. Lawrence, Dr. James Mackenzie Davidson, Dr. S. Russell Wells, Dr. T. Lewis, Dr. D. W. Carmalt Jones, Mr. E. Rock Carling, Mr. C. C. Choyce, Mr. Lawrence Jones, Mr. R. Bickerton, Dr. Wilfrid Fox, Mr. G. N. Biggs, Dr. Maynard Horne, Dr. Cecil Hughes, Dr. Vivian B. Orr, and Dr. R. E. Delbruck. The extra-mural lecturers are: Dr. James Taylor, Dr. W. H. B. Stoddart, Professor W. J. R. Simpson, Mr. James Cantlie, Dr. William J. Gow, Dr. Herbert Williamson, Mr. Russell Howard, Mr. Herbert S. Pendlebury, Dr. Alexander Haig, Dr. Robert O. Moon, Dr. Charles O. Hawthorne, Dr. Thomas D. Lister, Dr. William R. Dakin, Dr. Robert Boxall, and Mr. C. C. Choyce, Dean.

The prospectuses, syllabuses, and other particulars of both schools can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, S.E., or from the Deans at the associated Schools.

West London Post-Graduate College, West London Hospital.—The West London Post-Graduate College was started in 1895 and three years later its basis was enlarged by the provision for the post-graduates of lecture-, reading-, and waiting-rooms, &c., while owing to the continued growth of the college these were transferred in 1901 to a building especially constructed for the purpose. Over 1300 post-graduates have been enrolled since its establishment, the yearly entry being now about 200. The hospital, which contains 160 beds, is in the main Hammersmith-road, about three miles from Hyde Park Corner, and very accessible by omnibus, tram, or train. The physicians and surgeons attend daily at 2.30 P.M. Post-graduates accompany the staff and the junior staff on their visits to the wards. Instruction is given in the out-patient department daily at 2.15 P.M. by the assistant physicians and assistant surgeons. The out-patient department has recently been enlarged and there is now ample accommodation for post-graduates to see and to examine the patients in all the special departments of the hospital. Clinical assistants are appointed from among the post-graduates to the Medical and Surgical out-patients and the Special Departments. The fee for a clinical assistantship to non-members is £2 2*s*. for three months, which includes membership of the College on the days on which the clinical assistant attends. Practical classes, limited in number, for instruction in special subjects, as well as in medicine and surgery generally, are held as required. Operations are performed daily at 2.30 P.M. Post-graduates are allowed to stand close to the table and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations. Instruction is given in the administration of anæsthetics by the anæsthetists on the operating days and post-graduates are allowed to administer anæsthetics under their superintendence. Post-mortem examinations are performed at 12 noon, and demonstrations on recent pathological specimens are given on Mondays at 12 noon during each session in the pathological laboratory. Also two demonstrations are given each week on Practical Medicine on Wednesdays and Fridays at 12.15 P.M. Practical lectures and demonstrations are given each afternoon (except Saturdays), at 5 P.M., during the session. Included in this course are lectures by outside specialists on Mental Diseases and on Public Health, and in connexion with the former instruction is also given in certain asylums. The college is licensed for the teaching of operative surgery. The fee is £4 4*s*. each member in a class of four. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and officers of the Royal Army Medical Corps and Indian Medical Service who have peregrinations. A vote of thanks having been passed to the trustees Mr. P. J. O'Neill, J.P., chairman of the County Dublin County Council, and also chairman of the General Council of all the County Councils of Ireland, proposed, and Sir John Byers seconded, the following motion:—

> That this meeting heartily approves of the principles of the Tuberculosis Prevention (Ireland) Bill now before Parliament and earnestly desires to see it passed into law.

Mr. T. Laffan (Cashel) proposed, and Mr. J. Gernon (of the Wicklow urban council) seconded, an amendment:—

> That both the sanatorium proposals and those relating to notification in Mr. Birrell's Bill be deferred for further experience.

An interesting debate followed, in which the President of the Royal College of Surgeons in Ireland (Mr. J. Lentaigne), Mr. W. Byrne, veterinary surgeon, Roscommon, and Mr. T. W. Russell, M.P. (Vice-President of the Department of Agriculture) all spoke in favour of the Bill, while no one took the side of the amendment. Subsequently, on a direct appeal being made to Mr. Laffan by Mr. R. Hennessy, chairman of the Queenstown urban council, the amendment was withdrawn and the original motion as proposed by Mr. O'Neill and seconded by Sir John Byers was adopted with two dissentients. Sir Rubert Boyce, professor of pathology in the University of Liverpool, who happened to be present, was asked by Lady Aberdeen, as a member of the Royal Commission on Tuberculosis, to address the meeting. In the course of his speech he said that notification of tuberculosis went to the root of the whole matter and that unless notification were made early they could not proceed scientifically. As an Irishman he thanked Lady Aberdeen for the splendid way in which she had led a movement which must turn out to be of great benefit to the country.

The Belfast Health Commission.

The details of a draft report made by the joint public health, improvement, works, and market committee of the Belfast corporation upon the report of the Belfast Health Commission have been published. This joint committee was appointed in May by the Belfast city council, and the draft report—the greater portion of which has now been published in the *Northern Whig*—was the work of a small subcommittee. It has not yet been submitted to the health committee and it will, after that, have to be considered by the city council. If in its final state it takes the form of what has appeared in the *Northern Whig* it will not meet with general approval. It contains so many direct references, some anything but complimentary, to individuals (such as the Irish Registrar-General) and to bodies (the Belfast Citizens' Health Committee, the Local Government Board, the Belfast Water Board, and the Belfast board of guardians), as well as indirect references (as, for instance, to members of the Belfast Health Commission), that there is bound to be a series of replies, all of which will only tend to bring home more fully and more clearly the value of the criticism contained in the report of the Health Commission. The draft report exhibits a very slight acquaintance with modern preventive medicine, but it may serve one good purpose. The discussion which is sure to occur in reference to this action of the Belfast city council in an attempt to deal with the report of the Health Commission will have a most educating effect on the public at large.

Sept. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Alterations in the Examinations for the Post of Agrégé.

THE Minister of Public Instruction has recently modified the regulations which deal with the "degree" of *agrégé* in the Faculty of Medicine and the joint Faculty of Medicine and Pharmacy. The new regulations will not come into force until the commencement of the scholastic year 1909–1910. The qualifying examination consists of three sections: (1) anatomy, physiology, physics, chemistry, and natural science; (2) medicine; and (3) surgery and obstetrics. In the first and third sections special branches may be taken according to the particular branch to which the candidate has devoted himself. The maximum number of candidates who may be declared qualified (*admissible*) is decided by the Minister. The jury is composed of nine members chosen by the Minister from among the titular or honorary professors and the *agrégés*. No one faculty may have more than three members on the jury. The course of the examination is as follows: (1) A written essay in anatomy, physiology, and histology; (2) a *viva voce* examination lasting three-quarters of an hour in general pathology; (3) a clinical examination; and (4) an examination in practical pathological anatomy. Once a candidate has been declared qualified he maintains his position for life and all candidates who were qualified in examinations held previously to November, 1907, are dispensed from the above-mentioned examinations. For admission as *agrégé* the following tests have to be passed: 1. The candidate must hand in his testamurs and other documents (*titres*). 2. He must give a lecture of one hour's duration without an assistant or notes. Four hours are allowed for the preparation of this lecture. 3. Practical work. The judges in the various sections are appointed by the Minister from among the professors. Members of the Institute, of the Academy of Medicine, professors of the College of France, of the Museum, of the Faculty of Medicine, and of the joint Faculty of Medicine and Pharmacy can sit on the jury, but they can only have one place in any one section.

A Case of Sleeping Sickness, Spinal Form.

At a meeting of the Hospitals Medical Society held on July 3rd M. Hattan Larrier and M. Sézary showed a patient who had recovered from an attack of the spinal form of sleeping sickness. The disease had been contracted two years previously in the Congo. The first sign of illness was a mental affection. The paraplegia, of which there had been some signs in Africa, became marked a few days after the patient had arrived in France and was accompanied by muscular atrophy, diminished reflexes, sphincter troubles, Babinski's sign, and an ulcer over the sacrum. The thenar and hypothenar muscles of the hands were wasted, but there was no definite change in sensation. He was also very apathetic. Trypanosomata were found in the blood on examination during a febrile attack. Despite the very grave view of the case which was naturally taken both the paraplegia and the mental troubles disappeared under treatment by injections of atoxyl.

An Original Form of Strike.

The governing body of the hospital at Mans having refused to grant a demand which had been put forward by the *internes*, these latter went on strike and refused to attend to the patients or to assist at surgical operations. So matters went on for three days when the governors retaliated by stopping all supplies to the *internes*.

A Disgrace to the Profession.

The correctional tribune of Bordeaux has just sentenced Dr. X. to eight months' imprisonment, 100 francs fine, and disability to practise for four years. He had given bogus certificates under the Workmen's Compensation Act and had also sent in a preposterous bill for medical attendance. A druggist, M. Z., was also sentenced to five months' imprisonment and 100 francs fine for having, with the connivance of Dr. X., sent in a bill for drugs and dressings which were quite needless.

Dental Anæsthesia by Psycho-narcosis.

At the June meeting of the Society of Hypnology and Physiology M. Paul Farez read a paper on this subject. He said that most of the methods for bringing about anæsthesia or analgesia in dental extraction were insufficient or even dangerous. In his opinion narcosis was the best method—as, for instance, by ethyl chloride. The drawbacks are the shortness of the period of anæsthesia and the rigidity of the jaws which the drug produces. But if suggestion be employed as if the patient were in a hypnotic sleep the period of unconsciousness is prolonged and the rigidity of the jaws disappears. M. Farez brought forward figures in support of his contention and described his technique.

August 25th.

ophthalmology, radiography, anatomy, nervous diseases, microscopy, urinary analysis, gynæcology, practical bacteriology, mental diseases, hygiene and public health, and operative surgery. Extra classes in any subject are formed to suit the convenience of practitioners unable to attend those already provided. Special tutorial classes are held for practitioners reading for the higher examinations. A complimentary ticket available for three successive days will be issued to any practioner upon presentation of his visiting card. A monthly journal, the *Polyclinic*, recording the work done in the college, is issued free to subscribers and members. The annual subscription for medical practitioners of either sex, holding qualifications granted in any British dominion, is 1 guinea. Full information can be obtained from the medical superintendent at the college, 22, Chenies-street, Gower-street, W.C. The autumn session will commence on Monday, Sept. 14th.

The Hospitals of the Seamen's Society.—In connexion with these hospitals there are two post-graduate schools—viz., (*a*) the London School of Tropical Medicine; and (*b*) the London School of Clinical Medicine.

(*a*) *The London School of Tropical Medicine.*—The school buildings, laboratories, museum, library, &c., are within the grounds of the Branch Hospital Royal Victoria and Albert Dock (Station, Connaught-road, Great Eastern Railway). Opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the service or going abroad. In the hospitals of the society are to be found cases of tropical diseases such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning on Oct. 1st, Jan. 15th, and May 1st respectively. The laboratory, museum, library, &c., are open daily and clinical instruction is given daily in the wards of the hospitals. The School Course is recognised by the University of Cambridge for its Diploma of Tropical Medicine and Hygiene. Classes are arranged for advanced Helminthology, Protozoology, and Entomology. The lecturers in the School are: Sir P. Manson, F.R.S., Dr. Andrew Duncan, Dr. L. Westenra Sambon, Dr. J. M. H. Macleod, Professor R. Tanner Hewlett, Mr. James Cantlie, Mr. E. Treacher Collins, Dr. F. M. Sandwith, Mr. K. W. Goadby, and Professor W. J. Simpson. The Director is Dr. C. W. Daniels. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students who must be qualified or in the fifth year of their medical studies. Prize: the Craggs prize of £50 is awarded yearly.

(*b*) *The London School of Clinical Medicine* (for qualified practitioners only).—The lecture rooms, pathological laboratories (two), museum, and operative surgery class-rooms, are in the *Dreadnought* Hospital at Greenwich, and the whole hospital of 250 beds with its Out-patient Departments is open to students from 10 A.M. till 5 P.M. Medical, Surgical, and Special Department In-patient Cliniques are held upon every afternoon except Saturday by the senior members of the staff and operations are *performed daily*, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the assistant physicians and assistant surgeons daily in the *forenoon*. *Practical* classes are arranged each session in the following subjects: The Practice of Medicine; the Practice of Surgery; Diseases of the Eye; Diseases of the Throat, Nose, and Ear; Diseases of the Skin; Diseases of the Nervous System; Operative Surgery; Clinical Pathology, Microscopy, and Bacteriology; Mental Diseases; Radiography; Dental Surgery; the Administration of Anæsthetics: Hygiene and Public Health; Gynæcology; Surgical Diseases of Women; Surgical Diseases of Children; Medical Diseases of Women; Medical Diseases of Children; Applied Anatomy; and Midwifery. Three sessions of three months' duration are held in each year, beginning on Jan. 15th, May 1st, and Oct. 1st. Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals. Male patients chiefly are received as in-patients by the Seamen's Society, but arrangements have been entered into with the Royal Waterloo Hospital for the reception of graduates who desire instruction in diseases of women and children; with the Bethlem Hospital for those who require tuition in mental diseases; and with the General Lying-in Hospital, York-road, for the prosecution of study in midwifery. These hospitals are situated on the south side of the river, are directly linked to the *Dreadnought* by both railway and tramway, and are affiliated to the London School of Clinical Medicine. The certificates of the school are recognised by the Admiralty, the War Office, and the University of London (for the higher degrees). The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology on the cadaver. The hospital also offers a wide field for the study of venereal diseases and there is a special department with open-air wards for the treatment of tuberculosis. The teaching staff consists of: Sir Dyce Duckworth, Dr. Frederick Taylor, Dr. J. Rose Bradford, F.R.S., Professor R. Tanner Hewlett, Dr. Guthrie Rankin, Sir William H. Bennett, Mr. Albert Carless, Mr. William Turner, Mr. Lawrie H. McGavin, Mr. L. Vernon Cargill, Sir Malcolm Morris, Mr. L. A. Lawrence, Dr. James Mackenzie Davidson, Dr. S. Russell Wells, Dr. T. Lewis, Dr. D. W. Carmalt Jones, Mr. E. Rock Carling, Mr. C. C. Choyce, Mr. Lawrence Jones, Mr. R. Bickerton, Dr. Wilfrid Fox, Mr. G. N. Biggs, Dr. Maynard Horne, Dr. Cecil Hughes, Dr. Vivian B. Orr, and Dr. R. E. Delbruck. The extra-mural lecturers are: Dr. James Taylor, Dr. W. H. B. Stoddart, Professor W. J. R. Simpson, Mr. James Cantlie, Dr. William J. Gow, Dr. Herbert Williamson, Mr. Russell Howard, Mr. Herbert S. Pendlebury, Dr. Alexander Haig, Dr. Robert O. Moon, Dr. Charles O. Hawthorne, Dr. Thomas D. Lister, Dr. William R. Dakin, Dr. Robert Boxall, and Mr. C. C. Choyce, Dean.

The prospectuses, syllabuses, and other particulars of both schools can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, S.E., or from the Deans at the associated Schools.

West London Post-Graduate College, West London Hospital.—The West London Post-Graduate College was started in 1895 and three years later its basis was enlarged by the provision for the post-graduates of lecture-, reading-, and waiting-rooms, &c., while owing to the continued growth of the college these were transferred in 1901 to a building especially constructed for the purpose. Over 1300 post-graduates have been enrolled since its establishment, the yearly entry being now about 200. The hospital, which contains 160 beds, is in the main Hammersmith-road, about three miles from Hyde Park Corner, and very accessible by omnibus, tram, or train. The physicians and surgeons attend daily at 2.30 P.M. Post-graduates accompany the staff and the junior staff on their visits to the wards. Instruction is given in the out-patient department daily at 2.15 P.M. by the assistant physicians and assistant surgeons. The out-patient department has recently been enlarged and *there is now ample accommodation* for post-graduates to see and to examine the patients in all the special departments of the hospital. Clinical assistants are appointed from among the post-graduates to the Medical and Surgical out-patients and the Special Departments. *The fee for a clinical assistantship to non-members* is £2 2*s.* for three months, which includes membership of the College on the days on which the clinical assistant attends. Practical classes, limited in number, *for instruction* in special subjects, as well as in medicine and surgery generally, are held as required. Operations are performed daily at 2.30 P.M. Post-graduates are allowed to stand close to the table and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations. Instruction is given in the administration of anæsthetics by the anæsthetists on the operating days and post-graduates are allowed to administer anæsthetics under their superintendence. Post-mortem examinations are performed at 12 noon, and demonstrations on *recent* pathological specimens are given on Mondays at 12 noon during each session in the pathological laboratory. Also two demonstrations are given each week on Practical Medicine on Wednesdays and Fridays at 12.15 P.M. Practical lectures and demonstrations are given each *afternoon* (except Saturdays), at 5 P.M., during the session. Included in this course are lectures by *outside* specialists on Mental Diseases and on Public Health, and in connexion with the former instruction is *also given* in certain asylums. The college is licensed for the *teaching* of operative surgery. The fee is £4 4*s. each* member in a class of four. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and officers of the Royal Army Medical Corps and Indian Medical Service who have regards her as one of those not uncommon cases in which a hirsute development accompanies certain anomalies of the generative organs.

August 29th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Physical Deterioration of the Bosnian and Herzegovinian Race.

THE experiences of Dr. Matosek, who spent several years in Bosnia and Herzegovina and had an opportunity to study the physical state of the people, seem to discredit the view that the progress of culture goes hand in hand with the physical deterioration of the race. He, as military surgeon, has attended the recruiting, thus having ample opportunity to study the youth of the country. The Bosnian people consists of Servian, Croatian, and Mahomedan people. The last are chiefly of Slav origin. The Bosnians have lived under very bad hygienic conditions. Infective diseases and tuberculosis have claimed many victims. The evil effects of alcoholism are also very noticeable, though not quite to the same extent as in years gone by. Out of every 100 recruits 62 have flattened skulls. This, it seems, is an artificial production, and is the outcome of the very tight dressing of the baby's head in the first months of life. The morbidity rate of the Bosnian soldiers is greater than that of the rest. Healing power is much worse and the mortality three times greater than with the rest of the soldiers. The number of those invalided from service is double that of regiments of other nationalities. Affections of the respiratory apparatus are twice as numerous, those of the digestive apparatus three times, and infective diseases six times as among the rest of the nationalities serving. There is a great disproportion between the stature and seemingly strong constitution and the low working capacity and poor resisting power against diseases. The Bosnian soldiers become prostrated in relatively slight diseases. The patients of the insanity department of the Vakuf Hospital in Sarajevo were in the last year affected with the following diseases: dementia paralytica (1·8 per cent.), paranoia (23 per cent.), secondary dementia (27 per cent.), melancholia (10 per cent.), mania (17 per cent.), alcoholic insanity (10·37 per cent.), and epileptic psychoses (5 per cent.). Among the Bosnians of the Vienna military hospitals there are about 51 per cent. hysterical or epileptical patients, an immense rate. The hysterical symptoms are very severe and often they occur epidemically. Other organic diseases and pains too frequently induce hysteria. Suicide is comparatively uncommon, the rate being 3·5 per 100,000, while in Germany the rate is 27·1 per 100,000, in France 18·7, and in Austria-Hungary 16·3. Among the Bosnian soldiers the percentage of suicide is 0·2 per cent., while it is 1·2 per cent. in the rest of the Austro-Hungarian army. Religious scruples are, in some respect, responsible for this low rate. Criminality is slight among the Bosnians. Out of 108 sentenced soldiers 35 had stolen something, the rest having offended against discipline. Dr. Matosek has sought for degenerative signs in 400 Bosnian soldiers. Apart from the lower portion of the auricle being deformed, which may be regarded as a racial property, three or more degenerative symptoms could be found in 16·5 per cent. of the cases. 7 per cent. of the men are left-handed. He concludes that the degeneration was of a greater degree here before civilisation set in, so it would be an exaggeration to say that culture as such is responsible, as a rule, for the physical deterioration of the races. Despite the great frequency of syphilis, psychoses and nervous diseases caused by syphilis are relatively very rare, perhaps because the disease is only 100 years old in the country.

Cancer of the Larynx; Laryngotomy; Relief of Symptoms.

Dr. Lenart recently exhibited a case to the Budapest Royal Medical Society with the following history. The patient, a man, aged 72 years, was admitted to his clinic on May 19th, 1905. He sought advice for hoarseness which had existed for eight years. The conditions found on examination were as follows. The right vocal cord was infiltrated, the surface was granulated, and the movements were limited. The surrounding parts were normal. Microscopical examination of an excised portion proved the presence of cancer. On these findings and on the clinical symptoms Dr. Lenart proposed to the patient a radical operation. On May 27th tracheotomy was performed. On June 8th an operation was performed with the application of Trendelenburg's cannula; incision of the skin in the middle line, free splitting of the thyroid cartilage and of the cricoid ligament, followed by the ligature of the cricoid artery; the larynx was opened from the wound with bone scissors. The application of adrenalin and cocaine was of service in stopping hæmorrhage, so giving a good view of the site of operation. Dr. Lenart successfully removed the diseased vocal cord. Afterwards the larynx and the soft parts were re-united, leaving a small opening. The patient was able to feed himself on the eighth day. In the fourth week the cannula was removed and the opening of the tracheotomy was united with a stitch. On the site of the removed cord there has formed what seems like an immoveable vocal cord. The patient, who is now 76 years of age, breathes freely; since the operation, performed three years ago, he has spoken with a tolerably good voice and has felt well in all respects.

A Case of Elephantiasis Penis et Præputii.

At the same meeting Dr. Steiner showed a patient, aged 48 years, who had acquired syphilis 27 years ago and had been treated with mercury inunctions. About one year ago his penis began to swell and then he smeared 100 grammes (about four ounces) of mercury ointment monthly on his penis for three months; under this ointment treatment the penis continually enlarged. The length of the penis in a relaxed state is 16 centimetres, the periphery being 15 centimetres; the skin is strikingly thickened and the prepuce cannot be pulled back. In the etiology of elephantiasis penis, said Dr. Steiner, chronic inflammations, recurring erysipelas, lymphangitis, tuberculosis, balanitis, and syphilis play the chief rôles. In this case the causal factors were on the one hand syphilis and on the other hand irritation produced by the application of the strong mercury ointment. The affection is rare even where elephantiasis occurs frequently. The prognosis is anything but favourable. In this case ablation of the prepuce and the cutting out of wedge-shaped flaps united with primary suture would be recommended.

August 28th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Emigrant Indians.

THE care that is taken to prevent outbreaks of disease on emigrant ships carrying Indian coolies to the colonies keeps the mortality on board at a very low figure. From an official report it appears that in 1907 only 54 persons died at sea, or less than 1 per cent. Measles was chiefly responsible for this mortality, and in spite of the precautions taken before embarkation it seems impossible to prevent occasional outbreaks of this disease. On the return voyages the deaths among coolies are much higher, but this is accounted for by the fact that the people on board include a large number of chronic invalids and even lepers. A certain proportion also are lunatics, but in future these persons are not to be shipped back to India owing to the difficulties of looking after them at sea. The Natal authorities, however, consider that any further influx of Asiatics is undesirable, and hence the stringent regulations that are now being carried through the Assembly.

Ambulance Work in the Merchant Service.

Officers of the Mercantile Marine can now obtain their first-aid certificates through the centres which have been established under the Indian branch of the St. John Ambulance Association at Bombay, Calcutta, Madras, Rangoon, and Karachi. The Board of Trade now requires these officers to hold these certificates. The Bombay centre has fixed the maximum fee for instruction and examination in first-aid at Rs.15. 13 officers were examined in Bombay very recently.

Instruction in Army Hygiene.

Courses of not less than four lectures on the prevention of disease are being delivered to regimental officers, non-commissioned officers, and men at all stations where British advanced students and graduates. Applications for information should be made early in the year to Mr. E. E. Stubbing, Pathological Laboratory Museums, Downing-street, Cambridge.

Leeds.—The Anatomical, Physiological, and Pathological Laboratories at the University of Leeds are at the disposal of qualified medical men for research or for routine work at specially arranged fees and though there is no definite post-graduate course at the General Infirmary the work of the large teaching institution is very freely accessible to qualified medical men at reduced fees. For the past three years a course of post-graduate demonstrations has been held by members of the staff of the Leeds Public Dispensary. The course has been very well attended and it is now proposed somewhat to extend the scope of the work by offering short courses of from four to six demonstrations on special subjects and by arranging for a weekly demonstration of cases of an informal character. This arrangement will hold good for the winter, the usual course of demonstrations being held during the summer.

Liverpool.—At the University of Liverpool the department of Bio-chemistry is devoted entirely to post-graduate teaching and research upon chemistry in relationship to biology and medicine. The laboratory is open daily for research, and courses of laboratory instruction in those parts of the subject most closely related to medical work are given for medical practitioners by arrangement with Professor Benjamin Moore. The Thompson-Yates and the Johnston laboratories are open for post-graduate research in pathology and physiology during the winter and summer sessions, under the supervision of Professor Sir Rubert Boyce and Professor C. S. Sherrington. A course of lectures and practical work in the laboratory is given each term in comparative bacteriology and parasitology by Professor H. E. Annett who also conducts a course of lectures and demonstrations in comparative pathology during the summer term. In the department of Tropical Pathology special courses of laboratory instruction in bacteriology, parasitology, morbid histology, pathology, and medical entomology are given in each term, under the direction of Professor Ronald Ross, Dr. J. W. W. Stephens, and Mr. R. Newstead. A course of instruction in operative surgery is given by Mr. Thelwall Thomas on two days in the week during the summer session to candidates for the Fellowship of the Royal College of Surgeons of England and the higher university degrees in surgery. By special arrangement a practical course on the clinical examination of the blood, the staining and identification of pathogenic bacteria, and the bacteriological diagnosis of certain diseases is given twice weekly during the summer term by Dr. E. E. Glynn and Dr. W. B. Warrington. Three courses annually are given in tropical medicine and parasitology in the Liverpool School of Tropical Medicine in the University, and a Diploma in Tropical Medicine is granted. Post-graduate courses on diseases of the eye, skin, throat, and nose are also given during term time by the lecturers in those departments. At the Royal Infirmary special arrangements exist whereby medical practitioners can keep in touch with the most recent methods adopted in hospital practice.

Manchester.—The plan adopted a few years ago at the University of Manchester of having special courses of lectures on medicine and surgery for qualified medical men has since that time been considerably modified. Classes are now held and lectures given on various special subjects, as, e.g., diseases of the heart, diseases of the respiratory organs, of the kidney, and so on, and the same obtains as to surgical matters. These lectures are designed to meet the wants of senior students and practitioners. The Public Health Department, presided over by Professor S. Delépine, is largely attended by medical men, as are also the lectures on bacteriology given in the College course by Dr. E. J. Sidebotham. Facilities are also given for the pursuit of research work in the public health laboratories, and in this department the dates of post-graduate courses in pathology and bacteriology are announced in the laboratory, and in the medical journals. There is no difficulty in Manchester in the way of any practitioner who wants to have his recollections revived or his knowledge enlarged and brought up to the present standard in accomplishing his wish.

Newcastle-upon-Tyne.—At the University of Durham courses of instruction are given in chemical and physical laboratory work and lectures are delivered on comparative pathology and practical bacteriology for the Diploma in Public Health and the Degree of Bachelor in Hygiene.

Sheffield.—At the University of Sheffield post-graduate courses are held annually. The subjects vary from time to time and include medical and surgical anatomy, physiology of digestion and nutrition, pathology of the blood, clinical bacteriology, surgery, ophthalmic surgery, operative surgery, diseases of the nose, and diseases of the ear.

SCOTLAND.

Aberdeen.—Although there is no special provision at Aberdeen for post-graduate study such as exists in London, still there are some facilities for doing work of this nature at the University. There are fully equipped laboratories in anatomy, anthropometry, bacteriology, botany, chemistry, pharmacology, physics, physiology, public health, and zoology. Graduates or others desiring to engage in special study or research may be admitted by the Senatus to prosecute such study or research in any of the laboratories in accordance with certain provisions. Research students are exempted from payment of laboratory fees but are required to matriculate each year, paying the ordinary matriculation fee (£1 1*s.* for winter and summer; 10*s.* 6*d.* for summer). Forms of application for admission as research students may be had from the Secretary of the Senatus. The fees are £3 3*s.* for six hours per week in winter or nine hours per week in summer, 10*s.* 6*d.* and 7*s.* being charged for every extra hour per week in winter and summer respectively. The fee for the Public Health Laboratory for six months is £6 6*s.*, and for the Bacteriological Laboratory for three months is £4 4*s.*, £3 3*s.* and £1 11*s.* 6*d.* being respectively charged for a half course or any less time. At the Royal Lunatic Asylum, accommodating above 700 patients (fees, £2 2*s.* for three months), arrangements are made for extra teaching in the higher departments of medical psychology and cerebral pathology for graduates who desire it or wish to obtain the certificate of the Medico-Psychological Association of Great Britain and Ireland. Clinical work may be done at the following places:—(General Hospital): Aberdeen Royal Infirmary (accommodating 200 patients, perpetual ticket £6, or first year £3 10*s.* and second year £3, thereafter free); Sick Children's Hospital (75 patients; first year £2 2*s.*, then £1 1*s.*); City (Fever) Hospital (100 beds; £1 1*s.* for three months); General Dispensary and Lying-in and Vaccine Institution (10,000 out-patients per annum: perpetual fee, £3 3*s.*); and Ophthalmic Institution (16,000 patients per annum, fee £1 1*s.*). During the summer session (April to June) special classes, each costing £2 2*s.*, are held at the Royal Infirmary, the subjects being diseases of the skin, medical electricity, dental surgery, anæsthetics, ophthalmology, and gynæcology. Lectures on Diseases of the Ear and Throat are given at the dispensary.

Edinburgh.—For the past three years a post-graduate vacation course has been held in Edinburgh during the autumn. The arrangements in connexion with the course are intrusted to a committee, which consists of representatives appointed by the Faculty of Medicine of the University and by the Royal Colleges respectively. The arrangements of the course to be held this autumn are somewhat different from those of preceding years. The course will extend this year from August 31st to Sept. 26th, and will *comprise a Special* Surgical Course and a Course on General Medicine. The following classes are reserved for those attending the Surgical Course, the entries for which are limited to 25: (1) Operative Surgery on the cadaver (30 hours); (2) Surgical Anatomy, including five demonstrations on x rays applied to surgery (20 hours): and (3) Surgical Pathology, including five demonstrations upon microscopic methods of value in surgical diagnosis and upon the preparations of museum specimens (20 hours). In addition to the abovementioned classes, which are reserved for those who have entered for the Surgical Course from 11 to 1 o'clock each day, there will be surgical clinics in the wards, including eight clinics upon the commoner surgical affections of children; clinics in the out-patient department, and specially arranged ward visits, so that each day there will be from two to two and a half hours of special surgical instruction in the wards. The attendance upon these surgical clinics in the Royal *Infirmary* and Royal Hospital for Sick Children is open alike to those attending the surgical or the general course. The work undertaken in the various surgical classes has been so arranged that as far as possible the various regions of

Nov. 7th, 1900, he submitted an abstract of the vital statistics of the parish for the preceding 45 years and gave a brief account of the improvements in sanitary administration accomplished by the vestry since he entered its service in 1871. First among these came the question of notification and hospital treatment of infectious diseases. In 1871 and for some years afterwards a relieving officer's order was necessary for admission to the hospitals of the Asylums Board, so that (nominally at least) all the patients were paupers, and during the epidemics of small-pox in 1871 and afterwards some patients were deterred from entering the hospitals by the fear that the parish guardians would claim repayment of the hospital charges. At Dr. Dudfield's request the Kensington guardians refrained from making such claims, as well as from requiring a Poor-law medical officer to examine each patient before removal. In 1877 the question of the treatment of non-pauper patients in infectious hospitals arose. Dr. Dudfield's report on this subject deprecated the formation of local or district infectious hospitals, but recommended (1) a single hospital authority for London—the Asylums Board as a matter of convenience; (2) free admittance to the hospitals for all classes of the people; (3) depauperisation of medical relief in the hospitals; and (4) maintenance of the hospitals out of the Common Poor Fund created by the Metropolitan Poor Act, 1867. Writing in 1900, he reminded the vestry that "the views above set out, having received the approval of the vestry, were made the basis of efforts which never ceased until every principle contended for ...... had in successive Acts received the sanction of Parliament." Compulsory notification of infectious disease was recommended by him in his annual report for 1871 and efforts to procure voluntary notification were set on foot. During succeeding years he continued his representations on the subject until the vestry convened a conference which was held at the town-hall in March, 1881. In the following May a deputation waited on the President of the Local Government Board to submit the resolutions approved by the conference in favour of compulsory notification, and at this interview Dr. Dudfield recommended that small-pox patients should be removed from London to hospitals erected outside the metropolitan area. This suggestion was fully carried into effect by the Asylums Board in 1885, but compulsory notification was not introduced in London until 1889. Another of Dr. Dudfield's recommendations to the vestry had reference to the employment of female inspectors for visiting dressmakers' and milliners' establishments, laundries, and other places where the workpeople were mostly females. The idea was approved and in 1893 the vestry made a new departure in sanitary administrative work by appointing two female inspectors. The initiative of the Kensington vestry in this matter has been followed by numerous sanitary authorities in various parts of the country.

Dr. Dudfield was married in 1859; he has left a widow and family, his son, Dr. Reginald Dudfield, being medical officer of health of the borough of Paddington. The funeral service was held in the church of St. Mary Abbots, Kensington, on August 1st, and the interment took place in Brompton Cemetery.

THOMAS JONES EVANS, L.R.C.P. LOND., M.R.C.S. ENG.

THE death occurred on August 16th of Mr. Thomas Jones Evans at his residence Castle Green, Llansawel, Carmarthenshire, in his fiftieth year. Mr. Evans had practised for 28 years at Llansawel where he was very popular and highly esteemed. He held appointments under the Llandilofawr and the Llandovery boards of guardians. He had been in poor health for some time and had quite recently returned from a sea voyage, from which he had derived much benefit, and had resumed his professional work. He attended Llansawel Church on August 15th but on reaching home he had cerebral hæmorrhage and died on the following day. The funeral on August 21st was very largely attended; amongst those present were a considerable number of local medical men, Sir James Drummond, General Sir James Hills-Johnes, and many others.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ignaz Hirsch, who has been bath physician at Teplitz for more than 40 years, aged 73.—Dr. George M. Edebohls, professor of gynæcology in the New York Post-Graduate Medical School and Hospital.—Dr. Loison, professor of military surgery in the Military Medical School, Paris.—Dr. B. Tomaszevski, *privat-docent* of psychiatry and neurology in the Military Medical Academy, St. Petersburg.—Dr. E. Menz, chief medical officer of the Assicurazioni Generali in Trieste.—Dr. J. Trapp, formerly professor of pharmacy in the St. Petersburg Military Medical Academy.—Dr. A. Ostrumoff, emeritus professor of medicine in the University of Moscow.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in August the following candidates passed in the subjects indicated:—

Surgery.—R. B. Dawson (Sections I. and II.), Guy's Hospital; G. F. C. Harvey (Sections I. and II.), London Hospital; J. J. S. Rowe (Sections I. and II.), Charing Cross Hospital; and H. B. Waller (Section I.), London Hospital.

Medicine.—R. B. Dawson (Sections I. and II.), Guy's Hospital; and G. F. C. [illegible] H. R. Coombes,

Forensic [illegible] Cambridge and Guy's Hospital; G. F. C. Harvey, London Hospital; G. W. Hassall, Birmingham; and S. H. Watton, Manchester.

[illegible] College Hospital; H. R. Coombes. [illegible] A. H. C. Dawes, Westminster [illegible] A. C. Dickson, Guy's Hospital; H. A. Hancock, Cambridge and London Hospital; J. K. A. Helm; Guy's Hospital; and M. S. Jevons, Royal Free Hospital.

The Diploma of the Society was granted to the following candidate, entitling him to practise medicine, surgery, and midwifery:—J. K. A. Helm.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent professional examinations for degrees in medicine and surgery:—

First Professional Examination.—John W. E. Adkins, William A. Alexander, James C. Anderson, Leslie L. Armstrong, Peter Baillie, Edwyn B. Barton, Francis J. H. Begg, Robert C. Begg, John H. Boag, Stuart Bolton, W. N. Gordon Boxer, James W. Bruce, Carl P. Carlsson, James F. Chalmers, Frederick C. Davidson, Alfred E. Delgado, Janet S. Doak, George A. C. Douglas, Richard Fawcitt, William R. Gardner, John J. Gilchrist, Robert Grant (M.A.), Arthur C. V. Green, Robert Hay, William J. G. Henderson, Thomas P. Herriot, Thomas H. Horrax, Thomas W. Jackson, David H. Jones (M.A.), Idwal W. Jones, Janet S. Laird, Christine Larsen, David P. Lindsay, Isabella M. Little, Frederick W. Mackenzie, James C. M'Kerrow (with distinction), Gertrude D. MacLaren, James S. M'Laren, Rosanna E. Macmillan, John Macqueen, Hamed Mahmud, Alexander W. Mather, James M. Matheson, Alexander Mearns, William Mitchell, Sarah O'Flynn, George F. B. Page (with distinction), Lennox J. D. Pawan, Wilfrid W. Phillips, Arthur C. Price, Edwin D. Pullon (with distinction), Aubrey Radford, [illegible] Renton, Andrew A. Rutherford [illegible] y M. Scott, Edward Sharpe, [illegible] (with distinction), Sydney [illegible] tewart, Fearnley Thompson, [illegible] ton, William G. Thwaytes, [illegible] Tisdall, George D. E. Tullis, [illegible] Clement S. Wills, Peter C. [illegible]

[illegible] ulations—Regulations Prior [illegible]

Second Professional Examination (Old Regulations—Anatomy, Physiology, and Materia Medica).—Edward Anderson, George J. Carr (B.A.), Frederick O. Clarke, Thomas F. Craig, Jemima B. Dickie, Wm. A. Dunn, John M. Elliot, Arthur C. England, Alastair G. Forbes, Matthew E. Goode, Annie C. Greenep, David S. Harvey, Samuel Hodkinson, Dirk van V. Hoffman, Nicholas J. Hofmeyer (B.A.), Gaspard de C. Hugo, Arthur J. G. Hunter, James S. P. Knight, Joseph J. Levin, Robert M'Adoo, Hugh J. M'Caw, John D. M'Ewen (M.A.), John T. Mackenzie, Elizabeth Macleod, George V. T. [illegible] Robertson, Henry C. Robbins, Lizzie Rose, [illegible] K. R. Shah, D. R. Bedell Sivright (B.A., [illegible] George H. Stevenson, and J. D. Grahame Stewart.

Se[illegible] (New Regulations—Anatomy and [illegible] lay, James C. Brash (M.A., B.Sc.) [illegible] Brown, Lawrence D. Callander, [illegible] Cochrane, Josias Daneel, Matthew [illegible] rew [illegible] Jo[illegible] D. L[illegible] Duncan J. M'Afee, George Macdonald, Keith B. MacGlashan, Marion [illegible] Mackinnon, William P. Murray, Leopold [illegible] Rao, Morton W. Ruthven, Thomas M'Call [illegible] Daisy L. Shawyer (B.A.), John C. Smith (M.A.), Dirk L. Theron, Roland Thorp, Harry C. Todd, James A. Tomb, Frederick L. Tulloch, Robert C. Wallace, Arthur M. Warwick, Frank H. C. Watson, and William L. Webster.

T[illegible]—James R. Adam, Thomas A. [illegible] ignold, Walter Bisset (M.A., [illegible] H. Carter, Peter Chalmers, L[illegible] Ralph B. Chamberlain, John P. Charnock, Bodh Raj Chopra, William F. Christie, Gladys H. Cook, Gerald M Coughtrey, Godfrey

investigation is also held. A course in clinical pathology or bacteriology is given to graduates, and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in this department for the public health committee of the Belfast corporation in connexion with water-supply, sewage disposal, meat- and milk-supply, and the diagnosis of cases of infectious diseases. Subject to the number of students presenting themselves, arrangements are made for the necessary practical instruction (1) in the chemical laboratories; (2) in the pathological and bacteriological laboratories; and (3) for outdoor sanitary work under the medical officer of health of Belfast. These courses have been approved by the Privy Council in connexion with the degree of M.D. in State Medicine in the University of London. The certificates of these courses are also accepted for the diploma in public health granted by the Royal University of Ireland, the University of Cambridge, and the various licensing bodies.

Dublin.—The post-graduate courses arranged under the auspices of the President and Council of the Royal College of Surgeons in Ireland have hitherto proved a most gratifying success. The June course of the present year attracted a large and enthusiastic class. As our readers who are interested have, of course, learned from the advertisement columns, two annual courses of Post-graduate Study were arranged for—in June and September respectively. And, as the printed announcement states: "The object of these courses is to render available the whole of the clinical material in the city for the post-graduate student, so that he may see as much as possible during the brief time at his disposal." With this very comprehensive object in view the ten general hospitals of the city are included (Richmond, Jervis-street, Adelaide, St. Vincent's, Dr. Steevens', Mater Misericordiæ, Meath, Mercer's, Royal City of Dublin, and Sir Patrick Dun's), and also the various hospitals which are devoted to "specialties." The opportunities and wealth of material afforded by the latter are well shown by a momentary glance at the list of special subjects and the institutions where they are *respectively* cultivated: Skin, Adelaide Hospital; Eye and Ear, Royal Victoria Eye and Ear Hospital; Throat and Nose, Mater Misericordiæ Hospital, Adelaide Hospital, and Sir Patrick Dun's Hospital; Gynæcology, Rotunda Hospital, Coombe Hospital, and National Maternity Hospital; X Ray and Light Therapeutics, Meath Hospital and *Dr. Steevens'* Hospital; Pathology and Bacteriology, Richmond, Whitworth, and Hardwicke Hospitals, Mater Misericordiæ Hospital, Meath Hospital, and School of Surgery, Royal College of Surgeons; Diseases of Children, Orthopædic Hospital, St. Joseph's Hospital, and Harcourt-street Hospital; Lunacy, Richmond District Lunatic *Asylum*; *Anæsthetics*, Dental Hospital; Cadaver Operations, *Professors* at School of Surgery, R.C.S.I.; Anatomy, Professor of Anatomy, R.C.S.I.; Sanitary Science, Professor of Hygiene, R.C.S.I. The second course will begin *on Monday*, Sept. 21st, 1908, and will terminate on Oct. 13th following. Fee for each course, inclusive of all, £5 5*s*.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8458 births and 4905 deaths were registered during the week ending August 22nd. The annual rate of mortality in these towns, which had steadily increased in the five preceding weeks *from* 11·1 to 15·0 per 1000, further rose to 15·8 in the week under notice. During the first eight weeks of the current quarter the death-rate in these towns, notwithstanding this increase, averaged only 12·8 per 1000, and the mean rate in London did not exceed 11·8. The lowest annual death-rates in these 76 towns during the week under notice were 5·4 in West Hartlepool, 6·7 in Hornsey, 7·3 in Willesden, and 7·9 in Leyton and in Walthamstow; the rates in the other towns ranged upwards, however, to 23·8 in Oldham, 24·1 in Rochdale, 26·8 in Wigan, and 28·2 in Rhondda. In London the death-rate during the week did *not* exceed 14·2. The 4905 deaths from all causes in the 76 towns showed a *further* increase of 222 upon the increasing numbers in recent weeks, and included 1340 which were referred to the *principal* epidemic diseases, against numbers increasing steadily from 299 to 1132 in the seven preceding weeks; of these 1340 deaths from these diseases, 1133 resulted from diarrhœa, 70 from measles, 49 from whooping-cough, 46 *from* diphtheria, 24 *from* scarlet fever, and 18 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases during the week under notice were equal to an annual rate of 4·3 per 1000, against rates increasing from 1·1 to 3·6 in the five preceding weeks; in London the death-rate from these epidemic diseases did not exceed 3·3 per 1000. No death from any of these epidemic diseases was registered last week in Hornsey, Hastings, Ipswich, or Great Yarmouth, whereas the annual death-rates from these diseases ranged upwards in the other large towns to 9·9 in Wigan and in Burnley, 10·2 in Hull, 10·6 in Middlesbrough, and 17·6 in Rhondda. The deaths attributed to diarrhœa in the 76 towns, which had steadily increased in the ten preceding weeks from 63 to 927, further rose to 1133 in the week under notice, and caused annual death-rates in these towns ranging upwards to 8·7 in Wigan 9·4 in Burnley, 9·6 in Middlesbrough, 10·2 in Hull, and 16·4 in Rhondda. The marked increase in the death-rate recorded in recent weeks has been almost entirely due to diarrhœa, mainly infantile. The 70 fatal *cases of measles in these* towns last week showed a slight increase, while the 49 of whooping-cough were fewer than in any recent week; measles was proportionally most fatal in Rochdale, Warrington, and Huddersfield, and whooping-cough in Coventry, Burton-on-Trent, and Stockton-on-Tees. The 46 deaths resulting from diphtheria showed a further increase upon recent weekly numbers, and included 25 in London and its suburban districts, five in Manchester and Salford, and two in Liverpool and in Brighton. The fatal cases of scarlet fever were, however, fewer than in recent weeks, but included six in Liverpool and four in Manchester and Salford. The 18 deaths referred to "fever" included two in Liverpool and two in Norwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had increased in the five preceding weeks from 2573 to 2808, had further risen to 2844 on August 22nd; the number of new cases of this disease admitted to these hospitals during the week under notice were 392, against 363, 358, and 343 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 132 and 128 in the two preceding weeks, further declined to 106 in the week under notice, and were three below the average number in the corresponding week of the five years 1903-07. The causes of 34, or 0·7 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, Nottingham, Leicester, and in 49 other smaller towns in the week under notice, and all but one of the 1306 causes of death in London were certified; five uncertified causes of death were, however, registered in Liverpool and in Sheffield, and four in Birmingham.

In 76 of the largest English towns 8303 births and 4856 deaths were registered during the week ending August 29th. The annual rate of mortality in these towns, which had steadily increased in the six preceding weeks from 11·1 to 15·8 per 1000, showed a slight decline to 15·6 in the week under notice, influenced by the lower temperature and increased rainfall. During the first nine weeks of the current quarter the annual death-rate in these towns averaged only 13·1 per 1000, and the mean rate in London did not exceed 12·1. The lowest annual death-rates in these 76 towns during the week under notice were 4·5 in Reading, 6·0 in Willesden, 6·1 in Wallasey, and 6·7 in Hornsey; the rates in the other towns ranged upwards, however, to 25·7 in Merthyr Tydfil, 26·7 in Middlesbrough, 26·8 in Hanley, 31·1 in Stockport, and 31·3 in Rhondda. In London the death-rate during the week did not exceed 14·4. The 4856 deaths from all causes in the 76 towns showed a decline of 49 from the increasing numbers in recent weeks, and included 1344 which were *referred* to the principal epidemic diseases, against numbers increasing steadily from 299 to 1340 in the eight preceding weeks; of these 1344 deaths, 1124 resulted from diarrhœa, 64 from whooping-cough, 56

Nov. 7th, 1900, he submitted an abstract of the vital statistics of the parish for the preceding 45 years and gave a brief account of the improvements in sanitary administration accomplished by the vestry since he entered its service in 1871. First among these came the question of notification and hospital treatment of infectious diseases. In 1871 and for some years afterwards a relieving officer's order was necessary for admission to the hospitals of the Asylums Board, so that (nominally at least) all the patients were paupers, and during the epidemics of small-pox in 1871 and afterwards some patients were deterred from entering the hospitals by the fear that the parish guardians would claim repayment of the hospital charges. At Dr. Dudfield's request the Kensington guardians refrained from making such claims, as well as from requiring a Poor-law medical officer to examine each patient before removal. In 1877 the question of the treatment of non-pauper patients in infectious hospitals arose. Dr. Dudfield's report on this subject deprecated the formation of local or district infectious hospitals, but recommended (1) a single hospital authority for London—the Asylums Board as a matter of convenience; (2) free admittance to the hospitals for all classes of the people; (3) depauperisation of medical relief in the hospitals; and (4) maintenance of the hospitals out of the Common Poor Fund created by the Metropolitan Poor Act, 1867. Writing in 1900, he reminded the vestry that "the views above set out, having received the approval of the vestry, were made the basis of efforts which never ceased until every principle contended for ...... had in successive Acts received the sanction of Parliament." Compulsory notification of infectious disease was recommended by him in his annual report for 1871 and efforts to procure voluntary notification were set on foot. During succeeding years he continued his representations on the subject until the vestry convened a conference which was held at the town-hall in March, 1881. In the following May a deputation waited on the President of the Local Government Board to submit the resolutions approved by the conference in favour of compulsory notification, and at this interview Dr. Dudfield recommended that small-pox patients should be removed from London to hospitals erected outside the metropolitan area. This suggestion was fully carried into effect by the Asylums Board in 1885, but compulsory notification was not introduced in London until 1889. Another of Dr. Dudfield's recommendations to the vestry had reference to the employment of female inspectors for visiting dressmakers' and milliners' establishments, laundries, and other places where the workpeople were mostly females. The idea was approved and in 1893 the vestry made a new departure in sanitary administrative work by appointing two female inspectors. The initiative of the Kensington vestry in this matter has been followed by numerous sanitary authorities in various parts of the country.

Dr. Dudfield was married in 1859; he has left a widow and family, his son, Dr. Reginald Dudfield, being medical officer of health of the borough of Paddington. The funeral service was held in the church of St. Mary Abbots, Kensington, on August 1st, and the interment took place in Brompton Cemetery.

THOMAS JONES EVANS, L.R.C.P. LOND., M.R.C.S. ENG.

THE death occurred on August 16th of Mr. Thomas Jones Evans at his residence Castle Green, Llansawel, Carmarthenshire, in his fiftieth year. Mr. Evans had practised for 28 years at Llansawel where he was very popular and highly esteemed. He held appointments under the Llandilofawr and the Llandovery boards of guardians. He had been in poor health for some time and had quite recently returned from a sea voyage, from which he had derived much benefit, and had resumed his professional work. He attended Llansawel Church on August 15th but on reaching home he had cerebral hæmorrhage and died on the following day. The funeral on August 21st was very largely attended; amongst those present were a considerable number of local medical men, Sir James Drummond, General Sir James Hills-Johnes, and many others.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ignaz Hirsch, who has been bath physician at Teplitz for more than 40 years, aged 73.—Dr. George M. Edebohls, professor of gynæcology in the New York Post-Graduate Medical School and Hospital.—Dr. Loison, professor of military surgery in the Military Medical School, Paris.—Dr. B. Tomaszevski, *privat-docent* of psychiatry and neurology in the Military Medical Academy, St. Petersburg.—Dr. E. Menz, chief medical officer of the *Assicurazioni Generali* in Trieste.—Dr. J. Trapp, formerly professor of pharmacy in the St. Petersburg Military Medical Academy.—Dr. A. Ostrumoff, emeritus professor of medicine in the University of Moscow.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in August the following candidates passed in the subjects indicated:—

Surgery.—R. B. Dawson (Sections I. and II.), Guy's Hospital; G. F. C. Harvey (Sections I. and II.), London Hospital; J. J. S. Rowe (Sections I. and II.), Charing Cross Hospital; and H. B. Waller (Section I.), London Hospital.

Medicine.—R. B. Dawson (Sections I. and II.), Guy's Hospital; and G. F. C. Harvey (Section I.), London Hospital.

Forensic Medicine.—H. J. Clutterbuck, Middlesex; H. R. Coombes, Cambridge and Guy's Hospital; G. F. C. Harvey, London Hospital; G. W. Hassall [illegible] Watton, Manchester.

Midwifery.—G. [illegible] Hospital; H. R. Coombes, Cambridge a[illegible] I. C. Dawes, Westminster Hospital; R. B. Dawson and A. C. Dickson, Guy's Hospital; H. A. Hancock, Cambridge and London Hospital; J. K. A. Helm; Guy's Hospital; and M. S. Jevons, Royal Free Hospital.

The Diploma of the Society was granted to the following candidate, entitling him to practise medicine, surgery, and midwifery:—J. K. A. Helm.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent professional examinations for degrees in medicine and surgery:—

First Professional Examination.—John W. E. Adkins, William A
Alexander, James C. Anderson, Leslie L. Armstrong, Peter Baillie,
Edwyn B. Barton, Francis J. H. Begg, Robert C. Begg, John H.
Boag, Stuart Bolton, W. N. Gordon Boxer, James W. Bruce, Carl P.
Carlsson, James F. Chalmers, [illegible] Alfred E.
[illegible] Fawcitt,
Delgado, Janet S. Doak, Georg[illegible] (M.A.),
William R. Gardner, John J. [illegible]
Arthur C. V. Green, Robert Hay, William J. G. Henderson, Thomas
P. Herriot, Thomas H. Horrax, Thomas W. Jackson, David H.
Jones (M.A.), Idwal W. Jones, Janet S. Laird, Christine Larsen,
David P. Lindsay, Isabella M. Little, Frederick W. Mackenzie,
James C. M'Kerrow (with distinction), Gertrude D. MacLaren,
James S. M'Laren, Rosanna E. Macmill[illegible]
Mahmud, Alexander W. Mather, Jam[illegible]
Mearns, William Mitchell, Sarah O'Fly[illegible]
[illegible] D. Pawan, Wil[illegible]
[illegible] (with dist[illegible]
[illegible] Augustus C. Ren[illegible]
[illegible] Ryner, Doroth[illegible]
[illegible] Wayland Smith
A. Smit[illegible] William S[illegible]
Robert T[illegible]
Herman [illegible] Clement S. Wills, [illegible]
Gideon [illegible]
[illegible] and Hubert T. Young.

[illegible]
Carr (B.A.), Frederick O. Clarke, Thomas [illegible]
Dickie, Wm. A. Dunn, John M. Elliot, Arthur C. England,
Alastair G. Forbes, Matthew E. Goode, Annie C. Greenep, David S.
Harvey, Samuel Hodkinson, Dirk van V. Hoffman, Nicholas J.
Hofmeyer (B.A.), Gaspard de C. Hugo, Arthur J. G. Hunter, James
S. P. Knight, Joseph J. Levin, Robert M'Adoo, Hugh J. M'Caw,
John D. M'Ewen (M.A.), John T. Mackenzie, Elizabeth Macleod,
George V. T. M'Michael, Angus B. Robertson, Henry C. Robbins,
Lizzie Rose, Charlotte D. Schaeffer, K. R. Shah, D. R. Bedell
Sivright (B.A.), Norman W. Stevens, George H. Stevenson, and
J. D. Grahame Stewart.

S[illegible] Examination (New Regulations—Anatomy and [illegible] James C. Brash (M.A., B.Sc.)
[illegible]klay, James C. Brash [illegible] Lawrence D. Callander,
[illegible]er Brown, Lawrence D. Callander,
[illegible] Cochrane, Josias Daneel, Matthew
[illegible]rew (B.A.), James Erlank, Alexander
[illegible]), John D. Gunn, Charles A. Keegan,
[illegible] D. Kirkwood, Richard C. Lowther,
[illegible] Keith B. MacGlashan,
Duncan J. M'Afee, George Macdonald, William P. Murray,
Marion Macintyre, John M. Mackinnon, Morton W. Ruthven, Thomas
Leopold T. Poole, Koka Ahobala Rao, Daisy L. Shawyer (B.A.), John
M'Call Sellar, John W. Senter, Roland Thorp, Harry C. Todd,
C. Smith (M.A.), Dirk L. Theron, Robert C. Wallace, Arthur
James A. Tomb, Frederick L. Tulloch, and William L. Webster.

T[illegible]—James R. Adam, Thomas A.
M. Warwick, Frank H. C. Watson, [illegible] Bignold, Walter Bisset (M.A.,
[illegible] A. H. Carter, Peter Chalmers,
B.Sc.), [illegible] Bodh Raj Chopra,
Ralph B. Chamberlain, John P. Charnock, Gerald M Coughtrey, Godfrey
William F. Christie, Gladys H. Cook,

against numbers increasing steadily from 11 to 43 in the seven preceding weeks. These 44 deaths were equal to an annual rate of 5·8 per 1000; the rate during the week from the same diseases did not exceed 3·3 in London and 1·3 in Edinburgh. Of the 44 deaths from these epidemic diseases in Dublin during the week under notice, 39 resulted from diarrhœa, two from measles, two from diphtheria, and one from "fever," but not one from scarlet fever, whooping-cough, or small-pox. The deaths attributed to diarrhœa, which had steadily increased from three to 37 in the six preceding weeks, further rose to 39 in the week under notice. The 182 deaths from all causes during the week included 55 of infants under one year of age, and 27 of persons aged upwards of 60 years; both these numbers showed a slight decline from those in the previous week. Six inquest cases and five deaths from violence were registered, and 60, or 32·9 per cent., of the deaths registered during the week occurred in public institutions. The causes of three, or 1·6 per cent., of the registered deaths were not certified; in London the causes of all but one of the 1306 deaths were duly certified, as were the causes of all the 85 deaths in Edinburgh.

The annual rate of mortality in Dublin, which had increased in the four preceding weeks from 16·8 to 24·1 per 1000, declined again to 22·5 in the week ending August 29th. During the first nine weeks of the current quarter the death-rate in Dublin averaged 19·6 per 1000; the mean rate during the same period did not exceed 12·1 in London and 12·7 in Edinburgh. The 170 deaths of Dublin residents during the week under notice showed a decline of 12 from the increasing numbers in recent weeks, and included 35 which were referred to the principal epidemic diseases, against numbers increasing steadily from 11 to 44 in the eight preceding weeks. These 35 deaths were equal to an annual rate of 4·6 per 1000; the rate during the week from the same diseases did not exceed 3·5 in London and 2·4 in Edinburgh. Of the 35 deaths from these epidemic diseases in Dublin during the week under notice, 26 resulted from diarrhœa, eight from measles, and one from "fever," but not one from scarlet fever, diphtheria, whooping-cough, or small-pox. The deaths attributed to diarrhœa, which had steadily increased in the seven preceding weeks from three to 39, declined to 26 in the week under notice; the eight fatal cases of measles showed a marked increase upon the numbers returned in recent weeks. The 170 deaths from all causes during the week included 52 of infants under one year of age and 34 of persons aged upwards of 60 years; those of infants were fewer, and of elderly persons more numerous than in the previous week. Four inquest cases and four deaths from violence were registered; and 76, or 44·7 per cent., of the deaths occurred in public institutions. The causes of five, or 2·9 per cent., of the registered deaths were not certified; in London the causes of all but two of the 1327 deaths were duly certified, and in Edinburgh 1·9 per cent. of the causes of death were not certified.

VITAL STATISTICS OF LONDON DURING JULY, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·5 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 6·1, 6·2, and 5·6 per 1000 respectively. The lowest rates last month were recorded in the Cities of London and Westminster and the boroughs of Kensington, Hampstead, Holborn, and Greenwich; and the highest rates in Shoreditch, Bethnal Green, Stepney, Bermondsey, and Battersea. Scarlet fever was more prevalent in July than in any of the four preceding months; among the various metropolitan boroughs this disease was proportionally most prevalent in Shoreditch, Bethnal Green, Stepney, Bermondsey, and Battersea. The Metropolitan Asylums Hospitals contained 2693 scarlet fever patients at the end of last month, against 2868, 2707, and 2514 at the end of the three preceding months; the weekly admissions averaged 372, against 319, 342, and 307 in the three preceding months. The prevalence of diphtheria showed a slight increase over that recorded in June; this disease was proportionally most prevalent in Hammersmith, Fulham, Chelsea, Finsbury, Bermondsey, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 872, 804, and 768 at the end of the three preceding months, had further declined to 738 at the end of July; the weekly admissions averaged 100, against 107, 105, and 95 in the three preceding months. Enteric fever also showed a slightly increased prevalence last month; among the several metropolitan boroughs this disease was proportionally most prevalent in the City of Westminster, St. Marylebone, Hampstead, Islington, Finsbury, Shoreditch, and Bethnal Green. The Metropolitan Asylums Hospitals contained 54 enteric fever patients at the end of last month, against 45 and 48 at the end of the two preceding months; the weekly admissions averaged nine in July, against seven and eight in the two preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Holborn, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. The 27 cases of puerperal fever notified during the month included four in Fulham, three each in Islington, Hackney, and Wandsworth, and two each in Kensington, Lambeth, and Woolwich. Of the ten cases notified as cerebro-spinal meningitis, three belonged to Lambeth, two to Hackney, and one each to Paddington, Kensington, Stoke Newington, Shoreditch, and Poplar.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending August 1st the deaths of 4757 persons belonging to London were registered, equal to an annual rate of 10·3 per 1000; in the three preceding months the death-rates were 14·9, 12·2, and 10·4 per 1000 respectively. The rates of mortality in the several boroughs ranged last month from 5·9 in Hampstead, 7·5 in Lewisham, 8·1 in Battersea, 8·2 in Kensington, 8·3 in Woolwich, and 8·4 in Hammersmith and in Greenwich, to 13·0 in the City of London, in Southwark, and in Bermondsey, 13·1 in Stepney, 13·3 in Shoreditch, 13·4 in Bethnal Green, 14·9 in Holborn, and 16·2 in Finsbury. The 4757 deaths from all causes included 443 which were referred to the principal infectious diseases; of these, 114 resulted from measles, 39 from scarlet fever, 42 from diphtheria, 66 from whooping-cough, 11 from enteric fever, and 171 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. The lowest death-rates last month from these diseases in the aggregate were recorded in St. Marylebone, Hampstead, Stoke Newington, City of London, Wandsworth, Lewisham, and Woolwich; and the highest rates in Fulham, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The 114 deaths from measles were 50 below the corrected average number for the corresponding period of the five preceding years; this disease showed the greatest proportional fatality last month in Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Lambeth. The 39 fatal cases of scarlet fever were slightly fewer than the corrected average number; this disease was proportionally most fatal in Paddington, Hampstead, Islington, Shoreditch, Bethnal Green, Stepney, Poplar, and Lambeth. The 42 deaths from diphtheria also showed a slight decline from the average; among the various metropolitan boroughs the highest death-rates from this disease last month were recorded in Fulham, Chelsea, St. Marylebone, Islington, Stepney, Bermondsey, Wandsworth, and Camberwell. The 66 fatal cases of whooping-cough were 54 below the corrected average number; the greatest proportional mortality from this disease occurred in St. Pancras, Islington, Finsbury, Bethnal Green, Poplar, and Southwark. The 11 deaths referred to "fever" were less than one-half of the corrected average number in the corresponding period of the five preceding years; of these 11 deaths, two belonged to the City of Westminster and one each to Paddington, Chelsea, Islington, Finsbury, Shoreditch, Lambeth, Battersea, Wandsworth, and Deptford. The 171 fatal cases of diarrhœa were equal to only one-third of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, Fulham, Finsbury, Shoreditch, Bethnal Green, and Poplar. In conclusion, it any way attributable to the operation but to a cause entirely unconnected with it.

A Shropshire Centenarian.—Mrs. S. Hughes, of Oswestry (Salop), has recently completed her 102nd year.

It is suggested by the Weymouth board of guardians that the coastguard stations on the Dorset coast which have recently been closed should be used as sanatoriums for consumptive patients.

Mr. Roderick Simms, who had a practice in the south of France but who was acting as locum-tenent for Mr. H. J. Holman at Eastbourne, died suddenly while attempting to enter a motor-car at Eastbourne railway station on August 11th. At the inquest on the following day it was stated that the deceased had been in extremely delicate health and was unable to winter in England. Death was attributed to heart failure, and a verdict of "Death from natural causes" was returned. The deceased was 41 years of age.

At the meeting of the West Sussex education committee on August 12th, Mr. Stanley Child, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., was elected medical officer at the salary of £350 per annum and out-of-pocket expenses. There were 78 applicants for the post, of whom no fewer than 12 were ladies. To one of the lady applicants the staff subcommittee wrote stating that it had come to the conclusion that the work would be too arduous for her, for which reason she had not been selected for an interview.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C.

Operative Midwifery. By J. M. Munro Kerr, M.B., C.M. Glasg., Fellow of the Faculty of Physicians and Surgeons, Glasgow; Obstetric Physician, Glasgow Maternity Hospital; Gynæcologist, Western Infirmary; President of the Glasgow Obstetrical and Gynæcological Society; late Assistant to the Regius Professor of Midwifery, Glasgow University. Price 21s. net.

Bale (John), Sons, and Danielsson, Limited, 83–91, Great Titchfield-street, Oxford-street, London, W.

Venoms, Venomous Animals, and Antivenomous Serum-Therapeutics. By A. Calmette, M.D., Corresponding Member of the French Institute and of the Academy of Medicine; Director of the Pasteur Institute, Lille. Translated by Ernest E. Austen, F.Z.S. Price 15s. net.

Sprue and its Treatment. By W. Carnegie Brown, M.D., M.R.C.P. Price 6s. net.

Frowde, Henry, and Hodder and Stoughton, 20, Warwick-square, London, E.C.

The Oxford Medical Publications. A System of Medicine. By Eminent Authorities in Great Britain, the United States, and the Continent. Edited by William Osler, M.D., F.R.S., Regius Professor of Medicine in Oxford University, England; Honorary Professor of Medicine in the Johns Hopkins University, Baltimore; assisted by Thomas McCrae, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Volume IV.: Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Spleen, Thymus, and Lymph-glands. Price 30s. per single copy, or 24s. each net per set of seven volumes.

Green, William, and Sons, Edinburgh.

Recidivism: Habitual Criminality, and Habitual Petty Delinquency. By
A Problem in Sociology, Psycho-Pathology and Criminology.
J. F. Sutherland, M.D. Edin., F.R.S.E., F.S.S., Deputy Com-
dilorawr and the Dia- for Scotland; late Member and Secretary of
had been in poor health for on Habitual Offenders, Inebriates,
recently returned from a sea voyuents; late Medical Officer and
derived much benefit, and had resu sons, Glasgow and Barlinnie.
work. He attended Llansawel Church
on reaching home he had cerebral hæmor
on the following day. The funeral on Augus Practitioners. By
largely attended; amongst those present were cal Pathologist to
number of local medical men, Sir James Drummo the Children's
Sir James Hills-Johnes, and many others. Price 7s. 6d. net.
Human Body. By
S. Eng., Assistant
ive Surgery, late
lomew's Hospital.

Deaths of Eminent Foreign Medical
deaths of the following eminent foreign medic
announced:—Dr. Ignaz Hirsch, who has been ent. By Arthur
sician at Teplitz for more than 40 years, ster General Dis-
alo Lock Hospital,

Livingstone, E. and S., 15, Teviot-place, Edinburgh.

Poisoning by Arseniuretted Hydrogen or
a Record of 120 Cases by Different Obs
M.D. Glasg., F.F.P. & S. Glasg., L.R.C.P
Camb., F.R.S.E., F.C.S., Examiner i
Public Health for Diplomas in Medicine and Surgery and for Diplomas in Public Health of the Scottish Triple Colleges. Price 5s. net.

New Age Press, The, 140, Fleet-street, London, E.C.

The Endowment of Motherhood. By Dr. M. D. Eder. Price 1s. net.

Paton, J. and J., 143, Cannon-street, London, E.C.

Paton's List of Schools and Tutors. (An Aid to Parents in the Selection of Schools.) Eleventh Annual Edition, 1908–1909. Price 1s. 6d.

Rebman, Limited, 129, Shaftesbury-avenue, London, W.C.

Ophthalmic Surgery. A Handbook of the Surgical Operations on the Eyeball and its Appendages as Practised at the Clinic of Prof. Hofrat Fuchs. By Dr. Josef Meller, Privat-docent and First Assistant K.K. II., University Eye Clinic, Vienna. The Translation reviewed by Walter L. Pyle, A.M., M.D., Member of the American Ophthalmological Society, Ophthalmologist to Mount Sinai Hospital, sometime Assistant Surgeon to Wills Eye Hospital, Philadelphia, &c. Price 12s. 6d. net.

Death and its Verification. By J. Brindley James, L.R.C.P. Irel., M.R.C.S. Eng., A.K.C. Lond., Examining Physician-in-Chief to, and Vice-President of, the Association for the Prevention of Premature Burial. Price 1s. net.

Spon, E. and F. N., Limited, 57, Haymarket, London. Spon and Chamberlain, 123, Liberty-street, New York.

Public Abattoirs, their Planning, Design, and Equipment. By R. Stephen Ayling, F.R.I.B.A., Royal Academy Medallist; Godwin Bursar, Royal Institute of British Architects, &c. Price 8s. 6d. net.

Steinheil, G., 2, Rue Casimir-Delavigne, Paris.

Cholécysto-Pancréatite. Essai de Pathogénie. Par le Docteur Reine Maugeret, Ancien Interne des Hôpitaux de Paris. Price not stated.

Superintendent of Government Printing, India, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India.

No. 32. An Enquiry on Enteric Fever in India. Carried out at the Central Research Institute, Kasauli, under the Direction of Lieutenant-Colonel D. Semple, M.D., Director of the Institute, and Captain E. D. W. Greig, M.D. Price Re. 1 annas 2, or 1s. 2d.

No. 33. The Production of Alkali in Liquid Media by the Bacillus Pestis. By Lieutenant-Colonel W. B. Bannerman, M.D., B.Sc., I.M.S. Price 5 annas, or 6d.

No. 34. Standards of the Constituents of the Urine and Blood and the Bearing of the Metabolism of Bengalis on the Problems of Nutrition. By Captain D. McCay, M.B., B.Ch., B.A.O., I.M.S., Professor of Physiology, Medical College, Calcutta. Price 12 annas, or 1s. 2d.

Walker and Greig, Lindula.

First Aid to Medical Treatment of Tamils and Singhalese for the Use of Tea and Rubber Planters and Estate Dispensers. By R. J. Drummond, M.D. Edin. Univ. Price not stated.

University Press, Cambridge.

Linacre Lecture, 1908, St. John's College, Cambridge. Thomas Linacre. By William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford. Price 2s. 6d. net.

Urban und Schwarzenberg, Berlin und Wien.

Prof. Dr. Wilhelm Czermak. Die Augenartzlichen Operationen. Zweite, vermehrte Auflage. Herausgegeben von Dr. Anton Elschnig, K.K.O.O. Universitatsprofessor und Vorstand der Deutschen Universitats-Augenklinik in Prag. II. Band. Price M.25.

Appointments.

Successful applicants for V … of Public Institutions, and others possessing … mn, are invited to forward tc … the Sub-Editor, not later than … of each week, such information for gratuitous publication.

Buist, James Joseph, M.B. Lond., L.S.A., has been appointed *Public Vaccinator for Cardiff.*

Coutts, Francis James Henderson, M.D., B.Sc., D.P.H. Manch., has been appointed an *Inspector of Foods* on the Medical Staff of the Local Government Board.

Dunlop, J. B., M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Bradford Post Office.

Green, Thomas Arthur, M.D., C.M. Edin., F.R.C.S. Edin., has been appointed Medical Inspector by the Bristol Education Committee.

Grey, H. Martin, M.R.C.S., L.R.C.P., has been appointed Assistant Resident Medical Officer to the Royal Albert Hospital, Devonport.

Griffin, W., M.D., has been appointed District Medical Officer by the Tavistock (Devon) Board of Guardians.

Gunn, A. R., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ullapool District of the county of Ross and Cromarty.

may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 52 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 82 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Holborn, Battersea, Greenwich, and Lewisham; and the highest rates in Kensington, Stoke Newington, Finsbury, Shoreditch, Stepney, Southwark, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointment is notified:—Staff Surgeon: J. H. Lightfoot, to the *Leda*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Major H. C. Thurston, C.M.G., vacates the appointment of Deputy Assistant Director-General, A.M.S., at army headquarters, on the completion of his four years' tenure. Major Edwin T. F. Birrell to be a Deputy Assistant Director-General at headquarters, vice Major H. C. Thurston, C.M.G. (dated August 18th, 1908).

The undermentioned to be Lieutenants on probation (dated August 1st, 1908): David Stirling Buist, Charlie Ryles, Stuart McKenzie Saunders, William Edward Marshall, Gilbert Golding Collet, Edmund Vaine Vaughan, Alexander Morton Pollard, Herbert Gall, Thomas Burton-shaw Nicholls, Julian Babington Jones, William Gordon Wright, James Aitken Clark, Albert Thomas James McCreery, Charles Gregg Sherlock, John Startin, Colin Clarke, Arthur Norman Roy McNeill, Harold Bevis, Andrew Rae Wright, Austin William Byrne, Charles Hyacinth O'Rorke, George Singleton Parkinson, Thomas John Mitchell, Frank Hey Somers-Gardner, Harold Howard Leeson, Samuel Wasson Kyle, Denis Eldred Curwen Pottinger, John William Lane, George Hall Stack, and Donald Hector Colin MacArthur.

The undermentioned lieutenants are seconded, under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1907 (dated August 1st, 1908): Gilbert G. Collet, James A. Clark, and Harold H. Leeson.

Lieutenant Alan C. Vidal, from temporary half-pay, to be Lieutenant (dated August 10th, 1908). Captain J. H. Robinson, from the Royal Army Medical College, has been selected for service at Fermoy. Captain W. Byam has been selected for employment with the Egyptian army.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. F. Willis has been appointed to officiate as principal medical officer, Jubbulpore and Jhansi Brigades, vice Colonel D. O'Sullivan, R.A.M.C., appointed to act as principal medical officer, 5th (Mhow) Division.

An Army Department Note has been issued from Army headquarters, Simla, on the subject of specialist pay to military medical officers. It states that specialist pay is an allowance to officers below the rank of lieutenant-colonel for special sanitary, surgical, or medical work done for the State, which it is *not* in the power of ordinary medical officers to perform with the same efficiency as a specialist. It is not a personal allowance, but is granted only to incumbents of certain specified appointments when actually in a position to perform duties connected therewith. Officers of the Indian Medical Service in civil employment are not eligible for employment as specialists, but officers of the Royal Army Medical Corps in India are eligible for appointment as specialists under qualifications laid down by the Army Council. The eligibility of an officer of the Indian Medical Service for appointment as a specialist is decided by the Director-General of that service, whose conclusion is based either on certificates of a recognised institution or by examination of the candidate.

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 1st Shropshire and Staffordshire: Surgeon-Captain Wheelton Hind resigns his commission (dated March 31st, 1908). Surgeon-Lieutenant Colonel and Honorary Surgeon-Colonel John P. Massingham resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 27th, 1908).

Rifle.—6th Volunteer Battalion, The Royal Scots (Lothian Regiment): Surgeon-Captain Clement B. Gunn and Surgeon-Lieutenant James H. Horsburgh resign their commissions (dated March 31st, 1908). 3rd Volunteer Battalion, The Queen's (Royal West Surrey Regiment): Surgeon-Lieutenant Edmund F. Rose resigns his commission (dated March 31st, 1908). 2nd Volunteer Battalion, The Royal Scots Fusiliers: Surgeon-Lieutenant Robert Nelson resigns his commission (dated March 31st, 1908). 1st Volunteer *Battalion*, The Duke of Cornwall's Light Infantry: Surgeon-Captain Francis Chown resigns his commission (dated March 31st, 1908). 1st Volunteer Battalion, The Northamptonshire Regiment: Surgeon-Captain Herbert S. Baker resigns his commission (dated March 31st, 1908). 2nd Volunteer Battalion, The Highland Light Infantry: Surgeon-Major Walter Sandeman resigns his commission, with permission to retain his rank, and to wear the prescribed uniform (dated March 31st, 1908). Surgeon-Lieutenant William S. Paterson resigns his commission (dated March 31st, 1908). 2nd Volunteer Battalion, The Royal Fusiliers (City of London Regiment): Surgeon-Captain Michael G. Foster resigns his commission (dated March 31st, 1908). 4th Volunteer Battalion, The Queen's Own (Royal West Kent Regiment): Surgeon-Captain Arthur T. F. Brown resigns his commision (dated March 31st, 1908).

The following headquarters have been established for the London Territorial medical units: 1st London General Hospital at 9, Tufton-street, Westminster; 2nd London General Hospital at 71, New-street, Kennington Park; and 2nd London Sanitary Company at 51, Calthorpe-street, Gray's-inn-road.

THE ARMY AND NAVY MALE NURSES' COÖPERATION.

The first annual report of the executive committee of the Army and Navy Male Nurses' Coöperation points out that the existence of the coöperation has entirely depended on donations and subscriptions, and the small commission of 10 per cent. deducted from the nurses' fees. The expenses of the offices and advertising cannot be met at present out of the commission of 10 per cent. on the earnings of the 30 nurses now enrolled on the register, though they have been kept constantly in work and the applications for nurses are daily increasing. The committee therefore trust that the generosity of the public will enable them to build up a society which, in time, will be free from all claims on charity. It will be necessary to have at least 150 nurses in constant employment before the office expenses can be met by the percentage taken from their earnings. Advertising is also essential for the success of the scheme. Funds are also required for a residential home, and a small flat has been taken to lodge nurses who are next on the list for attendance on patients. Sir Frederick Treves was elected president of the coöperation and Sir Edward Ward and Inspector-General Maclean, R.N., were elected members of the executive committee. The income of the coöperation from incorporation to June 30th last was £1287 and the expenditure £961.

On August 21st Admiral Berryer of the French Navy visited the Naval Hospital, Gibraltar, and on behalf of his Government presented medals and other tokens of gratitude to the nursing sisters and members of the sick berth staff who attended the French seamen injured in the explosion on board the French cruiser *Jeanne d'Arc* last February. The Governor of Gibraltar and many naval officers were present at the ceremony. Admiral Berryer made a short speech, in reply to which Deputy-Inspector-General Charles James thanked the Admiral for the honour conferred upon the officers and staff of the hospital, and stated that the thanks of His Majesty's service would be conveyed to the French Government through the proper channels.

His Highness the Khedive of Egypt has awarded to Lieutenant-Colonel (local Colonel) George Douglas Hunter, D.S.O., R.A.M.C., attached to the Egyptian army, the Insignia of the Second Class of the Imperial Ottoman Order of the Medjidieh, and to Major George Dansey-Browning, R.A.M.C., the Insignia of the Fourth Class of the Order of the Osmanieh.

Notes, Short Comments, and Answers to Correspondents.

PRAYERS FOR THE SICK.

UNDER this title a correspondent of the *Halifax Courier*, writing above the initials "J. W. S.," has suggested that when prayers are asked in a place of worship for sick persons there should be rendered to those sick persons or their friends the aid of a medical consultation as well as the spiritual assistance which is sought. His suggestion is that the minister should "have the privilege, as an act of grace, to ask or to offer to send any physician or doctor in his congregation to go and see the sick person and consult with the medical attendant to find out if some other means of remedy cannot be tried to restore health." He also adds the suggestion that "there should be a town's physician of advice for the medical officers of health in towns to apply for advice in dangerous cases amongst the poor, and for such visit or advice to be free or the fee quite optional." We fear that his first proposal is not exactly practical and the intervention of the minister, however well meant, can only lead to confusion. The patient, the friends of the patient, and the medical man in attendance upon the patient might all have reasons for desiring a particular consultant and they could obtain his services directly. On the other hand, there might be no reason whatever for inviting the opinion of any one of the medical men forming a regular part of the minister's congregation. We do not quite understand what "J. W. S." means by his second proposal; it is very obscurely worded, and we think that he is not quite clear in his mind as to what a medical officer of health may be. A community could not support and pay a consulting physician for reasons that will be apparent to anyone who knows anything of the proper relations between medical men and the public.

THE FIRST MEDICAL BOOK PUBLISHED.

To the Editor of THE LANCET.

SIR,—In THE LANCET of August 22nd, p. 596, in "Notes, Short Comments, and Answers to Correspondents," referring to "An Adaptable Remedy and a Famous Quack," Mr. R. S. Wilkinson believes the "Compleat Practise of Physick," 1655, to be the first medical book published in English. I have in my possession, and in English, a well-preserved edition of—

> "The Breuvary of Health, named the Extravagantes followeth compyled by Andrewe Boorde of Physicke doctor.
>
> Examined in Oxford in June the yere of our Lord MCCCCCXLVI. and in the reigne of our souerayne Lorde Kynge Henry the viij., King of Englande, Fraunce, and Irelande, the xxxviij. yere. And newly Imprinted & Corrected the yere of our Lorde God MCCCCCLII.
>
> Imprinted at London in Flete Strete at the signe of the George next to Saynt Dunstone's Church by Willyam Powell. In the yere of our Lord God MDLII."

I have a rather dim recollection of an Andrewe Boorde, M.D., as mentioned by one of the commentators on Shakespeare. I have a further idea of having once read that an itinerant quack of the name of Andrewe Boorde was the original merry Andrew. It would be interesting if any of your readers could throw light on curious old matters of this kind. I am, Sir, yours faithfully,

Worthing, August 24th, 1908. WILLIAM KELLY, M.R.C.S. Eng.

PS.—It would be interesting to know if there is in existence an earlier medical book published in English than this one of Andrewe Boorde printed in 1552.

PUBLIC HEALTH AND SANITATION IN WEI-HAI-WEI.

MR. J. H. Stewart Lockhart, C.M.G., in his annual report on this territory—which, it will be remembered, was leased to Great Britain by China by a convention made in July, 1898—mentions that there has been remarkable freedom from disease during the past year. No cases of small-pox were reported. The Chinese inhabitants are fully alive to the advantages of vaccination, which has been systematically carried out. The number of vaccinations performed were 3737 on the mainland and 128 on the island, as compared with 3064 on the mainland and 223 on the island in 1906. There was little dysentery at any time during the year. Although no enteric fever could be traced locally there were two cases among the summer visitors. One of these was certainly imported from Shanghai; the origin of the other was more obscure but it seems probable that in this case also infection was introduced from outside the territory. Three cases of beri-beri occurred among the Japanese in connexion with a single building; the house and soil have been thoroughly disinfected and it is hoped that there will be no recurrence of the disease. The sanitary condition of Port Edward and the island is good. A new dairy erected on the mainland has been well kept and has supplied milk of a good quality. In the civil hospitals the in-patients treated during the year on the island numbered 35 and at Port Edward 120. There were on the island 2520 out-patients and at Port Edward 2306; these figures show a very satisfactory increase, the number of admissions at Port Edward being nearly three times as many as in the previous year. The behaviour and health of prisoners in the gaol were excellent. It has been found that the cure during imprisonment of any but the most confirmed opium smokers has been effected by depriving the smoker entirely of the drug at the cost to him of not more than a week or ten days of diarrhœa and malaise. Cases of suicide in Wei-hai-wei have been comparatively numerous. By far the greater number occur among women, the motive in many cases being trivial in the extreme. The frequency of suicide appears to be due partly to the fact that the idea of death in itself does not seem to act as a deterrent, and partly to the fact that the taking one's own life is apparently not regarded as disgraceful or as implying any moral obliquity. The district officer reports that so far as his experience goes the only occasions on which an act of suicide is condemned by the general voice of the community are when a young married woman destroys herself before she has presented her husband with a son or while she is still nursing an infant. The meteorological return for 1907 shows that the highest monthly barometrical average was for December, 30·209 inches, and the lowest for August, 29·624 inches, the average monthly range being 0·546 inch. The highest temperature was 92° F., recorded in June and August, and the lowest 7° F., in January and February. Rain or snow fell on 90 days, the annual fall being 37·85 inches, an amount higher than the average and exceeded only once in the last seven years. July was the wettest month with a rainfall of 12·29 inches.

AN ANCIENT PICTURE.

A CORRESPONDENT asks us for information concerning an old picture, presumably an engraving, which has recently come into his possession. The subject is stated to be Harvey describing the circulation of the blood to Charles I., and it is signed in the left-hand corner "*Robert Hannah*" and in the right "*Henry Lemon.*" It represents Harvey with a heart in his hand addressing Charles I., the viscus probably being that of a deer, as a deer's head is on the table. The Prince of Wales is leaning over the table with a Virgil in his hand and four other figures are grouped round, two of whom are presumably physicians as they are pressing their traditional round-knobbed walking-sticks against their nether lips. Our correspondent would like suggestions for the names of these physicians and any information that may be forthcoming about the picture.

WE have received from Messrs. Heynes, Mathew, and Co., of Cape Town a catalogue of scientific apparatus which they are prepared to supply to medical men, public health authorities, departments of agriculture, practical mineralogists, and so on in South Africa. The catalogue contains all the usual urinometers and saccharometers and the prices quoted for more expensive articles such as bacteriological microscopes, prospectors' outfits, incubators, and microtomes are distinctly reasonable.

◆

Dr. John M. Thompson (Chicago).—Our correspondent's address is undecipherable. The powder was analysed in our Laboratory and said to contain the very ordinary ingredients which occur in well-known formulæ of a similar sort. We added that we had received a list of testimonials containing "arrant nonsense." It is our experience that the American quack habitually and wrongfully makes use of our name in the way now brought to our knowledge. Letters pointing out the fact to the editors of American newspapers have no effect, so that we can occupy our time in more useful ways than writing them. Our note upon the powder was published in THE LANCET of April 26th, 1902, p. 1192. Perhaps our correspondent could assure the editor of the paper publishing the advertisement that the advertiser is an inaccurate person. We are sure that we should be unable to persuade him to have no more dealings of the sort.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 3rd, 1908.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Aug. 28	29 48	S.	0·12	106	65	55	56	58	Overcast
" 29	29 63	W.	0·20	121	67	55	55	60	Fine
" 30	29·89	W.	0·04	114	69	50	55	61	Cloudy
" 31	29·94	W.	0 13	94	62	43	48	56	Cloudy
Sept. 1	29·20	S.W.	0·23	101	61	52	53	58	Cloudy
" 2	29·83	W.	0·10	112	64	50	52	56	Fine
" 3	29·98	S.	0·19	87	57	45	48	50	Overcast

During the week marked copies of the following newspapers have been received:—*Times, Daily News, Star, Yorkshire Post, Glasgow Herald, Pall Mall Gazette, Science Siftings, Daily Chronicle, Liverpool Mercury, Sheffield Weekly Telegraph, Daily Telegraph, Newcastle Daily Birmingham Post, Irish Independent, Scotsman, Thames Valley Times, Hull Chronicle, Army and Navy Gazette, Eastern Morning News, &c.*

A CONTROVERSY ABOUT TEA.

To the Editor of THE LANCET.

SIR,—Your editorial note in THE LANCET of August 8th, p. 421, stating that the adulteration of China tea referred to by your correspondent is now quite remote history owing to the effect of the Sale of Food and Drugs Act of 1875 *providing for examination of tea by the* Custom House authorities, has incited me to inquire into your original account of the controversy about tea and exposure of the methods of its adulteration adopted by the manufacturers of tea in China prior to that date. I have referred to your articles on Tea and its Adulteration, published in the year 1851. In THE LANCET, 1851, Vol. II., p. 90, an editorial article mentions that considerable skill and ingenuity are displayed in the adulteration of tea as well as in the manufacture of spurious articles in its imitation. The chief adulteration, it is stated, is the use of leaves other than those of the tea plant, such as willow, poplar, plane, oak, hawthorn, sloe, beech, elder, and elm leaves. In the same volume, on p. 112, as the result of the analyses of 35 *samples of imported tea*, made by your investigator, 12 were found to be adulterated with black lead and nine were found to be composed of exhausted tea leaves and colouring matter. Of 24 other samples, purchased from dealers, four were found to be adulterated. On p. 136 of the same volume it is mentioned that the colour of "green tea" is very frequently imparted by artificial means, Prussian blue, mineral green, and other dyes being used. Various tables relating to the constituents of spurious tea which had been seized by the Custom House officials are given in this article. On p. 161, a simple means by which to discover whether tea has been artificially coloured or not is set out, and the results of microscopical and chemical analyses made by your commissioner of 36 samples of green China tea show that the *whole* of the samples were adulterated. On p. 210 of the same volume the microscopical and chemical *analyses of 20 samples* of green tea are given. All were adulterated.

This able report concludes by referring to the adulteration of tea by the Chinese and gives illustrations of the structure of the tea plant, microscopical and botanical, and ends by proposing as a remedy for this fearful adulteration a reduction of tea duty, which would extend the consumption of tea, and in all probability, as you suggested, increase rather than decrease the revenue, and it has so turned out.

There can be no doubt that this exposure, the first ever made, of the adulteration of China tea in those days led directly to the passing of the Food and Drugs Act, which, as you state, has proved to be a measure which has since prevented effectually the sale of adulterated tea in the United Kingdom. It is a curious coincidence that the introduction of Ceylon tea into this country dates from the same year—1875—and that now 33 per cent. of the whole of our tea import comes from Ceylon, and has never been charged in any way with adulteration. The same may be said about Indian tea, of which 58 per cent. of *all* our tea imports are at present used. Quite the reverse has happened in the case of China tea. At the time of your report, in 1851, and for a much later period, 1866, China supplied 90 per cent. of the tea used in this country. To-day not more than 5 per cent. is used. This is a very curious result of the alleged abolition of adulteration of China tea, and one feels greatly relieved to know from your columns that no filthy processes are now used in the manufacture of China tea.

I am, Sir, yours faithfully,
THEA SINENSIS.

August 31st, 1908.

THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—On Sept. 1st we posted to each member of the profession our sixty-fifth annual circular. Will you kindly allow us, through your columns, to ask for its early return to us? If by any chance a practitioner has not received the form we shall be glad to send one on application. It is particularly requested that the necessary alterations from Volunteer appointments to the Territorial Force should be accurately stated.

We are, Sir, your obedient servants,
THE EDITORS OF THE MEDICAL DIRECTORY.
7, Great Marlborough street, London, W.

THE WASHINGTON INTERNATIONAL CONGRESS ON TUBERCULOSIS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE MEDICAL PRESS AND THE ORGANISATION OF INTERNATIONAL CONGRESSES.—PRACTICAL LEGISLATIVE REFORM AND THE LANGUAGE DIFFICULTY.—THE EXCURSIONS AND ENTERTAINMENTS.—THE CUMBERSOMENESS OF THE LOCAL CONTINGENT.

THERE is a regrettable delay in the issuing of the final programme of the forthcoming International Congress on Tuberculosis. *As this time the congress meets at Washington* it will be far removed from the usual beaten track followed by such gatherings. The holding of an international congress is a technique in itself, and a generation is arising of specially qualified organisers both in the ranks of honorary secretaries and of paid clerks and employees. These latter travel *from city to city* and make their livelihood in organising and managing the bureaucracy which is so important and indispensable a part of a congress, but more especially of an international congress. It is no easy matter to reply to several thousand persons writing from all parts of the world; often asking for the most minute details, not merely in regard to the discussions and the papers which they want to read or to hear but in regard to personal *arrangements*, hotels, food, the sort of clothes that should be worn; whether there are *spring mattresses* or feather beds; whether the water is drinkable or whether they must bring *filters with* them; whether it is the custom to "tip" waiters, and if so at what percentage on the expenditure; these and many other odd questions flow in. It would require a large and very well-informed staff to reply to each person individually. Thus early in *the history of international*, and even of national, congresses it became obvious that much trouble would be saved by issuing a small practical guide answering beforehand all the questions likely to be asked.

Then there is the organisation of the general and sectional meetings and the requirements formulated by the International Association of the Medical Press. These are all the more necessary, as when the International Congress of Hygiene met at Budapest in August, 1894, the French and British representatives of the medical press had made all the necessary arrangements for a press strike so as to persuade the managers of the congress to afford the necessary facilities, otherwise it would have been impossible for the press to describe the proceedings in an adequate manner. It was at the meeting of the committee of the International Association of the Medical Press which was held at Berne in April, 1905, that a series of suggestions or rules were drawn up for the guidance of organisers of international congresses. Thus it was then pointed out that there should be a press room where journalists could work quietly. An inflexible doorkeeper was to exclude all but journalists and to be *specially* careful in preventing the entry of exhibitors and business men generally who are ever *hungering after* gratuitous advertisements and had rendered the press room at the Madrid International Congress of Medicine in 1903 a perfect pandemonium. On the other hand, close to the door of the press room there should be a number of pigeon-holes, one for every accredited journal, where letters marked "Press Bureau" and other communications could be left for its representative. If exhibitors and others are allowed into the press room *to interview* journalists and to attempt to persuade them to go to look at their exhibits, or members of the congress call in because they are anxious to have notices of their papers and speeches, there is an end to all quietude and it is impossible to work. A "silent" room for journalists is the first requirement.

Over and above the general card of membership there should be a special card for journalists and there should be a reporters' table in *each meeting* room or hall where none but the bearers of such cards should be allowed to sit. As the congresses are divided into many sections—there will be seven sections at Washington—no journal can be represented in each section. Especially is this the case when the distance and the expenses are great. No European paper will send seven correspondents to Washington and even the American papers are not likely to

Communications, Letters, &c., have been received from—

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French speakers present on that occasion. The members of the French medical profession will find it difficult to comprehend French as it is spoken in French Canada and they will be less likely to understand English as spoken in Massachusetts. The Boston organisers will, however, doubtless make a point of calling upon Bostonians who know French to help.

The great secret of success in all these matters is to limit the numbers. Such Congresses as those of Medicine or Hygiene are actually menaced with extinction because they are too numerously attended. It was said that, all told, some 7000 persons went to Madrid in 1903 for the International Congress of Medicine and there were only four first-class hotels in the town. It was thought that by specialising the congresses the number of members might be reduced, but to judge by the formidable lists published there is some danger that an unmanageable crowd will assemble at Washington. Above all, a method must be devised to reduce the number of native members, for, being close at hand, they can easily attend. It does not cost them as much time or money, so they come in great masses, though in spite of their numbers they can but represent one voice in the congress—that is to say, only one nation among the many nations. Then it requires a very strong chairman to prevent these numerous inhabitants of the country from speaking too often. The chairman has to insist that those who represent other nations shall have an equal hearing and that other languages than that of the place where the congress meets shall be heard just as readily; indeed, if any preference is shown it must, of course, be to the guests. If this is not done, and with a strong hand, an international congress will soon degenerate into a national congress. Eminent men, some coming from great distances, have to give way to local nobodies and abandon the meetings, and the whole thing ends in failure. This I have seen on more than one occasion, and this time it has occurred to me that, instead of criticising after the event, it might be more useful to point out what are the difficulties while it is still time to take measures so that they may be overcome.

THE REVIVAL OF CHOLERA IN RUSSIA.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

THERE has recently been a serious revival of cholera in Russia. Last year, it will be remembered, the disease became epidemic in the valley of the Volga early in July and thence spread very widely throughout European and Asiatic Russia, causing a large total mortality, though with few exceptions not producing an alarming epidemic in any particular town or district. The outbreak was reported to have come to an end some time in January last and for about six months the whole country appears to have been free from cases of the disease. The present revival of cholera seems to have begun a little later than last year's outbreak. Detailed information as to its origin is as yet wanting and there is some confusion in the returns both as to dates and as to numbers of cases and deaths. But information officially communicated to the Board of Health at Constantinople indicates the course of the epidemic.

On July 8th (21st) a labourer who had come from Baku died in hospital at Astrakhan from true cholera; on the same date a local resident in Astrakhan also fell ill of the disease. The subsequent returns have been rather confused; from July 8th (21st) to 15th (28th) there were 15 cases and 7 deaths. On the 19th (August 1st) 4 new cases and 2 deaths occurred; on the 20th (August 2nd) there were 7 cases and 2 deaths; and the totals from the beginning were put at 42 cases and 19 deaths. On the 22nd and 23rd (August 4th and 5th) there were 8 fresh cases and 7 deaths, and on the 24th (August 6th) as many as 22 new cases with 4 deaths. On the 25th (August 7th) a fatal case occurred "in the roads on the Caspian Sea," presumably on a ship.

In the meantime the disease had been spreading in the Astrakhan government. 2 cases and 1 death occurred (date not stated) in the Tsarevo district, and one fatal case on the island of Zaiatz. In the whole government 34 cases of cholera with 16 deaths occurred between July 8th (21st) and 19th (August 1st). On July 22nd and 23rd (August 4th and 5th) there were 16 cases and 3 deaths; on the 24th (August 6th) 10 cases and 5 deaths; and the totals from the beginning were put at 105 cases with 40 deaths. Another return stated that between July 20th and 25th (August 2nd and 7th) there were 92 cases and 38 deaths in this government. On July 27th (August 9th) there were 36 fresh cases here with 26 deaths.

The Saratof government lies immediately to the north of that of Astrakhan. The town of Tsaritsyn seems to have been the first infected. On July 11th and 12th (24th and 25th) there were 11 cases of cholera here with 8 deaths, and on the first-named date 5 cases with 3 deaths were removed from boats arriving at Tsaritsyn (presumably from Astrakhan). By July 13th (26th) there had been 25 cases and 14 deaths. On the 18th (31st) there were 22 new cases and 12 deaths; on the 20th (August 2nd) 11 cases and 6 deaths; and on the 21st (August 3rd) 17 cases with 10 deaths. The totals up to the last-named date were 113 cases and 55 deaths. In addition, 4 cases with 2 deaths occurred in the Tsaritsyn district before July 18th (31st) and 8 cases with 3 deaths in the same district on the 22nd (August 4th). One case was seen in the Balashef district at some date unnamed; 1 fatal case was recorded in the village of Otradni on July 11th (24th); and in the town of Saratof there were 2 cases on the 18th (31st). 3 cases were removed from ships on the river on the same day; 3 more cases occurred on the 19th (August 1st); 4 cases with 1 death on the 20th and 21st (August 2nd and 3rd); and 4 cases on the 22nd (August 4th).

In the government of Saratof 88 cases with 44 deaths were registered from the beginning of the epidemic down to July 19th (August 1st) and 152 cases with 74 deaths between that date and the 24th (August 6th). On July 26th (August 8th) there were 11 fresh cases and 15 deaths in this government and on the 27th (August 9th) 30 cases with 15 deaths. Among these was a fatal case in the town of Kamyshin, on the borders of the Astrakhan and Saratof governments.

In the Samara government there were 2 suspected cases and 1 death in the village of Balakou on July 11th (24th). Between the 19th and 24th (August 1st and 6th) there were 4 cases with 3 deaths in the government. Some time before the 26th (August 8th) 3 suspected cases had been seen in the faubourg of Pokrovski and the village of Rozno. In the Simbirsk government 1 case was removed to the Syzran Hospital from a steamer coming from Astrakhan on July 18th (31st) and a supected case occurred in the town of Simbirsk some time before the 26th (August 8th). In the government of Kazan 2 suspected cholera cases had been recorded some time before the last-named date. So far as is known at present this is the most northerly point that the epidemic has yet reached.

Westward the infection has spread from Astrakhan to Rostof and the Don Territory. In the prefecture of Rostof-on-Don 2 cases of the disease were seen on July 20th (August 2nd); on the 22nd (August 4th) 1 fatal case occurred in Rostof itself; on the 26th (August 8th) there were 14 cases here with 8 deaths; and on the 27th (August 9th) 7 cases with 2 deaths. In Nahitchevan, close by, 1 case was reported on July 25th (August 7th). In the Don Cossack Territory there were 2 suspected cases on July 22nd (August 4th) in the village of Kalatal; between the 22nd and 25th (August 4th and 7th) 14 cases and 10 deaths were registered in the whole territory; and on the 25th and 26th (August 7th and 8th) 2 cases with 3 deaths.

On July 26th (August 8th) 2 cases of cholera were seen at the station of Taganrog; they had presumably brought the infection from Rostof. At Novorossiisk, on the Black Sea coast, a suspected case was seen on August 1st (14th); the diagnosis of cholera was subsequently confirmed but the patient recovered. On August 4th (17th) 2 suspected cases were observed at Ghelindjik, situated 40 kilometres from Novorossiisk. Finally, a case of cholera was imported to Baku from Astrakhan on August 1st (14th) and on the following day a fatal case occurred there in a local inhabitant; and from Tiflis the Turkish Consul reports the occurrence on July 24th (August 6th) of a suspected case.

It will be seen from the above that information on the course of the outbreak is in many instances very incomplete and spasmodic. The totals for the whole country have been stated to be as follows: between July 8th and 19th (July 21st and August 1st) 93 cases and 47 deaths, and situation always rupture, but when they do rupture they lead to rather striking post-mortem appearances. Those of you who saw the post-mortem examination of this case will remember the appearance. And their peculiarity lies in this: that although these aneurysms are only covered by a very delicate membrane, in the majority of cases the pia mater is not ruptured and the blood is extravasated between the membrane and the surface of the brain, and the remains of that you can still see here. Not uncommonly the big vessels of the base, the basilar or some other big vessel, is imbedded in a blood-clot half an inch thick. This blood is extravasated all over the base, from the optic chiasma backwards, and then it passes up the side of the pons, the side of the medulla, and so gets into the fourth ventricle, and in that way it passes through the iter through the third ventricle, and so into the lateral ventricles. Those of you who saw the necropsy on this case will remember that when the brain was sliced open the ventricles were full of blood, as full as they very well could be. It is difficult at first to believe that all that hæmorrhage in the interior of the ventricles can be derived from hæmorrhage on the surface of the base of the brain. This specimen has been carefully dissected by Mr. T. W. P. Lawrence, and he has shown that there is no other rupture and that the whole of the blood in the ventricles has been derived in the way I have described—namely, by passing up the side of the pons, up the side of the medulla, and so getting into the fourth ventricle and so on. It is very extraordinary, when you consider the pressure inside these vessels, and when you consider that they are only covered by a thin layer of pia mater, that with the rupture of an aneurysm the pia mater does not usually rupture, and that there is no blood extravasated into the subdural space. Subdural extravasation is a most exceptional thing. I have never seen it in the instances of aneurysm of this kind which have fallen under my notice.

There is another form of rupture which may occur, and that is the aneurysm may become adherent to the cerebral substance and give rise to intracerebral hæmorrhage which bursts into the brain matter and not externally. You will understand that I am talking all the time of aneurysms of the vessels at the base of the brain. But, of course, these aneurysms do not by any means always rupture. Sometimes they give rise to other effects. They may reach such a size as to press on the cerebral structures and cause cerebral softening, and not bring about death by rupture. A few words with reference to the incidence of these aneurysms. They may occur almost at any time of life up to extreme old age, but the bulk of them occur in the first half of life, before the fortieth year, and a very considerable proportion of them occur between the twentieth and the thirtieth year. They have been known to occur in childhood, and in persons between 20 and 30 years of age they are fairly common comparatively. There are a few isolated instances on record where the disease has occurred even before the tenth year of life. But the main interest in the clinical picture which I want to draw lies in the group of cases where this condition occurs in adult life from 20 to 30 years of age. In the case of people over 40 years of age there is not so much interest in the etiology or clinical course of aneurysm as there is in the occurrence of the disease in those who are younger. I will not waste your time in discussing the pathology of the condition, but will simply draw your attention to the fundamental point that aneurysm is the result of local disease of a vessel wall; that lies at the root of the pathology of the disease; it is the striking difference between aneurysm and arterio-sclerosis. It is a manifestation of a local disease, often of a patchy disease. The local disease is, in a very large proportion of cases, atheroma, and is atheroma of no doubt syphilitic origin, and we think that in the case of cerebral aneurysms their causation by syphilis is, if anything, a more definite characteristic than it is even in such aneurysms as those of the aorta. In all the cases here where a history was obtainable there was no difficulty in tracing the syphilitic infection. So much is that the case that you might make a more general statement and say that in aneurysms involving the large vessels in young persons the probability of the condition being syphilitic is great. But bear in mind that in the case of the cerebral vessels, great as is the part played by syphilis, there is another factor which does not play any considerable part in the production of aneurysms elsewhere—that is to say, the factor of embolism. You never think of embolism as a possible cause of aneurysm of the aorta or the more familiar forms of aneurysms with which we are concerned. But in the case of the cerebral vessels there is no question of aneurysm being sometimes dependent on embolism. And you must bear in mind that the embolism may be not only that produced by such malignant and septic processes as ulcerative or malignant endocarditis, but also that a vessel wall may be damaged by a more benign embolism than that.

You must, therefore, bear in mind that not only may the physical signs of the condition which causes embolism pass away but that it is not too far-fetched to suppose that sometimes the condition itself may pass away. A patient may get embolism from the detachment of blood clot from the interior of the heart, for example, but it does not necessarily mean the presence of valvular disease, and I do not know that one would be justified in saying that a condition like that is always persistent. My point is that a patient may die from cerebral aneurysm which may have resulted from embolism, but that at the time of his death you may not be able to find any gross evidence of its embolic origin. So that great as is the part played by syphilis in the production of cerebral aneurysm one cannot say that if a person has cerebral aneurysm it is proof positive that he has had syphilis. In my own not very extensive experience I have seen fatal cerebral aneurysm in quite young people in whom there is not the smallest reason for supposing there was any syphilitic infection. I have one case particularly in my mind, that of a young girl 17 years of age, who had cerebral aneurysm, and there was no cause found post mortem for an embolic source and where certainly if anything could be excluded syphilis could. So one must not be too dogmatic about the part played by syphilis, although the bulk of the cases, and perhaps all the cases on the table with one exception, are of syphilitic origin. And I want to emphasise the point that you can never gauge the state of the cerebral vessels from the state of the peripheral vessels. So the fact of the radial being diseased does not, unfortunately, give a clue as to the state of the cerebral vessels.

So much for the age incidence and the distribution of the lesion. Now we come to the clinical side of the subject, and I am afraid I must classify the cases. From the clinical standpoint one may recognise the following groups, I think First of all there are the cases that produce no symptoms at any time, and that group of cases is considerable. The patient dies from something else and afterwards cerebral aneurysm is found, as in this specimen. Here is a cerebral aneurysm of the size of a small cherry on the basilar artery at its bifurcation, and it was derived from a case of malignant endocarditis which never presented any cerebral symptoms. You may see aneurysms very much larger than that which have never produced symptoms and which are found in the course of post-mortem examination where the patient has died from some totally different disease. It is very remarkable that you can have a thing of that size pressing on the pons or medulla and yet the patient present no symptoms. The second group are those where the patient simply presents the symptoms of a cerebral hæmorrhage—that is to say, he has no symptoms until he gets cerebral apoplexy, which is fatal, and the case is merely one of very severe cerebral hæmorrhage, rapidly fatal. You can sometimes suspect these cases to be aneurysmal owing to the rapidity of the onset of the apoplectic state. Those cases are of no great clinical interest—they are merely cases of cerebral hæmorrhage.

There is a third group where the patient presents symptoms in greater or less degree of a cerebral tumour, and those cases are of some clinical interest from the point of view of trying to distinguish between a cerebral tumour and an aneurysm. I think they must be rare, although they are described in all books, because personally I have never come across one. I have never seen a patient who had aneurysm where the symptoms were at all really suggestive of a cerebral tumour—in other words, where there was any difficulty or doubt in distinguishing between these two.

The fourth group of cases is the one to which I particularly want to draw your attention and the one which is really my sole excuse for talking about the subject to-day. I think there is a fourth group of cases the particulars of which it is difficult to sum up in a few words. It is a class in which there is a definite clinical course and where you can hazard a diagnosis, as a diagnosis was hazarded in this she had eaten. Such cases occur with too much frequency. Food apparently wholesome has become a deadly poison, against which there is no warning or protection. It is a subject worthy of investigation, not only from its intrinsic interest but in order to prevent if possible the occurrence of the deadly change and to provide some way of avoiding a terrible danger.

Inspection of Ships and Food.

The members of the Port Sanitary Authority of Manchester made an inspection about ten days since of the places on the Ship Canal where their work is carried on. The authority consists of 13 representatives altogether—four each for Manchester and Salford, and one each for Stretford, Warrington, and districts grouped about Eccles, Runcorn, and Widnes. Mr. W. F. Dearden is the medical officer to the authority. All vessels entering the canal are inspected by the officials and their sanitary condition and freedom from disease reported on. It was thought in the early days of the canal that Manchester suffered commercially somewhat, as compared with other ports, from the regulations on the canal as to foodstuffs being more stringent than they were elsewhere. However that may be, there will from to-day be no difference, as the Public Health (Regulations as to Food) Act, 1907, comes into operation at all the ports of the kingdom. It concerns itself with the inspection of food and embodies the main principles which have guided the Manchester authority for some years past. Good arrangements have been made at the various places on the canal—as Runcorn, Port Ellesmere, &c.—for food inspection, and the people of Manchester and a wide district around have good reason to be grateful to those who carry out the powers of the authority in guarding against the introduction of unwholesome foodstuffs.

Dukinfield Corporation and Medical Fees.

At Dukinfield the highways committee of the town council has decided not to pay an account of three guineas for medical attendance on one of the corporation workmen who had received an injury. Before the Workmen's Compensation Act came into force the custom of the corporation was to pay full wages to an injured workmen and also the charge for medical treatment. Now it appears that half wages and no medical fees are allowed. When the matter was discussed in the council last night only one member, an alderman, was found to support the plea of generous dealing with the workmen. "In not meeting the doctor's bill in the case of injured employees he maintained that the ratepayers would regard it as a niggardly, parsimonious, contemptible piece of business." In spite, however, of this expression of opinion this gentleman was the only dissentient from the passing of the minutes. Should the decision of the Dukinfield council be generally followed the Compensation Act will not gain in popularity.

Whisky as Medicine.

An inquest was held a few days since in Hulme on a child aged five years. The mother said that the child had complained of illness, so she bought sixpennyworth of whisky and gave her a teaspoonful that evening and one the next morning to ease her pains. The bottle was put on the mantelshelf and sometime in the morning she found the bottle empty and the child in bed unconscious, in which state she remained until her death the day after. Dr. A. N. Benson, who saw the child on the day before her death, said that she was suffering from acute alcoholic poisoning. A juryman asked if sixpennyworth of whisky would be sufficient to cause a child's death and Dr. Benson said that there would be about six ounces in the bottle and if a child drank that quantity undiluted it would kill the child. The verdict was "Acute alcoholic poisoning by misadventure." It seems remarkable that a child should drink six ounces of undiluted whisky and that its pungency did not stop the drinking of it.

Sept. 1st.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Public Health of the County of Durham in 1906.

THE issue of this report was delayed by the regrettable illness of the county medical officer of health, Dr. T. Eustace Hill, which necessitated a somewhat prolonged absence from work. It is pleasing to know that Dr. Hill has now quite recovered and is able to apply himself to his duties again with all his former zeal and ability. The report is one of considerable interest, dealing, as it does, with the health of the people concerned in one of the most important industries of this country—namely, that of the Durham coal fields. The area of the county was 637,672 acres, the same as in the preceding year, and included five boroughs, 24 urban districts, 14 rural districts, and two port sanitary districts. The population, based on the rate of increase between the censuses of 1891 and 1901, was estimated to be 822,160, an excess of 10,600 over 1905. The natural increase of the population was, however, 14,546, and, further, the estimates of the district medical officers of health exceed the official estimate by over 33,000, the greater part (26,000) of this number being allocated to the rural districts. Dr. Hill appears to agree with the probability of a fallacy in the official estimate, for he says that "*owing to the prosperity of the coal trade (1906)* and the opening out of a number of new collieries it is highly probable that the population is under-estimated," and a further argument in support of the under-estimate is that afforded by the fact that a large number of new dwellings had been erected without apparently in any way reducing "the very serious over-crowding." The birth-rate for the county was 35·2 per 1000 of population, an increase of 0·8 over 1905 and 8·2 per 1000 above the average for England and Wales. In all the agricultural portions of the county the birth-rate was considerably below 30 per 1000. The death-rate was 17·5 per 1000 of population, an increase of 0·1 over 1905 and 2·1 higher than that for England and Wales. "Considering the high mortality from diarrhœal diseases during the third quarter of the year the total death-rate cannot be regarded as unsatisfactory." The death-rate in the rural districts (17·9) considerably exceeded that for the urban districts (17·3). Infantile mortality was equal to a rate of 157 per 1000 births registered, as compared with 159 and 162 in the two preceding years. "Although the county infant mortality rate has shown a tendency of recent years to progressively decline it still very greatly exceeds the rate for England and Wales, which in 1906 was only 133." The death-rate from zymotic diseases was equal to 2·40 per 1000 of population, which is rather higher than in 1905 (2·37) and much higher than for England and Wales (1·73). Enteric fever was responsible for a total death-rate of 0·22 per 1000 of population (1090 cases), which is more than twice as high as the rate for England and Wales. The total deaths from phthisis numbered 904, a rate of 1·09 per 1000 of population. In the previous year the rate was only 1·00. The deaths from other forms of tuberculous disease numbered 610, practically identical with the number in the previous year. The total death-rate from all tuberculous diseases was 1·84 per 1000 of population, which is 0·10 higher than in 1905. Malignant diseases were responsible for a death-rate of 0·65 per 1000 of population as compared with a rate of 0·58 in 1905. "Generally speaking, the water-supply to the populous districts in this county is satisfactory, but unfortunately many dairy farms in outlying rural areas are dependent for their supply on springs and shallow well-waters which are liable to serious pollution." Drainage and sewerage appear to have made "fairly satisfactory progress" during 1906, but it is evident that very much yet remains to be done. In some districts the local authorities still require to be convinced that well-constructed covered drains and sewers are immeasurably more sanitary than objectionable open channels. Dealing with factories and workshops Dr. Hill says that a perusal of the tables suggests either that the inspections made are not very frequent or minute, or else that the sanitary condition of the workshops and workplaces is very satisfactory, as the defects reported are neither numerous nor serious. This publication may be regarded as an expression of opinion by one of our ablest and most experienced sanitarians in the first decade of the twentieth century. Dr. Hill makes no rash or unsupported statements. He quotes facts or authorities and draws clearly thought out and carefully considered conclusions. The report is noteworthy for its eminent reasonableness and truth and it is to be hoped that those responsible for the conditions—such as the want of proper housing accommodation, &c.—which Dr. Hill on irrefutable evidence shows should not be, will read this report carefully, for it teaches its own lesson. Bad housing may appear cheap but the apoplexy. This patient for a fortnight presented no fresh symptoms, then one day he wished to pass a motion, and subsequently to that, or whilst in the act of passing it, he called out to the sister, and was dead in a few minutes; very probably the rupture occurred during the straining at stool. Other patients have suddenly sat up in bed, called out, and fallen back unconscious and died. But in a number of the cases death does not occur quite as rapidly as that. The patients become profoundly unconscious, respiration becomes more and more irregular, and finally it ceases, and yet the pulse goes on beating vigorously. I have met with instances where artificial respiration has been carried on for three or four hours in these cases, the heart beat going on all the time. I think, however, that they are really quite hopeless. It has been suggested that trephining might be done to relieve the tension while artificial respiration was being performed. These cases run a slightly different course from the ordinary cases of cerebral hæmorrhage, in the extraordinary way in which the respiration is arrested and the pulse continues. That is the clinical picture, then, of this group of cases. As I said at the beginning, I think they form a very definite group of cases, characterised by these phenomena: (1) that there is an early seizure followed by (2) a period in which there are no marked symptoms of any kind, perhaps with the exception of some stiffness of the neck, and (3) subsequently there is a fatal seizure.

In some of these cases, as in the last one, optic neuritis is present. I am told that this last patient had optic neuritis in the left eye. Optic neuritis has been described, of course, in a considerable number of cases of cerebral aneurysm. Those are the points of main interest about these cases, and the only thing in addition which I will say about this particular one is that we got as far as hazarding a diagnosis of basilar aneurysm on account of the curious seizure which he had. But at the bedside I could not myself account for his sudden loss of sight; I could not correlate the general weakness of his four limbs with the loss of sight in the right eye. That was due to lack of knowledge on the subject, because it is one of the features which have been described a considerable number of times, and there are two or three specimens in the museum which illustrate pressure on the optic nerve. But the curious thing in this case—showing how different the real thing in clinical medicine is from the artificial things which are sometimes detailed for teaching purposes—is that this man's aneurysm came from his left anterior cerebral, and yet the optic nerve that was involved was that of the right eye. The aneurysm crosses the middle line and apparently presses on the right optic nerve. I fear that you cannot see that in the specimen now, because the part of the optic nerve which was probably pressed on by the aneurysm has been left in the body.

What is the explanation of the two seizures which occur in these cases? One can only hazard a guess, but I think that probably first of all a slight rupture occurs and then a big and fatal rupture; the first seizure is due to a slight rupture and the fatal seizure is due to a second rupture. In this case the brain afforded some evidence of that, and it is the first time I have seen evidence of it, in the fact that all round the optic nerve and on the surface of the base of the brain there was a considerable amount of staining which might have been due to old blood clot which had been absorbed and the recent blood clot covered the whole thing over. In many of these cases the blood clot formed by the final rupture is so extensive and firm that it is only with the greatest difficulty you can find that there actually is aneurysm, only by washing away the clot for a long time that you can find the seat of the hæmorrhage. Another curious thing about this case is that this aneurysm on the anterior cerebral had, on the one hand, pressed into the brain, although it does not look a big aneurysm, and that it was projecting into the anterior extremity of the lateral ventricle. On opening the ventricle and looking down you can see the sac at its anterior extremity not ruptured, the blood clot in it showing through. So this aneurysm, although it had reached the ventricle, yet when it ruptured it did not rupture into the ventricle but in the way I have described—that is to say, externally, beneath the pia mater.

Those are the main points which I put before you. As regards diagnosis, I doubt very much whether you can diagnose with certainty aneurysm at the base of the brain, but at any rate you can suspect it, and that is what I wanted to bring before you, and I certainly think that the clinical picture I have tried to put before you is one which is true to the condition and is one which will enable you to suspect its existence in a patient.

Now, what is it liable to be confounded with? The condition which it is most likely to be confounded with, as far as my own experience goes, is a purely functional condition. Such a person is often supposed to be neurasthenic. Of course the cases which make the greatest impression upon one are often those where errors have been made, and I remember a case I saw once, the man being a stockbroker who had lost much money on the Stock Exchange and took to drinking. After a drinking bout he had a vague seizure such as I have described, and I saw him a few days afterwards, when there was nothing to be made out except that his extremities were rather weak and that he had some stiffness in his neck and occipital headache. It was thought by some to be obviously a case of neurasthenia; the idea that there was any organic disease was laughed at, because the man was apparently perfectly well. Three or four days after I saw him he sat up suddenly in bed and called out, and then fell back dead. He had one of these aneurysms. That is a most serious mistake, and it is one I want to warn you against making, because occipital headache, extending down the back, stiffness of the neck, and numbness of the extremities are sometimes features of neurasthenia, and therefore you might make the mistake. The absent knee-jerks may help you. The other errors of diagnosis are not important. It is not a serious matter to confound aneurysm with tumour or with meningitis or with any other fatal disease. The serious mistake is to confound the disease with a functional one, and that is what you are extremely prone to do, owing to the fact that when you see the patient the probability is that you will not find any very obvious signs, and such signs as may be present require careful investigation for their detection.

AN EXTENSIVE ENTERECTOMY FOR GANGRENE.

BY ARTHUR E. J. BARKER, F.R.C.S. ENG.,
PROFESSOR OF SURGERY AT UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL AND SURGEON TO THE HOSPITAL, CONSULTING SURGEON TO THE QUEEN ALEXANDRA MILITARY HOSPITAL, MILLBANK, S.W.

THE following case is one which has had many points of deep interest to myself in its history and treatment and may be as encouraging to others as it has been to me. It illustrates, besides, several of the good features of spinal analgesia in the clearest way. I have a strong conviction that this method of allaying pain was far more suitable to the case in hand than would have been any other general anæsthetic, and that by employing it some of the great risks commonly run in such operations were avoided.

The patient, a married woman, aged 47 years, who had had no children, had three years ago an attack of inflammation of the right ovary but no other illness. There had, however, been chronic constipation. On Sunday, March 29th last, she had tinned salmon at breakfast and meat-pie at early dinner. At about 2.30 P.M. she was seized with violent pain in the abdomen. During the afternoon she vomited once or twice and brought up undigested food. She had had a small, hard motion on Sunday morning. Confection of senna was taken on Sunday afternoon subsequently to the onset of the pain. The patient was seen at about 9 P.M. on Sunday evening by Dr. J. A. Belcher of Herne Hill and was then in great pain. The abdomen was flaccid but tender on deep pressure in the right iliac fossa. The pulse was 60 and of full volume. The temperature was normal. She was given chlorodyne, 20 minims every four hours. She was seen again by Dr. Belcher at 11 P.M. when the pain was still unrelieved. A quarter of a grain of morphine was given hypodermically. On Monday morning the patient said that she felt better and had had some sleep. The expression was, however, bad and the hands and face were cyanosed. The pulse was small at 130. The temperature was still normal. The abdomen was now much distended and very tender and there was dulness in the right iliac region. The case was regarded as probably one of appendicitis with perforation and I was sent for.

guineas from an anonymous subscriber. The board of management is to be congratulated upon the economical working of the institution as shown by the statement in the last annual report that in 1907 the average weekly cost for provisions was 5s. 8d. per head, and this amount was higher than it would have been but for the higher price, amounting in the aggregate to £155, which had to be paid for milk on account of the stringent regulations enforced by the board in order to insure a pure supply.

Health Report of Cardiff.

For many years past the medical officer of health of Cardiff (Dr. E. Walford) has added very much to the value of his annual report by including statistics which relate to a period extending over a considerable number of years, since the time, in fact, when the population of the town was just over 20,000, or about one-tenth of what it is at the present time. The report for 1907, which has just been issued, shows that in the middle of the last century there was a birth-rate of 44 per 1000, a death-rate from all causes of 29 per 1000, and a zymotic death-rate of 8·6 per 1000. The respective rates in 1907 were 26, 15, and 1·9 per 1000. Certain portions of the town are very crowded with houses, but strangely enough this fact is not reflected in the death-rates. For example, in East Cardiff there are 124 persons per acre and a death-rate of 11·5 per 1000, while in West Cardiff with 30 persons per acre the death-rate was 12·5 per 1000, and in Central Cardiff with only 15 persons per acre it was 15 per 1000. The population of each district is about the same. It would be of interest to have from Dr. Walford some explanation of these figures which are contrary to what would be expected. The infantile mortality rate in Cardiff—131 per 1000 births—is still high in spite of the excellent work that is being done by the health visitors. Dr. Walford considers that in any scheme for reducing the rate of infantile mortality the health of the mother during pregnancy must be taken into consideration and measures at present adopted must be extended so as to include instruction to pregnant mothers in the preservation of their own health as well as that of their children. He also advocates a further development of the present system of visits by women inspectors; a better control and supervision of the milk supplied to infants artificially fed; special attention to the cleansing of streets and the flushing of street gullies, and the removal of all offensive accumulations during the summer months; the adoption of the sanitary clauses of the Public Health Acts Amendment Act, 1907, and the revision of the regulations under the Dairies, Cowsheds, and Milkshops Orders. It has been the custom for some time in Cardiff to take a certain number of samples of milk for analysis unofficially, that is to say, the exact methods laid down in the Sale of Food and Drugs Act have not been complied with and the dealer does not know, therefore, that the samples are being taken for analysis. It is a little disquieting to find that of the samples thus obtained 31 per cent. were adulterated compared with 8·5 per cent. of the samples officially taken and concerning which prosecutions could be instituted.

The Falmouth Hospital.

In February last the Falmouth Hospital had a deficit balance of £65. Mr. R. Davey of Falmouth offered to subscribe half of that amount if by the end of June the other half had been raised. The president issued an appeal and by June 30th £158 had been received. This with Mr. Davey's gift gave the institution a substantial balance which is much appreciated by the committee as the ordinary income of the hospital is never sufficient to meet the expenditure.

Sept. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Motor Disaster near Fort Augustus: Serious Injury to a well-known Medical Man.

A TERRIBLE motor-car accident occurred on August 18th at Inchnacardoch, about two miles from Fort Augustus, which resulted in the death of Robert Hamilton, a chauffeur, and serious injury to Dr. John Kerr of Inverness. It appears that the car, which was a 10–12 h.p. "Swift" and quite new, left Inverness in the forenoon for Fort Augustus. All went well till Inchnacardoch was reached. There while descending a rather steep brae approaching a small bridge the car failed to take the curve, and striking the parapet of the bridge dashed over an embankment and fell a considerable distance. Hamilton was killed instantaneously, and Dr. Kerr was badly injured and rendered unconscious. Dr. Kerr was conveyed in a shooting tenant's car to the Lovat Arms Hotel, Fort Augustus, where he was soon attended to by his brother, Dr. G. W. E. Kerr of Inverness, and by Dr. J. Luke. Dr. Kerr returned from South Africa a few years ago. The deceased chauffeur, who was only 22 years of age, was a native of Stranraer and was recognised as a careful driver.

Aberdeen Royal Infirmary Milk-supply: Charge against the Dairyman.

Under the Sale of Food and Drugs Act Andrew Anderson, dairyman, Newmachar, was prosecuted in the Aberdeen sheriff court on August 20th. The charge was that on July 21st he sold and delivered to the Aberdeen Royal Infirmary 60 gallons of sweet milk in terms of contract with the directors of that institution, which, on analysis, was found to be not of the nature, substance, and quality of the article contracted for, in respect that it was found to contain not more than 2·70 per cent. of fat, being a deficiency of 0·30 (or 10 per cent.) of fat, and of 0·21 (or 2¼ per cent.) of solids other than fat, under the standard fixed by the Board of Agriculture. The evidence showed that the samples were taken by means of a "dipper" after stirring, whereas the Board of Agriculture suggests that the most correct and most certain method of taking samples is by a glass tube, or if that is not available that the milk should be mixed thoroughly by pouring from vessel to vessel and then "dipped." The sheriff on these grounds found the charge not proven.

Sept. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Campaign against Tuberculosis.**

ON Thursday, August 27th, the Countess of Aberdeen presided in Dublin at a conference of delegates forming the Tuberculosis Exhibition Consultative Committee in connexion with the Women's National Health Association of Ireland. There were also delegates present from the various urban and district councils of Ireland, as well as from the various organisations working in the anti-tuberculosis campaign, so that the assembly was a very representative one. Lady Aberdeen gave an interesting account of the work of the Exhibition during the past year, saying that it had visited 67 districts in Ireland and that the total estimated attendances at the lectures was 550,000, while many for want of room were crowded out. Over 300 set lectures were given at the exhibitions, and in addition every form of demonstration was employed, and there were also quiet talks to the public individually in order to bring home the truth about tuberculosis. Lady Aberdeen emphasised the unanimity that had prevailed amongst all classes and creeds and conditions in joining in the great movement on behalf of their country. She also mentioned that at the Washington Congress on Tuberculosis a prize would be given to the society that had done the most effective work against tuberculosis since 1905, and her apology for having worried the local secretaries of the various exhibitions held all over Ireland for details and estimates must be that in their name she was applying for this prize. Sir Otto Jaffe, an ex-Mayor of Belfast, moved and Dr. S. Agnew, medical officer of health of Lurgan, seconded a unanimously adopted proposal that the report should be received, printed, and circulated. Lady Aberdeen then said that with reference to the future they proposed to have a Tuberculosis Crusading Van to go round the remoter villages and those outlying parts of the country where the people could not be reached in any other way, and towards the expense of this Captain Wilkinson, on behalf of the trustees of the Pembroke Irish Charities Fund, had sent her a cheque for £500. The van was purchased and would soon begin its surgeon's point of view. All pain vanished within a couple of minutes of the spinal injection and the paralysis of motion followed rapidly. The abdominal walls were relaxed and absolutely still, which greatly facilitated operation. There was no increase of shock from the anæsthetic or the operation, and before the patient was off the table, on which she was left for a couple of hours, the pulse was good. Nor was there any consecutive shock later. This is so frequently the case in severe cases operated on under spinal analgesia as strongly to encourage us to employ this method. And although I regard this case as the most striking illustration of its good points that I have seen in over a hundred abdominal operations under spinal analgesia it does not stand alone. Of course the severe shock before the operation due to the acute strangulation of so large a portion of the small intestine might be expected to disappear to a great extent with the release of the latter, and the improvement after this operation was doubtless in part due to this. But it may safely be said that here the form of anæsthesia employed did not add to this shock.

In conclusion, it must not be forgotten that the early diagnosis of the gravity of the condition made by Dr. Belcher and his prompt action contributed, perhaps, more than any other factor in the saving of this patient's life. A letter from Dr. Belcher of a week or two ago describes the patient as now quite well in every respect at the end of six months.

Harley-street, W.

EXOPHTHALMIC GOITRE: A DISCUSSION ON ITS PATHOLOGY AND TREATMENT.[1]

BY A. GORDON GULLAN, M.D. LOND., M.R.C.P. LOND., F.R.C.S. ENG.,

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THERE are several instructive and noticeable facts to be gathered from the etiology of exophthalmic goitre. Firstly, it mainly affects women between the ages of 16 and 40 years—i.e., at the period of sexual vitality—and is rare before puberty and after the menopause. Of 495 cases compiled by Buschan, only 15 were under the age of ten years and only 31 were over 50 years of age. Of my own cases only one, a girl, aged nine years, was affected before puberty and my oldest patient was aged 47 years. In this respect Graves's disease differs considerably from myxœdema, as that disease, though present at any age, is much more frequent before puberty in the form of cretinism and later in life after the menopause. This disease, too, like myxœdema, is rare in men—only two of my patients were males. Ord and Mackenzie give the proportion as 20 to 1, which is probably correct, though many writers give a lower ratio.

The disease may occur in members of the same family and, indeed, in several generations. Five of my cases gave a distinct history of several members of their family being affected with the malady. For instance, two patients were sisters, and their brother, who had previously died from "consumption of the bowels," was affected in the same way. This consumption of the bowels may have been the diarrhœa of Graves's disease. Another patient's maternal aunt had been similarly affected; and two other patients had sisters affected with Derbyshire neck (cystic goitre). One of these, a woman, aged 30 years, had two sisters who resembled her in feature and stature; one, aged 28 years, showed early signs of this disease; and the other, aged 33 years, had a large cystic goitre but manifested no other symptoms. I must also mention Oesterreicher's well-known case, where a woman had 10 children, eight of whom suffered from exopthalmic goitre, and one of the latter had three children similarly affected.[2]

The illness is often consequent upon fright, mental shock, worry, or prolonged mental strain; or appears to date from an acute illness such as influenza. Thus in my cases one patient dated her illness "to a fright whilst pregnant;" another "to worry over a tobacconist business;" a third "to a family worry, her husband being out of work;" and three others give "worry over family matters" as the cause. The acute symptoms in another case, a nurse, followed an operation for acute appendicitis and the development of a patch of phthisis in her right lung, but some exophthalmos had been noticed in a slight degree for some months previously. This patient's sister also suffers from marked Graves's disease. The remainder of my cases gave no definite cause for the disease and stated that it came on gradually, generally saying that one or other prominent symptom developed some time before the rest. Intense grief and profound emotional disturbance have long been recognised as the cause of an acute attack, but it appears to me that in most, if not all, the instances where worry or fright is stated as the cause, these mental conditions are really *post hoc* and not *ante hoc*. I mean that the disease was present, perhaps in a latent or mild degree, at any rate in so slight a degree that the patient was not aware of its presence, before that mental strain occurred, and then owing to the nervous temperament, which is one of the strong characteristic conditions of the disease, she succumbed to the "worry or fright" in an abnormal degree, and consequently dates the onset of her illness from that time. In the case of the nurse mentioned above, I am confident that for some time before her mental shock some degree of Graves's disease was present. Quinsy has been mentioned as an antecedent. I have seen it present in several of my cases during the illness.

We must now turn to the interesting and debateable field of the pathology of this disease. The thyroid gland from a case of exophthalmic goitre shows marked changes, the cells have become columnar instead of cubical, the vesicles stellate instead of square or rounded, and a mucous substance instead of a colloid fills those vesicles. Mr. Walter Edmunds, after removing the greater part of the thyroid from a dog, found that the small part which he had left underwent changes of the nature of a compensatory hypertrophy, which is practically indistinguishable in its features from those I have just described.[3] These facts are strongly suggestive that the goitrous change of this disease is due *to a true hypertrophy which produces an increase of the specific secretions.* Furthermore, in support of this view is the strong similarity of exophthalmic goitre to the symptoms of thyroidism, or hyperthyroidism, produced experimentally in animals, or by over-dosage of thyroid extract in man. Mr. Edmunds has again rendered valuable aid to our knowledge of the pathology of Graves's disease by showing that if monkeys or dogs are fed with large doses of thyroid there results accelerated action of the heart, increased metabolism, loss of weight, increased action of the skin, and sometimes marked exophthalmos; indeed, all the symptoms of Graves's disease, including exophthalmos, can be produced in animals by the administration of large doses of thyroid gland. All these symptoms, with the exception perhaps of the exophthalmos, are produced in man by the excessive administration of thyroid, and are not infrequently seen when treating myxœdema. A patient of mine, a cretin, became irritable and fretful, with rapid action of the heart, raised temperature, moist warm skin, and flushing of her face when the dose of thyroid extract was raised to 12 grains per diem; all the symptoms quickly subsided on the withdrawal of that drug.

Again, in support of the contention that the disease is due to excessive activity of the thyroid (thyroidism) is the fact that the manifestations of exophthalmic goitre are the exact opposite to those of myxœdema, which disease is undoubtedly due to a deficiency of thyroid secretion (athyroidism). The low ebb of metabolism in myxœdema is clearly indicated by the infrequent low tension pulse, feeble cardiac action, mental and physical hebetude, subnormal temperature, dry swollen skin, constipation, diminution of the excretion of urea, and increase in body-weight. Whereas excessive metabolism is shown in exophthalmic goitre by the frequent raised tension pulse, accentuated action of heart, mental and physical condition active and alert, temperature inclined to be raised, moist skin, looseness of the bowels, increased excretion of urea, and loss of body weight. How the thyroid secretion modifies metabolism is still rather doubtful. It certainly has an action on bodily growth, as shown by its

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[1] A paper read before the Liverpool Medical Institution on March 12th, 1908, at a discu[illegible]e.

[2] [illegible] vol. iv., p. 489.

[3] Brit. Med. Jour., vol. ii., 1905, p. 1077.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Medical Society.

AT a recent meeting Dr. Mendel reported the case of a woman, 30 years of age, who suffered from pains in the chest and in the back, formication in the legs, together with defective action of the bowels and of the bladder; the patellar reflexes were increased; walking and standing were impossible. The symptoms were especially marked on the right side. The spinal processes of the second to the seventh dorsal vertebræ were painful and Dr. Mendel suggested that the trouble was due to the presence of a growth in the spinal cord between the above vertebræ. An operation was accordingly performed by Dr. Adler, the result being that a circumscribed serous meningitis was discovered. The fluid was let out by an incision of the meninges and the patient made a quick recovery. The cord itself was healthy. The patient is now able to walk without the aid of a stick. Similar cases have been described by Professor Oppenheim and Professor Krause but they are very rare. At the same meeting Dr. Melchior reported some experiments on animals which he had made by inserting for plastic purposes pieces of veins into the ureter. In the dog six centimetres of the vena saphena had been inserted into one ureter and though the other kidney was removed normal urine was discharged. Three months later the dog was killed and it was found that only two centimetres space existed between the two ends of the ureter while the inserted piece of vein had become rigid. Hydronephrosis was, however, present and it must still be left doubtful whether the method is available for practical use in human beings. Dr. Sticker next read a paper on the Action of Atoxyl and Heterogenic Albuminates on Cancer. He alluded to the different methods in vogue of treating cancer, mentioning serotherapy, of which the results were hitherto not very encouraging, antifermentative therapy, where toxic symptoms may develop, heterofermentative therapy, and radiotherapy. Atoxyl, an antifermentative compound, is very poisonous and in medium doses makes the growths grow faster; very small doses are not poisonous and make the growths decrease, but they begin to increase when the administration of the compound has been stopped for some time and a blood count reveals a rather considerable leucocytosis. Concerning the administration of heterogenic albumin, especially that derived from blood, a method devised by Professor Bier, Dr. Sticker said that of all species of blood that of wethers proved especially efficacious. The injection of from 10 to 15 cubic centimetres of blood of wethers into the periphery of a cancer makes the growth shrivel and become livid and during the following days a regressive metamorphosis of the growth develops. This success is, however, only transitory, the growth increasing again and the general state of the patient becoming worse by the formation of hæmolysin. Dr. Sticker has accordingly tried to combine the administration of atoxyl and of serum and in this way has diminished the poisonous effects of the atoxyl, while the curative action of the serum was more lasting. In human beings the combined method has caused a marked improvement but no definite cure.

Lunacy in Campaigns.

At a recent meeting of the Army Medical Society Dr. Stier explained that lunacy occurs among the members of a fighting force in a relatively greater number of cases than previously. During the campaign in German South-West Africa progressive paralysis and alcoholic psychosis were especially observed. The consumption of spirits by the men should be prohibited. Also in the Russo-Japanese war the number of lunatics was relatively considerable. In a future war the following measures should be taken against lunacy: (1) the medical officers with the troops and the mobile field hospitals should be provided with hyoscine and trional to tranquillise the excited patients and to make them fit to be transported; (2) in the base hospitals a department for lunatics must be provided; (3) the patients should be conveyed home in specially adapted carriages of the hospital trains; and (4) at home sufficient places must be kept free in the lunatic asylums to receive soldiers returning from the theatre of war.

August 31st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Hygiene of the Mouth in Primary Schools.

OUT of 50,000 pupils in the primary schools of Milan 47,000 are more or less the victims of buccal maladies—mainly affecting the teeth. These maladies are the coefficients, if not the immediate cause, of other and graver ones which crop up in adolescence. Other Italian centres are not more free from such disease, and so throughout the kingdom a systematic effort is being made on the lines of the provisions already taken *ad hoc* by the municipalities of Zürich, Charlottenburg, and Paris. The Milanese initiative, however, has features of its own which redound to the credit of that enterprising, prosperous, and progressive city. The "Associazione per la Scuola" (School Association), composed of representatives of the family and of the teaching profession, is acting in accord with the "Istituto Stomatologico Italiano" (Italian Institute of Stomatology), and both of them with the municipality, to make a periodical inspection of the primary schools beginning with the coming scholastic year 1908–09. This inspection is to be carried out by the "Commissione d'Igiene," presided over by Dr. Ambrogio Bertarelli and composed of Dr. Bordoni-Uffreduzzi, Dr. Clerici, and other eminent consultants and practitioners of the Lombard school. Under the auspices of this commission the inspection will be performed by the specialists attached to the Istituto Stomatologico who will communicate to the parents or guardians of the children concerned the "condizioni stomatologiche" of each, illustrated with appropriate diagrams. A small fee will be expected from the well-to-do families of the children inspected, while the service will be rendered gratuitously to those of humble means. At the end of the year the Associazione per la Scuola, in concert with the Istituto Stomatologico, will present to the municipality statistical tables of the cures effected and of the results obtained. The hearty response which all Milan has made to this initiative is of the best augury, and ought to stimulate the efforts of other centres to organise similar means of protecting their children from buccal maladies (including adenoids as well as carious teeth) so prevalent at that age in Italy.

The Population of Italy.

The "Direzione della Statistica" has issued its report on the population of Italy for the last statistical year, which (such is the slowness of Italian official methods) is not more recent than 1906. For the first six months of the 12 the population numbered 33,541,094, which indicates that the mean augmentation between the two last census returns has not been maintained, thanks to the emigration chiefly from the eight provinces of Mantua, Pavia, Macerata, Campobasso, Avellino, Salerno, Potenza, and Palermo, which have a population slightly inferior to that returned by the census of 1901. The marriages contracted in 1906 were 260,780, equal to 7·77 marriages for every 1000 inhabitants. In 1905 the proportion was 7·67 per 1000. The births in 1906 were 1,070,978, or 31·93 per 1000, while in 1905 they were in the proportion of 32·51. The deaths were 696,875, or 20·68 per 1000, as against 21·80 in 1905. By the changed conditions of emigration it is calculated that the mean augmentation of the population will return to its former proportions, in which case, towards the middle of 1911, the population will reach, in round numbers, 34,500,000.

A Bearded Girl.

The hospital at Padua has just received a girl, in her fourteenth year, possessed of a beard which many a young man might envy. The patient is a native of Forcal, near Vittorio, in the province of Venetia. She is a typical specimen of the robust mountaineer, with features strongly marked and suggestive of energy, with a deep chest and broad shoulders. At the age of 12 she began to grow a beard which in two years increased so rapidly that it is now several centimetres long and gives the poor girl the look of an adult male. An inmate of the skin wards (the "Clinica Dermosifilopatica") she is described as having a luxuriant head of hair and beard of dark chesnut colour without any sign of moustaches. Her parents are agricultural labourers, and she, with her six brothers, has already worked in the harvest field. Dr. Fausto Tessaro for one relapse which passed away on returning to the same treatment.

CASE 5.—A woman, aged 40 years. The usual symptoms were well-marked, there was also considerable pigmentation of the skin and some glycosuria. She did not improve under this treatment but left *in statu quo*, except for diminution in the amount of sugar passed.

CASE 6.—A girl, aged nine years. All the symptoms were present in a moderate degree, except exophthalmos. The thyroid has become softer and smaller. The circumference of her neck diminished three-quarters of an inch and accentuation and increased frequency of the heart and tremor have disappeared under administration of rodagen.

CASE 7.—A woman, aged 36 years. There was marked improvement of all the symptoms, which were very severe, under this treatment.

CASE 8.—A woman, aged 30 years, a patient of a medical friend, was greatly relieved, all her symptoms improving when placed on one-drachm doses of rodagen thrice daily. She had previously had various other kinds of treatment without any benefit.

CASE 9.—A woman, aged 42 years, the same patient as Case 5, was readmitted into hospital in November, 1907. Pigmentation and glycosuria were still present. She was ordered half a drachm of rodagen every four hours—i.e., three drachms daily—but as she did not give evidence of much improvement five grains of thyroidectin were substituted on Dec. 22nd with marked benefit.

CASE 10.—A nurse, aged 27 years, to whom I have already referred under the heading of etiology. She had all the symptoms well developed when she was ordered five grains of thyroidectin thrice daily. She has greatly improved under this treatment. Her pulse-rate has fallen from 130 to about 90 per minute, the circumference of her neck has decreased 1½ inches—i.e., from 13 inches to 11½ inches—and the nervous tremors and exophthalmos are less marked. This is the patient whose Graves's disease is complicated by phthisis.

CASE 11.—A woman, aged 25 years, whom I saw in consultation with Dr. Gerald Wallace in April, 1907, had improved so much under the administration of thyroidectin that we gave her permission, after due consideration of the circumstances, to marry, though 12 months previously that had been quite out of the question owing to the grave symptoms present. She had gained in weight and lost her nervousness, &c., under treatment. I have recently heard from Dr. Wallace that she has been married for several months and is in good health, the improvement being maintained.

CASE 12.—A woman, aged 17 years, sister of Case No. 16, always had a large thyroid. This increased considerably in size at puberty, which took place at 15 years of age, and she then developed definite symptoms of exophthalmic goitre. She has been under treatment with thyroidectin now for some months and has shown great improvement in all directions.

CASE 13.—A woman, aged 36 years, who was under the care of a medical friend for some years, manifested the classical symptoms, she gradually got worse until given rodagen one drachm thrice daily and then steadily improved.

CASE 14.—A man, aged 25 years, showed well-marked symptoms. He had improved on thyroidectin and been able to return to work. No other treatment was given.

All these cases I have mentioned have been under my observation since November, 1905, and I will not weary you with records of my earlier cases except to mention briefly two of special interest.

CASE 15.—A woman, aged 47 years, had had exophthalmos and other symptoms for more than 25 years. She was admitted into hospital in a very nervous condition; she had slight pyrexia, sweating, dyspnœa, and tachycardia. She died four days after admission with symptoms of heart failure and œdema of the lungs.

CASE 16.—A woman, aged 30 years. This was a severe case; there was a two years' history; exophthalmos was very marked; her hair was turning white. She was in hospital for two months with some improvement when she developed an acute exacerbation of all the symptoms, with marked pyrexia, vomiting, delirium, coma, and death. Death being evidently due to a toxæmia. Progressive loss of weight, pyrexia, sweating, and diarrhœa are always bad signs.

I have not mentioned the various and numerous old methods of treatment of Graves's disease, it would take too long to discuss them. Anything which diminishes the action of the thyroid gland is beneficial, and it is probably in this way that local applications of ice and cold and the x ray treatment act. I believe that in the anti-thyroid preparations we have valuable agents for counteracting the thyroidism of exophthalmic goitre; indeed, Case 1 was apparently saved from a fatal termination by the use of rodagen, Case 2 was cured, and the other cases show good results, and I believe better results will be obtained if larger doses than those I have mentioned are used. Where benefit is not obtained I consider that the dose is too small. Thus Dr. H. W. G. Mackenzie[12] records an extremely severe case of Graves's disease which recovered from all the acute symptoms by taking one ounce of rodagen daily; and Mr. Edmunds[13] has recently recorded three cases of marked improvement treated by the fresh milk obtained from thyroidectomised goats (1½ pints per diem). Heretofore I have never given more than one drachm of rodagen four times a day, as I remembered a case of Dr. G. R. Murray's in which bradycardia and collapse with a subnormal temperature occurred during prolonged treatment with drachm doses of rodagen,[14] but in future I shall, if necessary, give larger doses with caution. The only drawback to rodagen is its price. It costs about 3*s.* 6*d.* per ounce and on that account one feels inclined to prescribe it in small doses. Indeed, recently at the Stanley Hospital I have been trying thyroidectin instead, the good results obtained in Cases 9 and 10 encouraging me to do so.

I will not refer at any length to the value of operation in cases of Graves's disease. It appears to me to be a logical and scientific method of treatment except that we cannot be certain that compensatory hypertrophy will not take place in the portion of the gland left behind. Another patient had very marked symptoms, including nervous twitching, and was quite unfit for work. She was operated upon by my colleague, Mr. F. C. Larkin, who removed a considerable portion of one lobe of her thyroid. She was considerably relieved and is able to do her work with comfort. There is, however, not the slightest doubt that serious risk is entailed, patients not infrequently dying within 48 hours of the operation from sudden cardiac failure, as if from some poison gradually absorbed direct from the thyroid.

The result of the treatment of these cases of Graves's disease with rodagen and thyroidectin will, I am sure, commend the adoption of anti-thyroid medication.

In conclusion, I would urge that when this treatment is being used a prolonged trial, with large doses if necessary, should be given, and careful observations and statistics of the condition of the patient should be noted, so that slight changes may be readily recognised. And I would impress upon the chemist the great importance of the most careful preparation and standardisation of these drugs.

Liverpool.

SOME POINTS REGARDING SPINAL ANALGESIA, WITH A RECORD OF FIFTY CONSECUTIVE CASES.

BY J. MILL RENTON, M.B., CH.B. GLASG.,
EXTRA-DISPENSARY SURGEON, WESTERN INFIRMARY, GLASGOW.

ALTHOUGH it is now fully ten years since spinal analgesia was first introduced there is still considerable difference of opinion as to the value of the method. The question of its relative safety as compared with general anæsthesia and the class of case for which it is best suited have still to be definitely settled. Most of those, however, who have had experience of the method feel that it has a definite sphere of usefulness and is one that has come to stay. The earlier records of unfavourable cases with accounts of the dangers connected with spinal analgesia have kept many from trying it at all. These dangers and bad results, however, are only those incidental to the introduction of any new method or units are quartered. The lecturers are Royal Army Medical Corps officers selected by divisional and brigade commanders and attendance is voluntary. Non-commissioned officers and men have attended in good numbers. These courses will in future be held annually. A small manual on the prevention of disease in the army has been issued for use in connexion with these lectures. Courses of instruction in the practical methods of sanitation of lines, barracks, and cantonments have also been instituted for young medical officers. For this purpose all the lieutenants of the Royal Army Medical Corps and Indian Medical Service on first arrival in the country are posted for one month to Rawal Pindi, Poona, Lucknow, or Bangalore, according to the command to which they belong. The instructors are nominated by the principal medical officer of His Majesty's forces in India, and the courses are carried out under the immediate supervision of the senior medical officer in consultation with the command or divisional sanitary officer.

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[12] THE LANCET, Feb. 1st, 1908, p. 393

[13] THE LANCET, Jan. 25th, 1903, p. 227.

[14] Brit. Med. Jour., vol. ii., 1905, p. 1245.

Sanitary Supervision of Barracks.

Trial has been made in a few stations of training and employing a certain number of non-commissioned officers and men of each unit in the sanitary supervision of barracks, and regulations are about to be issued for this to be done in all British corps. Their duties will be carried out under the directions of the medical officer in charge of the lines and will consist in supervising within their lines water-supplies, the sale of food (except by regimental institutes), conservancy, disinfection, cleanliness, and sanitary policing generally. While so employed they will not be detailed for other duties. Classes of instruction will be held annually.

Bacteriological Laboratory at Muktesar.

The appointment of a physiological chemist for the bacteriological laboratory of the Indian Civil Department at Muktesar has been sanctioned. The officer will be selected at home.

Plague in the Punjab.

The report of the officiating Sanitary Commissioner in the Punjab for the year 1907 shows an average mortality from ordinary diseases combined with a mortality from plague which is without parallel in recent history. So numerous were the deaths from plague that the death-rate rose from nearly 37 per 1000 to slightly over 62, yet it is clear that apart from plague the registered death-rate was normal. These figures when analysed are found to present many remarkable points of interest. For instance, large towns suffered less than the small ones, and the plague mortality was highest in rural circles. There has been a decrease, from 51 per cent. in 1903 to 15 per cent. in 1907, in the preponderance, previously so remarkable, of deaths of females from plague; and while deaths from plague accounted for about half the deaths of persons of all ages they were responsible for only one-seventh of the infant mortality. To combat the plague Government took the usual measures, but the people are said not to have shown any willingness to avail themselves of inoculation or to practise evacuation on any considerable scale, though "they endured the epidemic with the splendid patience and fortitude which have characterised them in the past."

A Cheap Food.

The Government of Bombay is considering a suggestion by Commissioner Booth-Tucker to introduce tapioca as a cheap food. The Bhils of Khandesh have taken readily to the new food and are experimenting in growing it. The tuber is indifferent to heat (thriving best in open sunny situations) and will also withstand slight frost, so that broadly speaking it will exist anywhere in India up to an elevation of 4000 feet or so. It flourishes under a rainfall of 150 inches and at Poona it looks quite healthy with 25 inches. It is sown as a minor crop near their houses by the Nepalis and Lepchase in the Darjeeling district. It is also largely grown in Travancore and Malabar in the south. The average out-turn of the tubers per acre on the Manjri farm was 16,248 pounds. The percentage of starch to whole tubers varied from 16 to 25. These figures compare favourably with 13,440 pounds of tubers and 20 per cent. starch obtained in Jamaica. At Quilon and Alleppey, in Travancore, the chief centre of tapioca root trade, the root is sold in three different forms—viz.: (1) fresh whole tubers; (2) sliced and sun-dried tubers; and (3) sliced, boiled, and sun-dried tubers. In March last the following rates were obtaining at Alleppey: fresh whole tubers, 224 pounds per rupee; sliced and sun-dried tubers, 45 pounds per rupee; and sliced, boiled, and sun-dried tubers, 40 pounds per rupee. The large difference between the price of fresh tubers and that of sliced sun-dried tubers is mainly due to the former containing 66 per cent. of water.

August 6th.

Obituary.

THOMAS ORME DUDFIELD, M.D. ST. AND., M.R.C.S. ENG., L.R.C.P. LOND.,

MEDICAL OFFICER OF HEALTH OF THE ROYAL BOROUGH OF KENSINGTON.

Dr. Thomas Orme Dudfield, who died on July 30th, had for many years held a distinctly prominent position among sanitary administrators. During his long and busy professional life he was a careful observer of everything which concerned public health, and circumstances fortunately enabled him to turn his knowledge to practical account for the benefit of the community at large.

He was born on Jan. 23rd, 1833, his father being Mr. Samuel Dudfield, a veterinary surgeon in the city of Gloucester. His original intention was to follow in his father's footsteps, and after attending the usual course of instruction at a veterinary college in London in 1852–53 he settled in Cheltenham as a veterinary surgeon. In a few years, however, his plans were changed and he once more became a student in London, this time at St. George's Hospital, where his diligence and abilities gained for him various awards, including a prize of 20 guineas in each of the three sessions between 1858 and 1861. In 1860 he was anatomical prosector at the Royal College of Surgeons of England, receiving eventually from Mr. South, the President of the College, a letter of thanks for his satisfactory performance of the duties. In 1861 he graduated as M.D. at the University of St. Andrews and was admitted M.R.C.S. Eng. and L.R.C.P. Lond. In this year also he commenced practice in Kensington and obtained the appointment of visiting medical officer of the Poor-law infirmary of St. Margaret and St. John, Westminster, which at that time stood in Marloes-road, Kensington, but is now conducted on a different system in another part of London. Pauper nurses were in those days invariably employed in Poor-law institutions, but the unsuitability of the average pauper woman for such work was beginning to be recognised; Dr. Dudfield was an active supporter of the reformers who advocated the appointment of paid nurses exclusively and in a few years pauper nursing was a thing of the past. During his tenure of this appointment, which continued from 1861 to 1877, he was elected a member of the vestry of Kensington parish and served on the sanitary committee. In 1871 the vestry elected him as medical officer of health of the parish. His membership of the Association (afterwards the Incorporated Society) of Medical Officers of Health dated from 1871; in 1874 he was chosen one of the council; during the two sessions 1883–84 and 1884–85 he was President, his predecessor in the chair being the late Dr. J. W. Tripe, medical officer of health of Hackney. Reports of his two presidential addresses appeared in THE LANCET of Oct. 27th, 1883, and Nov. 1st, 1884; they were well-reasoned discourses dealing principally with the need of uniformity in the sanitary administration of London and were heartily approved by the members of the society. Dr. Dudfield was the representative of the society at the examinations of sanitary inspectors and was a vice-president at the time of his death. He was also a corresponding member of the Société d'Hygiène de France.

In connexion with his work as medical officer of health of an extensive area in the metropolis Dr. Dudfield wrote not only very detailed monthly and annual reports for 36 years but also many occasional reports and pamphlets. During the first 29 years that he was so engaged the London medical officers of health were officials of the local vestries—public bodies which were made sanitary authorities by the Metropolis Local Management Act of 1855, and continued to act as such until 1901, when their sanitary functions were taken over by the newly created borough councils. At the final meeting of the Kensington vestry, which was held on sufficient analgesia occurred in 3 cases and failure to puncture in 2 cases. I should like to refer in detail to a few of the more interesting of these cases.

CASE 9.—The patient was a man, aged 39 years, who had received a blow over the left kidney. He was admitted with swelling in the kidney region and very severe hæmaturia. He was suffering from an attack of bronchitis and was therefore unsuitable for a general anæsthetic. Puncture was done with the patient on the left side with the pelvis slightly elevated, between the second and third spines. There was a brisk flow of cerebro-spinal fluid and two drachms were withdrawn. One cubic centimetre of solution was injected. The patient was kept on the left side for five minutes, when analgesia was two inches above the costal margin. He was then turned on to the right side and the operation was begun. Twelve stones were removed from the kidney and the patient had no pain at all during the operation which lasted 40 minutes. He had slight discomfort once in the epigastrium when one of the uppermost stones was being dragged out. The patient chatted freely during the operation and was greatly pleased. Paralysis of the legs lasted one and a half hours. He was very well the next day. There was no headache or sickness at all.

CASE 12.—The patient was a man, aged 52 years, with intestinal obstruction with fæcal vomiting of three days' duration. He was very feeble. The pelvis was slightly elevated; puncture was done between the second and third spines. There was a slow flow and only a few drops were withdrawn. One cubic centimetre of solution was injected. In five minutes analgesia was above the umbilicus and incision was made below the umbilicus. There was obstruction due to a malignant tumour, so a Paul's tube was inserted. The operation lasted 30 minutes and the patient was quite comfortable all the time. The pulse was very feeble at the start but was rather better after the operation. At the end analgesia was to the ensiform. The patient was very well the next day and there was no headache or sickness.

CASE 15.—The patient was a woman, aged 45 years, with malignant disease of the stomach causing pyloric obstruction. She was very feeble. The pulse was so weak that a general anæsthetic was thought unsafe. The pelvis was elevated two inches; puncture was done in the second and third space. There was a slow flow; one drachm was removed and one cubic centimetre of the solution was injected. In seven minutes there was complete analgesia to the ensiform and the abdomen was opened by an incision above the umbilicus. Disease was so extensive that a gastro-enterostomy could not be done and the abdomen was closed. Throughout the operation, which lasted 20 minutes, the patient was quite comfortable, and so far as the analgesia was concerned a gastro-enterostomy could have been done. The pulse kept fairly good all through and she had neither sickness nor headache.

CASE 33.—The patient was a man, aged 67 years (the oldest case), with hydro-hæmatocele and diseased testis. He had marked arterio-sclerosis. Puncture was done in the third and fourth space in the recumbent position. There was no elevation of the pelvis. There was a good flow and two drachms were withdrawn; one cubic centimetre was injected. In eight minutes there was complete analgesia up to two inches above the pubes. The whole mass was removed along with the testicle and the patient felt no pain at all. He was very well afterwards. There was no headache, sickness, or shock.

CASE 35.—The patient was a man, aged 41 years, with acute ruptured appendix. He was very ill and the abdomen was very rigid. Puncture was done in the second and third space; there was a brisk flow and two drachms were withdrawn; one cubic centimetre was injected. In ten minutes there was analgesia to the costal margin and the operation was begun. It was striking in this case to feel the rigidity of the muscles pass off and the abdomen become soft. There was no pain or discomfort during the operation, which lasted 35 minutes. At the end there was analgesia to the nipples. The patient was very well the next day. There was no sickness or headache.

CASE 36.—The patient was a man, aged 40 years, with oblique fracture of the right tibia. Puncture was done in the third and fourth space on the right side; there was a slow flow, one drachm being withdrawn; one cubic centimetre of the solution was injected. There was no elevation of the pelvis and the shoulders were slightly raised. In five minutes the operation was begun and the patient was quite comfortable while his fracture was plated together. The operation lasted 50 minutes. He was very well the next day and there was no headache or sickness. There was analgesia to the umbilicus.

CASE 47.—The patient was a man, aged 65 years, for suprapubic prostatectomy. Puncture was done in the third and fourth space. There was no elevation of the pelvis. There was a brisk flow, two drachms being withdrawn; one cubic centimetre was injected. In nine minutes there was complete analgesia to the umbilicus and the operation was begun. There was no pain or discomfort at all, not even when the prostate, a rather adherent one, was being separated. The operation lasted 20 minutes and the patient was very well all through. He was very well the next day. There was no headache or sickness and no apparent shock.

Condition during operation.—If the stovaine has been properly given the patient has no pain at all during the operation and will chat away quite comfortably during the most painful procedures. In many cases tactile sensation remains and the patient can tell that he is being touched although he has no pain. There has been no anxiety from the analgesia during any of the operations. In only one case did the pulse become rather feeble. This was an appendectomy in a young man who was very nervous, and it so rapidly improved that I think it was due to his mental condition. There has never been any respiratory trouble and no cases of faintness have occurred. Occasionally nausea and even sickness occur at the commencement of or during the operation. This is most apt to occur when a high analgesia has been obtained and in abdominal cases. It is undoubtedly in some cases due to nervousness, but in others this will not explain it. Five of our cases have had some nausea and sickness during operation, but it has always passed off in from three to ten minutes and the operation has been proceeded with quite comfortably.

Abdominal cases.—Abdominal relaxation is perfect and no straining can take place as the abdominal muscles are paralysed. It is striking in an acute abdominal condition with marked rigidity to feel the muscles gradually relax and become soft as the stovaine begins to act. Cutting of the peritoneum causes no discomfort, but traction on the bowel or peritoneum sometimes gives rise to discomfort in the epigastric region and a feeling of nausea. This is more apt to occur if the analgesia has not extended far above the seat of operation and it was more marked in our early cases. Later I found that if the analgesia extended to the mid-sternum this feeling was rarely complained of. One of our early appendectomies had to get a little chloroform during the separation of some dense adhesions, as it caused him so much discomfort in the epigastrium. Acute abdominal cases do extremely well and none of them have had any nausea, sickness, or headache. Four cases of laparotomy above the umbilicus have been done, and in all the analgesia was quite complete, no pain being felt at all. One cannot, however, rely on quite such a long analgesia as lower down.

Hæmorrhoid and perineal cases.—Here the puncture is done in the sitting position and the effect of the heavy compound is well seen. Owing to its weight it runs down into the sacral curve and one only gets analgesia of the perineal region, the legs and abdomen remaining unaffected, although by the end of the operation there may be some analgesia and loss of power in the legs. The patient is quite unconscious of the dilatation of his sphincter and his pulse is not affected at all.

Hernias.—Here spinal analgesia is most satisfactory, the relaxation of the muscles is perfect, and no pain or discomfort is felt.

Operations on the extremities.—The analgesia is easily got here and is absolutely perfect, even tactile sensation being often absent.

Failures.—Out of the 50 cases there have been two failures to puncture and three failures to get sufficient analgesia after apparent injection.

Failures to puncture.—Case 20, a man, aged 62 years, already referred to, where the lumbar spines could not be felt at all; and Case 44, a woman, aged 25 years. After some trouble the needle appeared to pass in all right, but no cerebro-spinal fluid could be got. Puncture was tried in two different places with the same result.

Failures to produce analgesia after injection.—Case 6, a

C. Dalton, Richard B. Davidson, James Davie, William N. Davies, Francis A. Duffield, James Eaves, Herbert G. Feltham, John B. Ferguson, Graham H. Garnett, Colin Grant, Thomas E. Guthrie, Robert W. Hauman, John B. Haycraft, William C. Jardine, [illegible] John H. Jones, Janet Leiper, Leonard Leslie, [illegible] Lowe, Alfred J. M'Connell, William [illegible] Macfie, James Mackall (M.A.), Duncan Mackinnon, Mary Macmillan, Andrew J. Macvie, Charles G. Marais, William A. Miller, Rhoda M. Murdoch, William J. Nisbet, James E. R. Orchard, Johannes A. Pienaar, Jacobus P. du Plessis, Ella F. Pringle, John M. Scott, Matthew B. Smith (B.Sc.), Thomas C. Smith, Robert H. Tait, Leonard W. Owen-Taylor, William A. Todd, Allan Watson, and Tom Welsh.

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THE FOURTH INTERNATIONAL CONGRESS ON ELECTROLOGY AND RADIOLOGY.—We may again remind our readers that the Fourth International Congress on Electrology and Radiology will be held at Amsterdam from Sept. 1st to 5th, under the presidency of Dr. J. K. A. Wertheim Salomonson. The results of the three former congresses, at Paris in 1900, at Berlin in 1903, and at Milan in 1905, have proved their utility and importance, and the fourth congress will be organised on the same lines, the programme comprising all questions of electro-pathology, radiology, and electro-therapeutics. In conjunction with the congress an exhibition will be arranged of new or modified apparatus used in clinical and laboratory work, and also a collection of interesting radiographs. Communications with regard to the exhibition can be addressed to M. Vogelpoel and M. Noorweegen, O.Z. Voorburgwal 151, Amsterdam, who will act as agents. The congress and the exhibition will be held in the University, and the general secretaries and treasurers are Dr. J. G. Gohl and Dr. F. S. Meijers, who may be addressed at Vondelstraat 53, Amsterdam.

DONATIONS AND BEQUESTS.—The *Times* states that it is reported that Mr. Hugh Lewis, formerly of Tipton, has left the whole of his estate, valued at about £50,000, to the Guest Hospital, Dudley.—The late Mr. Openshaw, a native of Bury, has among other bequests, left the following sums for charitable purposes: £1000 to the Southport Infirmary, £250 to the National Society for the Prevention of Cruelty to Children, and £250 to the Manchester Royal Infirmary and Dispensary.—Dr. William Walter, who died at Rusholme Hall, Manchester, on March 17th, directed that, after the payment of a number of legacies and on the determination of various life interests in his property provided for in his will that property should be used for the endowment of a research scholarship for the study of the diseases of women and obstetrics at St. Mary's Hospital, in connexion with the University of Manchester. It is estimated that the bequest will amount to between £12,000 and £13,000.—Miss L. Tugwell, of Torquay, has bequeathed £500 to the Royal United Hospital, Bath.—The late Mr. C. W. Jones has bequeathed £1500 to the Carmarthen Infirmary and an additional £500 provided that the committee erects a children's ward at a cost of £750 and names it after the deceased.—The Chinese residents of Cardiff have given £20 to the funds of the Cardiff Infirmary.

MEDICAL MEN AND THE PUBLIC EYE.—The question of a medical man's fee came before the Hastings county court recently as a sequel to an operation performed upon a girl, aged 16 years, at Bexhill in June, 1907. The plaintiff was Mr. Robert Stuart Reid who had been called in as consultant and who performed the operation for which he charged 50 guineas.. The defendant was the father of the girl, Mr. John Greed, builder, and a member of the Bexhill town council, and he held that the amount was excessive and offered £25 in settlement. His honour Judge Scully, in giving his reserved judgment, said that the suggestion that the defendant's pecuniary position must be taken into consideration in fixing the fee was not a proper element to consider. The position that the plaintiff held in the public eye at Bexhill was as a general practitioner, and his honour said he could not hold that the plaintiff was entitled to remuneration as a specialist. He thought 30 guineas a reasonable and sufficient fee for the operation, and as 20 guineas had already been paid judgment was given for the plaintiff for 10 guineas and costs on that amount. His honour said that he appreciated that the operation was a difficult and a serious one and that the plaintiff exercised all proper and reasonable care in its performance. Evidence of witnesses, he added, showed that the girl's death was not in containing tubercle bacilli of human origin. None of them contracted the disease. 2. The same result was obtained with four animals which were caused to inhale the bacilli *in the form of spray. Injection* of bacilli into the peritoneal cavity or subcutaneously was no more successful. 3. Swine, asses, sheep, and goats were also unaffected. 4. In all cases where bacilli of bovine origin were substituted, the other conditions remaining the same, infection followed.[2] Koch then pointed out that experiments with human beings to determine their relative susceptibility were obviously impossible, but, in the opinion of the speaker, infection of the human subject was very uncommon; and he emphasised the last point on the ground that primary tuberculosis of the intestine is very rare, whereas it ought to be one of the commonest of diseases if the danger of infection through milk is real, owing to the quantity of milk consumed by children.

These opinions of Koch were contested at the Congress. They were contrary to the finding of two Royal Commissions which had been held in this country shortly before, and the general consensus of opinion was against Koch. Woodhead,[3] Cohnheim, Aufrecht, and Peterson,[4] all held that primary tuberculosis in man is comparatively common. This opinion was shared by the large majority of authorities in this country, and the evidence in favour of infection being due to tuberculous milk and meat was very strong.[5] Ravenel described striking cases in support of this view.[6] Hueppe quoted further cases to the same effect.[7] Crookshank combated the idea that human tuberculosis cannot be transmitted to bovines by describing successful inoculations carried out by himself and Sidney Martin.[8] It was, however, felt that opinions expressed so emphatically by an authority of Koch's eminence on a matter so nearly affecting the public health demanded the fullest investigation, and a Royal Commission was appointed to determine the questions at issue, whose findings were antagonistic to Koch's opinions, he having been misled, in the opinion of the Commission, by using only one strain of the bacillus and that not a very virulent one.

Koch, as I have said, in his speech in 1901 stated that experiments on the human subject to determine the effects of the bovine bacillus were out of the question, and this was obviously true when he made the statement, but in thinking over the whole matter it occurred to me that since that time the researches of Wright and Douglas on the opsonic effects of the blood fluids and their methods of estimating the opsonic index had placed in our hands an exact method, not only of experimenting with and ascertaining the resistance of human beings to the two strains of bacilli, but of extending the experiments to bovines and measuring their resistance also. It appears evident that a method of investigation which does not involve inoculation and feeding experiments or the infection and destruction of the animal will be advantageous on the ground of cheapness and expedition, and might be more certain and conclusive. If also it enables investigations to be carried on with the human subject with equal ease and certainty it will be still more valuable, a further advantage being the possibility of a very much larger series of observations. With this object in view I have carried out a series of illustrative experiments, with the results detailed in the succeeding part of this article.

The technique adopted was that of Wright and Douglas, with certain necessary modifications. Emulsions of human and bovine tubercle bacilli respectively were obtained from the Lister Institute, and every effort was made to get them as nearly as possible of the same strength, the origin of the two strains being guaranteed by the Institute. The same emulsions were used throughout all the observations, being stored in tubes, well shaken before use, and thoroughly centrifuged at the same time and in the same machine to get rid of clumps. Two volumes of white blood corpuscles, one of emulsion and one of serum, were used in all cases, and the time of incubation was a quarter of an hour. The strength of the emulsions had been so arranged as to give an average count of about one bacillus to each polymorphonuclear leucocyte. In the case of the bovine series the incubator was set to the normal temperature of the bovine—viz., 38·3° C. In all other cases the incubator of course worked at 37° C. The blood and leucocytes for the bovine series were obtained at the time of slaughter of the animal for food and in every case the carcass was afterwards inspected to make sure it was free from tuberculous infection. In every case the average of 100 counts was taken in arriving at the figures stated.

Bovine series.—This series comprises the result of observations taken with ten bovines of both sexes, but not differing very widely as to age, all being young adults of the age usually selected for slaughter—viz., from two to three years. The object of the observations was to ascertain whether the action of the opsonins in bovine blood was the same with regard to tubercle bacilli of both human and bovine strains, or whether there was any marked difference, which would indicate a distinction between the bacilli with regard to their susceptibility to the action of opsonins, and therefore a difference in the resistance of the animal to infection by bacilli of the different strains. The results are presented in the following table:—

TABLE I.—*Number of Bacilli of Human and Bovine Origin Respectively, taken up by Polymorphonuclear Leucocytes of Cattle (Average of 100 Counts).*

Number.	Human bacilli.	Bovine bacilli.
1	4·25	2·64
2	1·00	0·44
3	1·98	1·06
4	0·64	1·04
5	2·44	1·85
6	1·85	0·95
7	3·80	0·95
8	1·83	1·02
9	1·50	0·65
10	1·40	0·55
Total	20·69	11·15
Average of 1000 counts	2·069	1·115

This table indicates that there is a marked difference in the number of bacilli of the two different strains taken up by bovine polymorphonuclear leucocytes, and therefore also in the resistance of the animal to each. It will be seen that in every case save one (No. 4) the number of human bacilli ingested by the leucocytes is considerably greater than the number of bovine bacilli so absorbed. The phagocytes in some instances absorbed about three times as many of the one strain as they did of the other, and on the grand average of 1000 counts about 85 per cent. more human bacilli were absorbed than was the case with the bovine variety. This explains the comparative immunity of the bovine to infection of human origin observed by others, and may also explain Koch's failure to infect his animals, for an animal might easily be immune to a culture of mild human virus and subsequently succumb to a bovine culture owing to its inferior resistance to the latter variety. This comparative immunity is not, however, so great as to justify the conclusion that bovines are exceptionally resistant to infection of human origin, and indeed would easily break down under the invasion of human bacilli of high virulence, as was found to be the case by the Royal Commissioners.

Resistance of children.—A series of counts was then made to ascertain the resistance of children to the bacilli of the two different strains, and a result quite the converse of that in Table I. was obtained, the experiments all giving consistent readings.

It will be seen from Table II. that the counts were much greater with the bovine bacillus than those given with bacilli of human orgin. The average figures for these ten children and for 1000 counts in each series show a greater resistance to the bovine type by 254 per cent. as compared with the resistance to human bacilli. If these observations are correct, therefore, the average country child would be about two and a half times more likely to succumb to human infection than he would to infection through milk, assuming

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[2] Ibid.
[3] Medical Press and Circular, 1888, p. 265.
[4] Wurzburg Therapeutische Monatshefte, 1891, p. 18.
[5] Sladen: THE LANCET, August 10th, 1901, p. 369.
[6] THE LANCET, vol. ii, 1901, pp. 349, 443.
[7] THE LANCET, August 31st, 1901, pp. 611 et seq.
[8] THE LANCET, Nov. 2nd, 1901, p. 1177.

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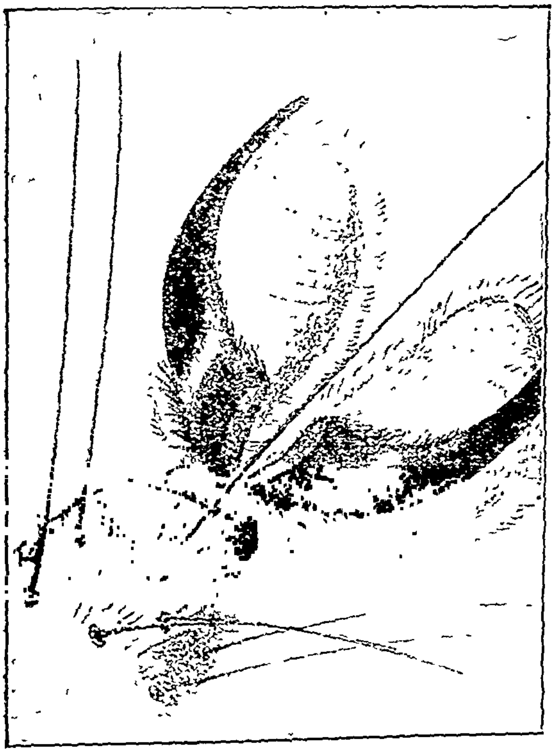
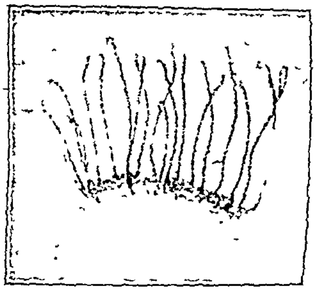
My next step was to investigate the anatomy of the house fly, its life-history, and habits. The best treatise upon it is by James Samuelson, "The Earth Worm and the Common House Fly," published by John Van Voorst, to which I am indebted for the following information. "It is an insect belonging to the order *diptera* (two-winged). The body of the fly is composed of three sections, viz.:—1. The head. 2. The thorax or chest which is subdivided into three parts, viz.: A—the prothorax which is the anterior part; B—the mesothorax or middle part; C—the metathorax or posterior part. 3. The abdomen which contains amongst other organs the reproductive organs. On the prothorax are borne the antennæ or feelers which are the tactile organs. On the prothorax is found the first pair of legs; on the mesothorax the wings and second pair of legs; and on the metathorax the last pair of legs."

FIG. 1.



The leg of the fly is divided into five distinct limbs. The upper four of these I will dismiss with the remarks that covering them are minute hair-like projections which the fly seems to use to brush its wings with, as any casual observer can see if they choose to watch a fly on the wall at any time. The most interesting portion of the leg of the fly is its final, that is, fifth or tarsal, joint. The tarsus or foot of the fly is subdivided into five joints, the final one being provided with an apparatus enabling the insect to walk upon what appears to us to be perfectly smooth surfaces and to proceed in a position opposed to the laws of gravity. This apparatus consists of two moveable claws (Fig. 1), which the fly can affix to any small eminence or depression it meets in its course; and also of a pair of membranous expansions called "pulvilli" or pads which, when magnified, appear like the broad termination of a parchment battledore. These pulvilli are furnished with innumerable hairs; at the termination of each of the numerous hairs covering the surface is a minute expansion *which is kept moist* by a fluid exuding from the extremity. The belief now prevails that whilst each single hairlet (Fig. 2) serves as a sucking disc the two pulvilli act as cushions to preserve the larger hooks from abrasion, like the soft cushions that protect the sole of a cat's foot and enable it to tread so lightly.

FIG. 2.



In the house fly the reproductive organs are asexual. The female is distinguished by having a small tube—viz., the ovipositor—placed at the end of its abdomen. This organ consists of three or four rings which the fly can protrude or retract at will and which she employs for the purpose of depositing her eggs. The female's internal organs consist of a pair of branching tubes in which the ova are developed, and the male has tubes and glands which furnish the spermatozoa-containing fluid. The sexual organs of both male and female are situated in the abdominal portion of the body. According to Keller, the female deposits her eggs six to eight days after impregnation; this she usually does in heaps of decaying substance such as her instinct denotes will most suitably nourish her larvæ—e.g., dunghills and the heaps of vegetable and other substances found in the neighbourhood of our houses. "If," says Keller, "the fly be enabled to choose the place which suits her best for the deposition of her eggs (as, for instance, in my sugar basin, in which I placed a quantity of decayed wheat) she takes a correct survey of every part and selects that in which she believes her ova will be best preserved, and her young ones well cared for. If there were too much moisture, the maggots would be drowned; if too little, the first drought would cause eggs and larvæ to become desiccated. Having chosen a suitable locality, one neither too wet nor too dry, she protrudes her little ovipositor and therewith lays her eggs, by the side of and upon one another. During the operation she sits perfectly still, remaining so for seven and a half minutes, and laying 70, 80, or 90 eggs."

Keller observed that the fly does not die after oviposition but believes, along with other naturalists, that she deposits her eggs three or four times during her life of a few weeks or months. He assumed that the fly deposits 80 ova at a sitting and does so four times in her life. Keller has drawn up a table showing that one fly in a single season may be the progenitrix of over 2,000,000 flies. This accounts for the tremendous number of flies met with in the summer, although a great number of her eggs are never hatched, being destroyed by drought, flood, or birds or animals preying on them, and a like fate meets many of the larvæ. Such is the portion of the anatomy and life-history of the fly, which bears upon summer diarrhœa.

I will now pass on to describe how the fly probably acts as the carrier of the infective agent of summer diarrhœa.

Harvey, Frank, M.R.C.S., L.S.A., has been appointed Medical Officer for the No. 1 District by the St. Columb (Cornwall) Board of Guardians.

Jackson, F. D. S., M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist at the Evelina Hospital for Sick Children, Southwark, London, S.E.

Jones, David Rhys, L.F.P.S. Glasg., L.S.A., has been appointed Public Vaccinator for the Grangetown District of the Cardiff Union.

Jupp, E. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chard District of the county of Somerset.

Krumbholz, C. J. L., M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Rugby District of the county of Warwick.

Macdiarmid, John, M.B., Ch.B. Edin., has been appointed House Surgeon at the City and County of Perth Royal Infirmary.

Mitchell, John C., M.B., C.M. Edin., has been appointed Government Bacteriologist to the Transvaal.

Nuttall, T. E., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Accrington District of the county of Lancaster.

Wormald, T. L., M.B., B.S. Durh., has been appointed Resident Medical Officer at the Workhouse Hospital, Newcastle-on-Tyne.

Wyndham, T. L., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Oughtibridge District of the county of York.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bath Eye Infirmary.—Honorary Surgeon.

Bath, Royal Mineral Water Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with lodging and board.

Bedford County Hospital.—House Physician. Salary £60 per annum, with apartments, board, and laundry.

Blackpool, County Borough of.—Medical Officer of Health. Salary £500 per annum, rising to £600.

Brighton, Hove, and Preston Dispensary.—House Surgeon. Salary £160, with rooms, coals, gas, and attendance.

Bristol Royal Infirmary.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Burnley County Borough.—Assistant Medical Officer of Health. Salary £200 per annum.

Bury Dispensary Hospital.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

Cancer Hospital, Fulham-road, London, S.W.—House Surgeon. Salary £70 per annum, with board and residence.

Chartham, Kent County Asylum.—Third Assistant Medical Officer, unmarried. Salary £140 per annum, with board, quarters, attendance, and washing.

Cheshire, New Crossley Sanatorium, Delamere Forest.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

City of London Lying-in Hospital, City-road, E.C.—Resident Medical Officer for four or six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Dudley, The Guest Hospital.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry. Also Medical Officer to the Casualty Department for six months, renewable. Salary at rate of £100 per annum, with luncheon and tea. Also Assistant Physician.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

Gloucester General Infirmary and the Gloucestershire Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Great Northern Central Hospital, Holloway.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing. Also Senior House Surgeon, Senior House Physician, Junior House Physician, and Two Junior House Surgeons, in each case for six months. Salary of senior officers at rate of £45 per annum and of the junior officers £35 per annum, with board, lodging, and washing.

Grimsby and District Hospital.—House Surgeon. Salary £120 per annum.

Ipswich and East Suffolk Hospital.—House Surgeon for six months. Salary at rate of £65 per annum.

Jarrow Education Committee.—School Medical Officer. Salary £200 per annum, increasing to £250.

Kesteven Education Committee.—School Medical Officer. Salary £250 per annum and £100 for travelling expenses.

Leicester Infirmary.—Assistant House Surgeon; also Assistant House Physician, both for six months. Salaries at rate of £60 per annum, with board, lodging, and washing.

Leysin, Switzerland, English Sanatorium.—Assistant Medical Officer, unmarried. Salary at rate of £72 per annum for first six months, afterwards at £96, with board and lodging.

Liverpool Royal Infirmary.—Honorary Assistant Surgeon.

London Temperance Hospital, Hampstead-road, N.W.—Resident Medical Officer and Assistant Resident Medical Officer. Salary of former £120 per annum and of latter £52 10s. per annum, with board and residence. Also Non-resident Assistant House Surgeon for six months. Salary at rate of £75 per annum.

Mandalay Municipality.—Health Officer. Salary Rs.600 (£40) per mensem.

Metropolitan H[illegible] N.E.—Resident Anæsthetist. Salary at rate [illegible] per annum. Al[illegible] Physician, House Surgeon, As[illegible] House Surgeon, all for six months. Salary of two former at rate of £40 per annum, and of two latter at £20 per annum.

Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

Newcastle-on-Tyne, Hospital for Sick Children.—Honorary Assistant Surgeon.

Norwich, Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

Oxford, Radcliffe Infirmary and County Hospital.—Junior House Surgeon, unmarried. Salary at rate of £40 per annum, with board, &c.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months, renewable. Salary £75 per annum, with board, residence, and washing.

Royal London Ophthalmic Hospital, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

Royal Navy, Medical Department.—Fifteen Commissions.

Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Junior Resident Medical Officer. Salary at rate of £50 per annum, with board and washing. Also Senior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

St. John's Wood and Portland Town Dispensary.—Third Medical Officer.

St. Peter's Hospital for Stone, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Sheffield Royal Hospital.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

Southampton Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board and residence.

Southport Infirmary.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

Southwark Infirmary, East Dulwich Grove, S.E.—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Stockport Education Committee.—School Medical Officer. Salary £250, increasing to £300 per annum.

Teignmouth Hospital, South Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

Torosay, Parish of.—Medical Officer. Salary £100 per annum.

Worcester General Infirmary.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Wrexham Infirmary.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and washing.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Hatherleigh, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

Vaughan-Sawyer.—On Monday, August 31st, at 131, Harley-street, to Captain H. Vaughan-Sawyer, 23rd Sikh Pioneers, Indian Army, and Dr. *Ethel* Vaughan-Sawyer, M.D., B.S. Lond., a daughter.

Whitaker.—On August 30th, at The Cottage, Diss, Norfolk, the wife of Edgar Whitaker, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

Godson—Evans.—On August 26th, at Bowdon parish church, Francis Arthur Godson, M.B., B.C. Cantab., Pinehurst, Didsbury, to Alice Frances, elder daughter of Thomas Evans, Bowdon.

Turner—Schofield.—On August 27th, at St. George's Church, Morpeth, by the Rev. A. H. Drysdale, D.D., George Grey Turner, F.R.C.S. Eng., of Newcastle-upon-Tyne, to Alice Grey Schofield, B.Sc., second daughter of F. E. Schofield, of Morpeth.

DEATHS.

Foster.—On August 19th, at Fullarton House, Watton, Norfolk, Henry George Foster, L.R.C.S. Edin., L.S.A., late of Attleborough, Norfolk, aged 65 years.

Lightfoot.—On August 27th, at Hove, Robert Twentyman Lightfoot, L.R.C.S. Edin., L.S.A., late of Newcastle-on-Tyne, in his 94th year.

Swindell.—On August 29th, at Wynberg, Madeira-avenue, Worthing, John James Swindell, M.R.C.S.E., late of Fairfield, North Finchley, aged 62.

Welch.—On August 26th, Walter Barrows Welch, M.R.C.S., L.S.A., of Stanford-avenue, Brighton, aged 44 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

of double optic neuritis. If, therefore, these cases are due to thrombosis in the venous channels of the skull—and escape from this conclusion seems impossible—it follows that such thrombosis is an efficient cause of double optic neuritis. It is true that in some of the cases to which reference is now made optic neuritis has not been present. But these negative experiences cannot invalidate the definite and positive observations in which optic neuritis, existing together with other cerebral symptoms, has been found to have no pathological explanation other than intracranial thrombosis. The position finds an exact parallel in intracranial tumour. In some cases of tumour double optic neuritis is a prominent feature; in others the optic discs are normal. No one will use this latter fact as an argument to contest the proposition that intracranial tumour is competent as a cause of double optic neuritis. And the same conclusion must be applied to intracranial venous thrombosis. Among its possible effects, therefore, must be accepted the development of double optic neuritis.

It is hardly necessary to argue that another consequence may be a limited paralysis—say, for example, of one or other of the ocular muscles. If hemiplegia may be due to intracranial venous thrombosis—and this is beyond dispute—an ocular paralysis may well own a similar explanation, and, indeed, there are many cases in which this association has been clearly established. Therefore it may be affirmed, (1) that intracranial sinus and venous thromboses are the cause of the more or less severe cerebral attacks which occasionally complicate the course of chlorosis; and (2) that such thromboses may include among their consequences both double optic neuritis and ocular or other limited palsies.

With these propositions admitted, attention may be directed to the following summarised case-record.[1]

A girl, aged 17 years, manifestly the subject of chlorosis, came to hospital complaining of double vision. Examination showed that the diplopia was due to paralysis of the right external rectus muscle, and that each optic disc was swollen and its edges concealed by exudation; there was also some retinitis. There was no albuminuria and no evidences, other than the above, of organic disease were present. In the course of three months the patient had made a complete recovery.

Here, then, is a patient whose illness conforms strictly to the usual course of chlorosis, except for the fact that she has double optic neuritis and an ocular paralysis. These two events, if the argument already advanced is sound, may certainly be accounted for by intracranial thrombosis, to which, from her anæmic condition, the patient is undoubtedly liable. An alternative explanation is hard to suggest and in view of all these circumstances the diagnosis of intracranial thrombosis may reasonably be held to be probable or even inevitable. Take a second case-record.[2]

A patient, aged 22 years, was admitted to hospital on account of severe headache, breathlessness, double vision, and failing sight. She was found to be the subject of chlorosis, of marked double optic neuritis with retinitis, and of paralysis of the left external rectus muscle. In addition, the knee-jerk could not be obtained on either side. The patient ultimately made a complete recovery, though the return of the knee-jerks was delayed for many months.

Here, again, the argument in reference to the cause of the optic neuritis and ocular paralysis may be repeated. Thrombosis will explain these facts and it will also, presumably, explain the severe headache. Possibly the loss of the knee-jerks may not so readily accommodate itself to the diagnosis of intracranial thrombosis, but even here it may be remembered that certain intracranial tumours and also some forms of meningitis, cause a similar loss. Further, in some of the more serious cases of anæmic thrombosis, as proved by necropsy, distinct disturbance of the tendon jerks has been observed, though this has perhaps been rather in the direction of excess than defect. Altogether there seems abundant justification for the claim that the above case is a further example of double optic neuritis and an ocular paralysis occurring in a patient free from evidences of disease other than anæmia, and that these two symptoms must find in intracranial thrombosis their clinical and pathological explanation. Hence it would seem not only that double optic neuritis and an ocular paralysis may be numbered among the clinical events possibly attendant upon intracranial thrombosis, but also that they may appear as the only evidences of this condition. This conclusion brings such case-records as the two just quoted into a natural relationship with the more extreme examples of cerebral disturbance to which reference has already been made and in a certain number of which intracranial thrombosis has been demonstrated on necropsy. The difference between the two groups, it is suggested, is merely one of degree, and both groups own common cause in the shape of thrombosis affecting the cerebral veins and sinuses.

This position is further strengthened by the fact that experiences intermediate between the two extremes are by no means wanting. There are well-authenticated cases of anæmia in which the patients have been attacked more or less suddenly by severe headache, pains in the neck, and vomiting, together with optic neuritis and ocular paralysis. It is common to suggest that the intracranial condition responsible for these symptoms is a localised and transient meningitis, or an œdema of the brain, though positive evidence in support of either of these views is difficult to find. On the other hand, thrombosis will cover all the facts, and, if allowed, will permit the construction of a graded series of cases, occurring in anæmic patients, characterised by more or less severe evidences of cerebral disturbance, and finding in intracranial blood-clotting a common bond of interpretation. At one extreme are fatal cases with such symptoms as coma, delirium, various paralyses, and, sometimes, optic neuritis, and proved by necropsy to be dependent on intracranial thrombosis; next come examples of less severe but still considerable cerebral disturbances, including optic neuritis, and having a favourable termination, the diagnosis of intracranial thrombosis being confirmed by the occurrence of thrombosis in the jugular, femoral, or other veins; succeeding these may be placed cases of unusually violent headache and vomiting, with optic neuritis and an ocular paralysis; and after these fall those cases of anæmia in which optic neuritis and an ocular paralysis are the sole unusual events. The earlier members of this series are demonstrably dependent on thrombosis, whilst, as has already been argued, the cases in the last group readily adapt themselves to the same explanation. To detach the intermediate members of the series from the diagnosis of thrombosis is surely a somewhat arbitrary and unnatural proceeding, more especially when the alternative explanation suggested cannot possibly be more than a mere surmise. Hence the claim may be pressed, that in all the groups above presented as examples of more or less severe cerebral disturbances complicating anæmia there is one and the same underlying pathological condition—namely, thrombus formation in the intracranial veins or sinuses.

The question now arises whether the series of cases to be explained in this fashion can be carried a stage further. If optic neuritis and an ocular paralysis appearing together in a case of anæmia are to be attributed to intracranial thrombosis, is it not probable that when, under similar conditions, either exists alone, thrombosis is again the responsible cause? Thrombosis is competent to cause each of these events; it is also a recognised complication of the anæmic state; further, it may be questioned whether any more satisfactory, or indeed any equally satisfactory, explanation can be advanced. Hence thrombosis has a fair claim for recognition as the cause both of optic neuritis and of ocular paralysis when one or other of these symptoms appears as the sole unusual departure from the ordinary clinical course of simple anæmia. Ocular paralysis, it may be admitted, is only very occasionally in this position. Double optic neuritis, on the other hand, is a well-recognised complication of anæmia and its occurrence has given rise to a good deal of speculation. Here it is presented—and the same may be said of an ocular paralysis—as the simplest clinical expression of an intracranial thrombosis, and the claim is made that an examination of the series of cases in which cerebral events complicate anæmia affords a presumptive proof of the correctness and adequacy of this proposition.

An attempt may now be made to find support for the argument that optic neuritis in anæmia is probably due to intracranial thrombosis by an examination of certain other conditions in which, without any very obvious explanation, optic neuritis occasionally appears. One of these is the acute anæmia following a free hæmorrhage, as from the stomach, intestine, or uterus. Standing alone, such cases have a very

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[1] Reported in detail in Glasgow Hospital Reports, vol. ii., p. 142.

[2] See article by Mr. Ernest Clarke and Dr. Hawthorne, THE LANCET, April 30th, 1904, p. 1198.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Saunders: The Medical Examination of School Children.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture: Dr. Davis: The Medical Examination of School Children: Throat, Nose, and Ear Affections.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Mr. L. Williams: The Dental Examination of School Children.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Saunders: The Medical Examination of School Children.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Skin Diseases in School Children.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (8th).—London (2 P.M.), St Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), *Samaritan* (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.). *Charing* Cross (3 P.M.), St. George's [illegible] (2 P.M.), Ophthalmic (10 A. [illegible] Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), *Children*, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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thrombotic process, that severe and general symptoms display themselves. Hence there is no difficulty in imagining in a case of anæmia a sinus thrombosis sufficient to cause such a limited clinical expression as optic neuritis and yet failing, in consequence of non-extension of clot formation to the cerebral veins, to excite any general exhibition of cerebral disturbance. Such a suggestion, it may be held, provides a possible explanation of optic neuritis appearing as an isolated event in anæmia, and also meets the objection that, were the cause of such neuritis thrombus formation within the skull, there must needs be clinical evidence of this on a more or less extensive scale. In any event, whether the proposals here advanced on the theoretical aspects of optic neuritis and ocular paralysis occurring as clinical facts in cases of anæmia are, or are not, warranted, it is beyond question that intracranial thromboses may and do occur in anæmia, and that among their clinical evidences optic neuritis and ocular paralyses are most unquestionably to be numbered.

Again, it has been urged that if thrombosis of the veins and sinuses within the skull can cause optic neuritis the same result ought to follow blocking, as by thrombosis or embolism, of the cerebral arteries, and this admittedly (unless the clot be septic) is not the case. With all deference, the relevance of this argument may be contested. The circulatory and other changes which follow obstruction of an artery are not identical with those produced by obstruction of a vein, and in view of the admitted obscurity of the relations between optic neuritis on the one hand and intracranial lesions on the other, it is hardly safe to conclude that because arterial thrombosis does not cause optic neuritis venous thrombosis must necessarily fail to do so. Against such a conclusion, further, may be set the facts of experience, which compel the conviction that between venous thrombosis and arterial thrombosis there is, so far as optic neuritis is concerned, some essential difference. The one, whatever be the explanation, is, or may be, in the clinical order of events associated with optic neuritis, and the other has no such association. In view of such facts it seems idle to argue that because arterial obstruction does not cause optic neuritis venous obstruction must necessarily be incompetent in this respect. The facts show the contrary. *Hippocrate dira ce qu'il lui plaira; mais le cocher est mort.*

Once more, it has been said that whereas the optic neuritis of anæmia commonly subsides as the anæmia disappears under the administration of iron, this fact shows that the neuritis is due to some depreciation in the quality of the blood; were the neuritis due to thrombosis the therapeutic use of iron could not have any effect on it. The answer to this is that the optic neuritis of anæmia by no means always disappears promptly, and that its movement is far from keeping strict time with the improvement in the blood quality. On the contrary, it may persist for weeks or sometimes even for months after all the ordinary evidences of anæmia have completely disappeared. Further, it must be accepted that optic neuritis—and the same is true of the evidences of thrombosis generally—is not confined to cases in which the degree of anæmia is extreme. It may, indeed, exist with but moderate evidences of anæmia, and is frequently absent in the more severe cases—facts difficult to reconcile with the view that it is due directly to some blood defect. On the other hand, the suggestion of thrombus formation and persistence is readily consistent with an optic neuritis which endures in spite of a cure of the anæmia; while ultimate disappearance of the neuritis may reasonably be attributed to removal of the thrombus by those natural processes under the operation of which the channel of a thrombosed vessel may be completely restored.

Thus, to summarise the objections, it may be said that neither a difficulty in providing a manifest explanation of the mechanism by which sinus thrombosis may produce optic neuritis; nor the claim that the frequent absence of general cerebral disturbance with such neuritis opposes the diagnosis of intracranial thrombosis; nor the observation that in arterial thrombosis optic neuritis does not occur; nor the comment that the neuritis disappears under treatment by iron—is found, on examination, to present any insuperable objection to the proposition that optic neuritis occurring in anæmia has, in all probability, its explanation in the formation of blood clot in the veins or sinuses of the brain.

Attention may now be directed to certain other hypotheses which have been advanced to explain the occasional existence of optic neuritis in anæmia. One of these suggests that the cases are really examples of poisoning either by lead or syphilis and that to one or other of these agents both the anæmia and the neuritis must be attributed. It may be said at once that there is little, if any, positive evidence to support this statement. The recorded cases do not exhibit any of the usual symptoms of plumbism or syphilis, and the cure is effected not by remedies appropriate to these diseases but by the direct treatment of the anæmia. It may also be remarked that optic neuritis, as this occurs in anæmia, is frequently marked by very considerable swelling of the optic discs, and is on this account much more suggestive of some definite intracranial lesion than of a toxic condition of the blood, in which, when it produces optic neuritis, the swelling of the disc is a comparatively insignificant fact. Indeed, the ophthalmoscopic picture in the optic neuritis of anæmia often exactly agrees with the facts common in intracranial tumour, and unless this is remembered a serious error in diagnosis may be made, especially if, as is not uncommon in anæmic women, the patient also suffers from more or less severe headache and from occasional attacks of vomiting (Gowers).

According to a second theory, the optic neuritis of anæmia depends on œdema of the brain. This, however, is little more than an empty phrase. The only evidence in support of such a view is, perhaps, to be found in some few cases in which the existence of optic neuritis in association with amenorrhœa has been recorded, the necropsy revealing an excess of fluid in the cerebral ventricles. Such a pathological condition can, however, hardly have been a primary one, and in the absence of any definite statement in reference to thrombosis it seems not unlikely that the cases were really cases of anæmia, and that the essential intracranial change was clot formation in the cerebral veins and sinuses—a condition which, unless special search is made for it, may be readily overlooked even on post-mortem examination.

Demanding more respect than either of the foregoing suggestions is the view advanced by Sir William Gowers—namely, that optic neuritis in chlorosis depends partly on continued congestion of the optic discs due to hypermetropia, and partly on a toxic or other abnormal quality of the blood. On this, with great deference, it may be remarked that hypermetropia is not present in all cases of chlorotic optic neuritis, and that in any event it is difficult to believe that eye-strain, even when acting in coöperation with some deleterious agent present in the blood, can explain the extreme degree of swelling of the optic discs which has repeatedly attracted attention in the cases now under consideration. Further, neither eye-strain nor toxæmia will readily account for a unilateral ocular paralysis which, as has already been shown, occasionally accompanies the optic neuritis of anæmic women. Hence, in such a case it is necessary, on the view now under discussion, either to invoke two separate and distinct causes—one for the optic neuritis and a second for the ocular paralysis—or to argue that optic neuritis accompanied by an ocular paralysis in a case of chlorosis owns a different cause from the one which is in operation when, in similar conditions, optic neuritis appears apart from such paralysis. It may be fairly said that neither of these alternatives offers an inviting choice. On the other hand, thrombosis, which, in the circumstances, must be admitted as at least a possibility, is adequate to explain all the facts—both the optic neuritis and ocular paralysis existing in association and the optic neuritis present as an isolated event. In short, any theory other than intracranial thrombosis interposes a gap between cases of chlorosis accompanied merely by optic neuritis, and cases of the same disease in which there exist, together with optic neuritis, various other evidences of cerebral disturbance, whilst thrombosis brings all these cases into a common category and, while recognising a wide variety in the extent and severity of the clinical manifestations, includes all alike in an identical order.

Turning now from optic neuritis and ocular paralyses as occasional events in the clinical history of simple anæmia, attention may next be directed to certain disturbances of the visual fields which may exceptionally appear as complications in this disease. Probably these are very rare and it is to the courtesy of my hospital colleagues that I am indebted for the opportunity of studying the two instances which have come under my observation.

The first[3] was that of a woman, aged 34 years, in whom

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[3] Mr. W. Ilbert Hancock's case, reported in detail in Practitioner, December, 1904.

A Clinical Lecture

ON

CERTAIN ANEURYSMS OF CEREBRAL VESSELS.

Delivered at University College Hospital, London, on May 12th, 1908,

BY JOHN ROSE BRADFORD, M.D. LOND., F.R.S.,

PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—There has recently been in the hospital what I venture to think is rather a typical case of aneurysm of a vessel of the brain, so I thought it would be a good opportunity to draw your attention to the clinical picture which is presented at any rate by some of these cases. In the first place, these conditions are not very rare. I cannot give you a statistical statement with reference to their incidence but will merely say that the specimens on the table show you that they are not very rare. and five of these cases are those which have come under my own observation in a not very large number of years. There are eight specimens here and there are many more in the museum, which I have not brought over because they do not exemplify any particular point. Quite a number of instances occur in private practice, so really the condition is not one simply of interest from the point of view of a rare and obscure diagnosis, though, after all, perhaps that is the main interest of the condition, because it is not one which admits of any satisfactory treatment, neither is it one in which you can modify the course of the illness to any marked degree. So one must confess that the main interest of the condition lies in its accurate diagnosis.

The frequency of aneurysm of the cerebral vessels is considerable, when you contrast aneurysms affecting vessels of similar size in other parts of the body. If you think for a moment, you will realise that one sees many cases of thoracic aneurysm; one sees a few cases of aneurysm of the big vessels of the limbs; but if you put those two kinds aside, you rarely see any other aneurysms. It is a rarity to see an aneurysm of a vessel of such size as the radial, for example, except in the case of cerebral vessels. So there is a very undue incidence of aneurysm involving the cerebral vessels, and I ought to say at once that I am only using the word aneurysm in the sense of gross tangible *aneurysm* and not in the sense of miliary aneurysms which. of course, lie at the root of what is called cerebral hæmorrhage. I use the term "cerebral aneurysm" simply to describe an aneurysm which is gross and obvious to the naked eye and does not require any special methods of demonstration to show it. There is therefore in the case of the cerebral vessels an undue frequency of aneurysms of this kind involving relatively small-sized vessels. It is a very interesting problem the solution of which, so far as I know, is not at present known; that is to say, why these aneurysms are so relatively common in the case of cerebral vessels. The cerebral vessels are peculiar anatomically, of course, in the thinness of their coats owing to the absence of any considerable amount of fibrous tissue. *They are peculiar* in their mode of support; they run in very large lymph channels. They are also peculiar—which is perhaps a more important point than the anatomical consideration—in their physiological relationships. That is a thing which has been but little studied with reference to high *tension* and also with reference to the incidence of aneurysm. If you take the vessels which have been studied mostly by physiologists—namely, the vessels of the abdominal area, which are noted for their muscularity and for their innervation—you will find that aneurysm is rare in that situation; that is to say, in any medium-sized vessels, any form of aneurysm except of the abdominal aorta or of the great branches as they spring from it, or of the renal vessels, is extremely rare, though not unknown. One of the patients, for example, from whom one of these specimens was obtained had an aneurysm also of one of the branches of the superior mesenteric artery. But such a thing is, as I have already told you, exceedingly rare, and one cannot help thinking sometimes that the incidence of aneurysm of the cerebral vessels must be linked to the differences in the physiology of the cerebral circulation as compared with such a circulation as that of the viscera. You see, the cerebral arteries are engorged passively whenever the tension rises in the systemic vessels. You cannot, by physiological methods, produce to a certainty any active constriction of the cerebral vessels if you produce at the same time a general constriction. Any nerve stimulation which leads to heightened tension and to constriction of the vessels of the abdominal area leads to dilatation of the cerebral vessels; they are passively distended as the result of the increased aortic pressure which is transmitted to them through the column of blood. And although nerves have been described by histologists as being present on the vessels of the brain and in the pia mater, still nobody has yet succeeded in obtaining unequivocal evidence of active vaso-motor control over the cerebral circulation.

It is rather a curious thing that aneurysms are relatively rare in those vessels where there is this active nervous influence, and that they are common in the big vessels, where of course vaso-motor mechanism has very little play, and they are common in the cerebral vessels. I think there is a good deal which might be done from the point of view of atheroma, and also perhaps from the point of view of aneurysm, with regard to the relation of the distribution of the disease to the nerve-supply. Another striking instance of the same sort of fact is sometimes seen in cases of widespread arterial sclerosis, where the vessels in the body generally are little more than calcified tubes. Such a description is no exaggeration and yet the vessels of the brain may be like those of an infant, perfectly normal and soft. One has seen that often in old people who have been the subjects of widespread calcification. It is very difficult to think that differences in distribution like that can be dependent simply on mechanical causes. The cerebral circulation at any rate is peculiar; the cerebral vessels are peculiar anatomically and physiologically, and one cannot help sometimes correlating that with the relative frequency of incidence of aneurysmal disease.

To pass on to the subject matter of the lecture, the vessels at the base of the brain most commonly affected by aneurysm are, first and foremost, the middle cerebral; secondly, the basilar (I am mentioning them in the order of the frequency of their involvement); thirdly, the internal carotid; and fourthly, the anterior cerebral. The other vessels, the anterior communicating, the posterior communicating, the posterior cerebral, and the superior cerebellar, are so infrequently affected that their involvement is not a matter of much practical clinical moment. The middle cerebral heads the list but the basilar runs it very close; there is not a difference of more than 4 or 5 per cent., I think, in the incidence of the disease in the two vessels, but in the most extensive statistics which have been collected the middle cerebral heads the list. The aneurysms are somewhat peculiar in the fact that they are very commonly saccular. They are very rarely false aneurysms or interstitial aneurysms or dissecting aneurysms; sometimes they are *fusiform*; interstitial aneurysms or dissecting aneurysms are almost unknown. Another striking feature, which is very well illustrated in this case, is that they have extraordinarily *thin walls*. The wall of this aneurysm, for example, is so thin that it might, unless it had been carefully dissected, have been mistaken for pia mater. Another peculiarity is that when you consider their size they are very prone to be full of blood clot. This specimen exemplifies that; it is full of laminated clot, and you will see the same thing in some of the other specimens, too, and in one the aneurysm has not ruptured and the swelling is absolutely solid. They are, however, especially remarkable for the thinness of their walls, and perhaps this again can be correlated with the absence of any marked amount of fibrous tissue in the cerebral vessels compared with some vessels in which aneurysms are developed elsewhere. As regards the size of these aneurysms, they vary enormously, of course; some of them are no larger than a large pin's head, while there are others almost as big as a walnut. There is one specimen in the museum which is almost as big as a walnut and which has not ruptured. But usually you may say that these aneurysms at the base of the brain are of about the size of a pea, rarely that of a cherry. They do not, of course, always rupture, any more than aneurysms in any there was detected a right homonymous hemianopsia. This condition had been present for 13 years, as was proved by perimeter charts in the possession of the patient and taken near the date of onset. At that time she was, to use her own words, suffering from "dyspepsia and bloodlessness," and was being treated as an out-patient at a London hospital. Suddenly, one morning, when engaged in her occupation as a tailoress, she had an attack of "dizziness," and noticed that as she carried her hand to the right it disappeared from view, and that generally she was unable to see objects situated to her right side—a state of matters which still persists. Yet, with this exception, she has continued to enjoy fair health, and certainly has been, and still is, entirely free from all symptoms of active intracranial disease. The occurrence of the hemianopsia, it will be allowed, involves the existence of some cerebral lesion, and the sudden development of this symptom suggests most strongly that the lesion was of circulatory origin. The youth of the patient, 21 years, other facts apart, may be taken as sufficient to exclude hæmorrhage. In these circumstances thrombosis inevitably suggests itself, and the relatively "quiet" character of the seizure favours such a view. Even if a diagnosis of embolism be preferred, the absence of cardiac valve disease makes it necessary to allow thrombus formation either in the heart itself or somewhere in the arterial system on the proximal side of the obstructed vessel. Hence, on either diagnosis, the case may be quoted to illustrate one aspect of the possible range of thrombosis in cases of anæmia. On the whole, the probabilities may be claimed as favouring venous thrombosis, and, if this is accepted, the case enforces a view already advanced, that such thrombosis may cause a limited, though definite, clinical expression without, at the same time, producing anything like widespread evidences of cerebral disturbance.

A second case,[4] claimed to belong to the same order, is that of a woman, aged 32 years, who has been under observation during the last few years, and who, save for the facts now to be mentioned, is free from all evidence of organic disease. Her original complaint was of breathlessness and scanty menstruation, and she was found to be the subject of a moderately severe anæmia. Without any other disturbance she suddenly became aware that, as she put it, "I could not see round about me." The visual charts were taken, and a decided contraction of each visual field, but more particularly of the right field, was detected (see Figures). Otherwise there was no evidence of intracranial disease and the general clinical examination of the patient, save for the fact of anæmia, was entirely negative. Gradually, in the following weeks, the fields moved towards their normal limits, but even yet there is absence of peripheral vision in the upper nasal quadrant of the right field, and this, in view of the lapse of time, must probably be accepted as a permanent condition. Here, again, is a limited cerebral disturbance occurring suddenly in a woman free from all evidence of disease other than anæmia. In the circumstances the suggestion of thrombosis in the higher reaches of the visual apparatus on the left side can hardly be resisted. Even if it is objected that the initial bilateral character of the visual disturbance necessitates a bilateral lesion, the argument in regard to thrombosis is not appreciably weakened. And, further, it may be answered that a bilateral lesion as an explanation of the visual disturbances is by no means necessary. When it is remembered that in functional hemiplegia, where, presumably, the central disturbance is confined to one hemisphere, contraction of the visual field, though most marked in the eye opposite to the inactive hemisphere, may be detected also, at least in some measure, in the eye of the same side, it is not difficult to accept an area of thrombosis limited to the hinder part of the left parietal lobe as the explanation both of a temporary limitation of the periphery of both visual fields, and also of a permanent defect confined to the field of the right eye. This is suggested as the interpretation of the present case, which is therefore offered as a further illustration of the range of intracranial thrombosis as this occurs in cases of anæmia.

I next submit retinal embolism as an event of occasional occurrence in anæmia and demanding thrombosis as its interpretation. In my own note-books I find records of three cases of embolism in which no abnormal fact other than anæmia could be detected. The patients were females, aged 21, 27, and 42 years. In none of the cases was there a history of rheumatism and all alike were free from evidences of cardiac disease and of arterial degeneration. That the central artery of the retina was in each instance blocked there could be no doubt. For this, in the absence of cardiac valve disease, no obvious explanation could be found. Yet from the existence either of embolism or of thrombosis *in situ* it was, in view of the fact of arterial obstruction, impossible to escape. Opinions may possibly differ as to which of these two is the more probable, but either involves the admission of clot formation in one or other part of the cardio-arterial system, and this in the circumstances may fairly be attributed to the anæmia. It seems reasonable to suggest that the primary clotting took place in one or other of the two chambers of the left heart and that the cases were therefore true examples of retinal embolism. In some of the fatal cases of chlorosis attended with intracranial venous thrombosis the presence of intracardiac thrombi has been observed, and thus the suggestion here proposed has a certain basis of actual anatomical observation in its favour. It is also true that primary arterial thrombosis has in a few exceptional cases of anæmia likewise been recorded, and therefore this alternative explanation of the cases now under discussion must be admitted as possible. But either view serves the present argument—that obstruction of the retinal artery must be included among the complications which arise in anæmia as a result of the tendency in that condition to the formation of intravascular blood clot.

Lastly, as an occasional complication in anæmia, and possibly due to thrombosis, may be mentioned retrobulbar neuritis. This, in its typical form, is characterised by sudden loss of central vision in one eye without evident ophthalmoscopic change, although at a later date there may be whitening of the disc due presumably to some measure of optic nerve atrophy. These facts demand a lesion in the trunk of the optic nerve posterior to the eyeball, and the suddenness of the event often suggests that the lesion is vascular in nature. It may, therefore, be thrombosis, and the fact that complete recovery may occur is manifestly in entire harmony with this conclusion. No doubt retrobulbar neuritis is also seen in conditions other than anæmia, but this does not qualify the experience that it is occasionally met with in patients free from all evidences of disease except anæmia. Nor does it negative the suggestion that the proximate cause of the condition, whether when associated with anæmia or otherwise, may be thrombosis. It is no doubt true that retrobulbar neuritis is sometimes an event in the evolution of [illegible]. But most certainly it exists apart [illegible]. Indeed, it occurs in patients in whom clinical observation, even when extended over a term of years, fails to detect any evidence of organic disease, and some of these patients are anæmic women, that is, are patients in whom thrombosis is a well-recognised possibility. Thus there seem to be reasons to accept the view that while some ocular complications in anæmia may be due to thrombosis of the intracranial veins and sinuses, others may depend upon thrombosis in the vessels, probably the veins, of the peripheral visual apparatus, and among these latter may be placed retrobulbar neuritis. But the possibility of a peripheral thrombosis cannot be limited to cases coming typically under this diagnosis. The fact is that the unilateral ocular complications of anæmia range from a greater or less degree of papillitis without prejudice to vision to a condition of complete loss of visual acuity with little or no ophthalmoscopic change. And between these two extremes there are intermediate cases which show in varying proportions, as it were, some measure both of papillitis and of visual defect. Assuming thrombosis as responsible for these facts, it is readily conceivable that the several varieties and combinations may be determined by the particular site at which the formation of blood clot takes place. Should this occur at or near the optic disc it may well produce exudation and hæmorrhages of a more or less serious degree upon and around the disc—a papillitis, in short; and with such a condition, as is common knowledge, there is no necessary decline of visual acuity. On the other hand, should thrombosis affect vessels in the trunk of the optic nerve behind the eyeball serious interference with vision, and especially with central vision, will be a prominent symptom, although, at least in the early stages of such a case, the fundus may case. I doubt whether it is often possible, strictly speaking, to make a diagnosis, to be certain that a person has such a thing as this. But, after all, that is not the important point; the important point to you all from the point of view *of your patients is to be alive to the possibility of an* aneurysm being present and to directing whatever treatment you may think fit with that idea in your mind. I cannot sum these cases up in one word like one might the other cases, but they are *cases in which the main phenomenon is* that the disease runs its course in two stages. There is a period during which certain symptoms develop and lead the patient to seek advice. The symptoms such as I have seen in these cases have always been obscure and have sometimes been trivial. Then after a short duration, a few weeks perhaps, or sometimes only a few days, the second stage of the illness develops, hæmorrhage occurs, and there is then no doubt about the nature of the underlying trouble. Now these cases are infinitely more important than any of the others in the three groups which I mentioned previously. Cases in which no symptoms develop are clearly of no importance clinically. The cases which are simply those of violent cerebral hæmorrhage are also of no very great clinical importance, because it is not very likely that the gravity of such a case will be overlooked. The cases in which the *symptoms of tumour are mimicked* are of no great importance, because there again a competent man is not likely to overlook the existence of serious disease. But these other cases in the fourth group are precisely those that are liable to be overlooked. *The patient is supposed to have very little* the matter with him and then suddenly he *falls back dead in* the course of the development of symptoms which have lasted only a few minutes, and you may incur grave discredit from having made *light of the previous symptoms* which receive their full explanation at the time of the *fatal seizure.*

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[4] Mr. T. Brittin Archer's case.

With regard to describing the illness in these cases, it is rather difficult, because the symptoms vary so much. But usually the illness has been short and is ushered in with a seizure of some kind; I cannot put it more *definitely* than that. The patient is thought to have had a fit of some kind; sometimes he is simply said to have fainted. A very little examination *reveals* at once that the fit has been peculiar, that it has not been an ordinary fainting fit, nor has it been an ordinary epileptic fit. It has very often been a fit of sudden *tonic rigidity*, with very likely one of the most *characteristic features* of all, rigidity of the neck. But at any rate the illness is ushered in with a seizure and with either complete or partial loss of consciousness, usually, I think, complete. In the cases which I have seen the patient has suddenly *lost consciousness* and he has been supposed to have had a fit; also, he nearly always vomits in this attack, and this vomiting is the disturbing element to the practitioner, because the case is so often read the other way about. He is *supposed to have* had a vomiting attack on account of some trivial cause, and the other phenomena which have subsequently developed have been attributed to the exhaustion and the vomiting or to the poisoning which has been supposed to cause the vomiting. There was a case that I recorded 14 years ago of *a porter* (one of the hospital porters) who died from this disease, and here is the aneurysm. The history was as follows. During a fortnight he had complained of slight occipital pain and some stiffness of the muscles at the back of the neck; this he attributed to exposure to a draught. He was sufficiently well to do his work as hospital porter on Feb. 2nd. On the next day he had for breakfast some bacon which he thought rancid and subsequently vomited. He went to bed and felt better. Now we come to the important point. Towards evening his wife said that he looked at her in a *strange way* and she *thought* that he must have had a fit. He vomited three times in the course of the evening. That is the kind of history which you get with these cases: that there has been a seizure of a vague kind accompanied with some loss of consciousness and frequently with vomiting. Not uncommonly these people have in addition intense giddiness which is an important symptom, and they also not uncommonly have noises in the head. In the case which I have just quoted the man had had *noises* in the head for six months previously. These noises were probably associated with the local disease of the vessel. But, and I cannot repeat it too often, the *essential point is the seizure*. Subsequently to the seizure the patient recovers *consciousness* and usually *manifests* a paralytic condition of slight degree—that is to say, he feels weak, and though *he is not definitely paralysed* he is unable to walk and this again he very likely attributes to the exhaustion caused by the vomiting which he looks upon as due to indigestion. If you *examine the patient at this time you will often find that* he has no knee-jerks. This fatal case which occurred a few days ago illustrated that. The patient was brought here with weakness of the extremities, there was no actual palsy, and he had no knee-jerks. It is common in many infra-tentorial diseases to have absent knee-jerks and it is one of those little straws in the physical examination of a patient which should make you extremely cautious about doubting the presence of any serious organic disease. Most of these patients a day or two after the attack which I have described are apparently well and there is very little to be made out when you examine them, perhaps nothing except a little stiffness of the neck and a little generalised weakness and possibly absent knee-jerks; therefore great stress should be laid on that physical sign. Of course, they may have other phenomena. The aneurysm may be in such a position as to press on some cranial nerve or on many cranial nerves. The third nerve, for example, *is not uncommonly involved* and that again is one of the reasons which should make you very cautious about giving a diagnosis in doubtful cases of ptosis. Such a severe lesion as aneurysm may be a cause of *ptosis and anyone who has had much experience of ptosis as* a physical sign knows how difficult it is to diagnose the cause of any given case of ptosis. The sixth and seventh nerves, and in fact all the nerves coming from the pons, are prone *to be involved. The hypoglossal* has been known to be involved, but very rarely. The other nerves—the oculo-motor nerves and the seventh nerve—are most likely to be affected. Then, inasmuch as these aneurysms which we are discussing *are basal in position*, they may press on the pons and the medulla in such a fashion as to interfere with their function and to cause *generalised* weakness.

There are other curious phenomena which are apparently *correlated with this position* of the aneurysm. For example, great irregularity of the heart has been described and in the case of the *hospital porter* mentioned above, who was seen by an extremely careful clinical observer at the time of his *first illness, this* physician thought it was a clear case of ptomaine poisoning on account of the vomiting and the very great cardiac irregularity and cardiac enfeeblement which were present. It was, of course, easy to read it afterwards and to *get the correct interpretation* but very difficult at the time. Retention of the urine is another curious and apparently *trivial symptom* which these patients may have. One patient was brought into the hospital because he had *retention of urine, not* because he had any head symptoms. There was no suspicion of his having a head lesion, but he came because he had not passed urine and it was not very convenient to draw off his urine where he lived. So *in addition to symptoms of generalised* weakness in the extremities there are such conditions as cardiac irregularity and (as I should have mentioned earlier) respiratory irregularity and disturbance of the sphincters. Our patient a few days ago had a curious *symptom* the significance of which I am sorry to say I failed at the bedside to realise, but which I ought to have recognised—namely, loss of sight in one eye. You will find that that has been described in not a few cases. There are, I think, two other specimens showing aneurysms in a very similar position to the one which it has occupied in this case, where the optic nerve was pressed on. I ought now to describe the symptoms which this patient had. *On April 27th*, when at work, he suddenly had a very bad headache, and the headache was vertical. He vomited and then he went home. After he got home he became unconscious and remained so for 20 minutes and was stiff and rigid. *There, you see*, was the seizure which I was talking about. Subsequently to that he vomited on several occasions for three days, and on *recovery of consciousness* he experienced a numb feeling in the arms and legs and at the back of the head, but he could move the *arms and legs*. Subsequently he noticed loss of sight in one eye.

You could not have a better *illustration* of the apparently trivial character of some of the *manifestations* when they are really due to a very *serious* cause. After attacks of this kind the symptoms subside and there is nothing much to be made out. *And then suddenly*, after a varying interval, not generally a long interval, the fatal rupture takes place and the case is then simply one of severe histories of the various patients show that operation has in no case been performed where the symptoms were not severe; in fact, one is impressed with the delay rather than with over-haste in deciding to operate. The average duration of the dyspepsia in the patients with pyloric obstruction was over seven years; most of these patients had had one or more attacks of hæmatemesis, and nearly all were incapacitated from work either permanently or at frequent intervals. I believe that in all these cases there is no single one which would have been cured by medical means alone. The longest period which has elapsed between operation and report is five and a quarter years; the shortest (that is to say where the patient has survived) is eight months.

I have tabulated the cases according to the condition found at operation (Table A) and further to five classes (Table B) according to benefit derived that the degrees of success and failure may be more clearly apparent.

TABLE A.—*Condition Found at Operation.*

—	Class 1, relief complete.	Class 2, relief nearly complete.	Class 3, limited improvement.	Class 4, no improvement.	Class 5, death.
a. Pyloric ulcer causing obstruction	22	6	2	3	9
b. Duodenal ulcer...	4	1	0	0	1
c. Adhesions (no apparent ulcer) ...	2	0	1	0	1
d. Gastric ulcer (region not stated)	4	0	4	1	1
e. Ulcer, lesser curvature, and hour-glass stomach...	3	0	2	0	3
f. Ulcer at cardiac end	1	0	0	0	0
g. ? Normal stomach	0	1	0	1	0
h. Dilatation (? paralytic)	0	0	0	0	3
i. Various	1	0	0	2	0

TABLE B.—*Cases Divided according to Benefit Derived.*

	Number of cases.		Percentage.
Class 1. Relief complete	37	=	47
,, 2. Relief nearly complete	8	=	10
,, 3. Limited improvement (operation worth while)	9	=	11
,, 4. No improvement	7	=	9
,, 5. Died shortly after operation	18	=	23

I will first consider the cases according to the success obtained. The absolute joy of living in the cases where the relief is complete and the gratitude shown by patients probably are unequalled in any other operation in surgery. The measure of success in non-malignant cases where relief is obtained may be gathered from the fact that in the 19 patients who could give exact information there was an average gain of weight of 2 stones. Relapse in these cases does not seem to be common. In one case only where at first there was improvement complete and persistent enough to give hope of a permanent cure have I found a marked relapse. This occurred 21 months after the operation. The pain in this case formerly came immediately after food; it now comes three hours later. This fact is difficult to explain. The second class contains those cases where though the relief is very material there is still some persisting symptom, such as occasional vomiting, or where a fairly rigid diet is necessary. I have not considered cases as satisfactory enough for the third class unless the patient definitely states that he has been materially relieved by the operation. These first three classes taken together and forming 68 per cent. of the whole may be considered as successful. The other two classes forming 32 per cent. are failures. Perhaps the most startling result of this investigation is that the mortality in the non-malignant cases has reached 23 per cent.

The consideration and division of results according to the primary gastric condition are more difficult than I anticipated. This is to some extent due to the great influence which the patient's general condition (apart from the local lesion) has on the final result. So largely does the mortality depend on the general condition that I have found it more convenient to consider the fatal cases together rather than according to the local condition. Another difficulty arises from the lack of exact knowledge in many cases concerning the lesion even after operation, and to the frequency of a double lesion. An instance of this last is found in the part which adhesions play in several of the conditions described, and in my tables adhesions probably do not receive sufficient recognition.

A glance at Table A shows that the degree of success and failure in each class is strikingly level. As one might expect, the operation has been performed most frequently for pyloric obstruction. Thus of the 79 operations there was recognised pyloric stenosis in 42. The cases included in this class (Table A, *a*) are mainly straightforward cases of chronic pyloric ulcer with stenosis and in most instances secondary dilatation. Only two are of special interest: in one of these the obstruction followed suture of a perforated pyloric ulcer which occurred 23 days previously; in the other a pylorectomy was done later under the impression that the case was malignant. On microscopic examination the ulcer was found to be cicatricial. There is no preponderant success in these obstructive cases, as the average of successful cases is but slightly better here than in the total number of cases. As regards the results, the following points are of interest. Two of the patients have died recently from pulmonary tubercle; in both of these the relief to the gastric symptoms had been absolute. One of the patients in whom the relief was limited now has definite merycism: the notes of this case mention the repeating of food; they also state that a definite ulcer was found at the pylorus. The other patient with limited relief still vomits bile every few days, but has increased much in weight, formerly having been very thin. A Y-operation has been done since the original operation without much improvement. Thus of the eight partly successful cases (Group *a*, Classes 2 and 3) there is still occasional vomiting in five and slight pain or fulness after meals in three. Of the three complete failures, in one a Murphy's button was used and the opening was apparently too small, for great stomach dilatation persisted with collective vomiting. The passage of bismuth, as shown by an x ray examination, proved that the opening persisted. A further operation by which the opening was much enlarged has recently been performed and so far the result of this is satisfactory. In another case there was no relief at all and vomiting and pain persisted as before. An entero-enterostomy was done later but without effect. This patient has lost one stone in weight since the operation. The third patient only lived 26 months after operation and received no benefit. I have considered the fatal cases below with those of other classes.

The number of operations for duodenal ulcer which I have to report is few, but the results are good, five of the patients being cured or nearly so. In two of these there was distinct stomach dilatation before operation. The patient where the cure is not quite complete still has occasional bilious vomiting and is troubled with palpitation.

Closely related to these classes in so much as obstruction is frequent is that (Class *c*) where adhesions only were found. One of the four cases died; two made a complete recovery. In these the adhesions round the stomach were probably really due to ulcers. In one where there was limited relief the adhesions were very wide, apparently from a leaking typhoid ulcer 11 years earlier. Several operative attempts were made to overcome the chronic obstruction by breaking down the intestinal adhesions and at last a gastro-enterostomy was done with some measure of success.

In the class (*d*) where the region of the ulcer is not stated four cases were completely, and four cases were only slightly, relieved. One of these is the above-mentioned case where pain recurred 21 months after the operation; in two others both vomiting and pain returned, though less than before operation; in the last pain recurred but vomiting ceased.

Again, the small number of cases of ulcer in the lesser curvature causing more or less hour-glass contraction (Class *e*) limits a useful field of inquiry, and the class itself is heterogeneous as it is difficult to decide how much obstruction there was in the various cases. It will be seen that five of the cases showed improvement, though in two it was slight; in one of these, though the patient feels well and the pain after food has disappeared, an increasing difficulty in swallowing has taken place. Apparently the ulcer has extended to the orifice of the œsophagus causing stenosis, or more probably has pulled on it causing distension. A

I first saw the patient at 12.30 P.M. on Monday, 22 hours after the onset of the illness. She was semi-recumbent in bed, cyanosed in face and hands, and looking very ill. At first I could feel no pulse at either wrist but eventually detected a very slight flicker at the right which could not be accurately counted owing to feebleness and apparent intermission. No pulse at all could be made out on the left. The abdomen was greatly distended and tense, mostly in the middle line below the umbilicus, but the distension extended into the right iliac fossa. Here there was distinct loss of resonance, the left and upper part of the abdomen being abnormally tympanic. There was such extreme tenderness that any further examination was impossible. The case did not appear to me altogether like one of appendicitis for several reasons, and rather seemed to suggest an internal strangulation. Preparations were at once made for operation, but under great difficulties. The house was partly dismantled as the inmates were moving. The domestic service was inadequate. But with the help of a nurse hastily summoned we arranged an empty room and secured an operating table and cleansed the patient's abdominal wall. I was glad that with all other necessaries for operation the requisites for spinal analgesia were in my bag as we were so short-handed and the condition of the patient was so extremely desperate as to require an immediate operation or none at all. I punctured in the third lumbar space and injected 5 centigrammes of stovaine and glucose. Analgesia up to the mammæ was rapid and perfect. The muscles of the abdomen became slack and painless in five minutes or less and the patient was much relieved. We could now feel a large swelling nearly in the middle line but more to the right, which was tense and defined and moveable from side to side. It was of about the size of a 12 year old child's head. This determined me to open in the middle line. When this was done from one to two pints of stinking dark turbid fluid gushed out and immediately after I saw black coils of small intestine. These formed a large bundle strangled below by a thick adhesion round the mesentery. The whole bundle was lifted out on the abdominal wall and was seen and smelt to be gangrenous. There appeared to be from 4 to 6 feet of it strangled. As a matter of fact after removal it measured 4 feet 9 inches. In such conditions there was nothing for it but complete excision of the whole bundle of coils. I therefore laid the healthy proximal and distal parts side by side and made a lateral anastomosis, as the distension of the first and contraction of the second forbade end-to-end junction. I then cut away the gangrenous coils in one mass and closed the ends divided and the gap in the mesentery. The abdomen was then mopped of the remaining foul fluid with sterile gauze and closed without any drainage by stitches passing through all coats of the abdominal wall.

The operation lasted one hour and ten minutes, during which the patient felt no pain or sensation except relief of previous distress. Before I left the house the pulse had recovered and was of fair volume at 130. She expressed herself as much relieved but very thirsty. She was given a cup of tea which she at once brought up. This was the only vomiting which occurred up to the end of the case. There was no headache.

The course of convalescence may be easily summarised. There was no shock after the operation. The pulse and general condition steadily improved; the temperature, taken four-hourly, kept between 100° and 101° F. for 11 days. On the twelfth day it rose to 102° and then steadily fell to normal. The last rise was probably due to a stitch abscess which afforded a little discharge. The wound was dressed on the thirteenth day and was found soundly healed. The stitches were then removed and all came out dry except the one mentioned. The bowels acted daily after the third day and food was well taken. There were no complications of any kind.

This case seems to deserve some special notice for several reasons. The onset was very like that of an attack of appendicitis accompanied by perforation, and the rapid aggravation of the symptoms, both general and local, looked very like the supervention of general peritonitis. At the same time the *absence* of vomiting as the abdomen swelled and became tender while the pulse rapidly rose raised a doubt, as did also the normal temperature. That there was some particularly severe intra-abdominal lesion was clear as the tenderness and swelling were rapidly increasing and the pulse-rate was rising and its tension falling until it had almost gone altogether. The patient's aspect also suggested a very severe lesion, for the general cyanosis was most marked in the face and hands. I suggested to Dr. Belcher that we should probably find an internal strangulation. But it was not until the abdominal walls had become quite flaccid under the spinal analgesia that it became perfectly clear that we had not an appendicitis case before us. This relaxation was as complete as could possibly be, and one could feel the rounded well-defined mass almost in the middle line which could be moved from side to side like an ovarian cyst, and one thought of a twisted ovarian pedicle as a possible cause. This was negatived by the flatness and flaccidity of the abdomen at the onset. But though a strangulation from band was suspected I was not at all prepared for the advanced condition of gangrene which was at once found when the abdomen was opened, considering that the strangulation must have taken place within 22 hours—i.e., between 2.30 P.M. after a solid dinner and 12.30 P.M. the next day, when I saw the patient practically pulseless. The gut was perfectly black and stinking, as was also the large amount of gangrenous fluid which gushed out of the abdomen. The bundle of gut (now in our museum) tied at both ends filled a large pudding bowl. It contained dark fœtid blood under great tension, so that the bundle gave the impression of one tense cyst when felt through the abdominal wall.

As to the enterectomy itself it was done in the way I always deal with similar cases, of which I have described several in THE LANCET. I should have resected a larger amount of the proximal bowel but for two reasons. First, I did not know the length of the gangrenous gut in the bundle constricted. It seemed somewhat about 6 feet, but I could not measure it *in situ*, and it might have been more —it was actually 4 feet 9 inches—and I feared to sacrifice too much of the small intestine. Secondly, the lesion had only recently taken place and one hoped that the proximal part was still unaffected by those very grave changes which ultimately take place in all bowel above the strangulated point. To the eye the proximal part was only slightly distended, and to the touch it was healthy and free from œdema and when opened the mucous nembrane looked normal. I therefore used a spot only a few inches above the constriction for the junction with the distal portion which structurally seemed unchanged. Nevertheless, I was uneasy for some days as to whether I had gone high enough up the proximal portion to secure sound tissue for the junction. The result, however, proves that the tissue was sound enough to go through all the processes of repair. The distal portion for about a foot or so below the constriction presented a very interesting appearance such as I have never before seen or known to be described. It was very irregularly constricted, portions being contracted and almost cord-like and portions dilated. Some unusual nerve phenomena must have been present, probably due to pressure by the band; otherwise it seemed to be perfectly normal in texture. No attempt was made to resect the bundle of intestine until the anastomosis had been effected. It simply lay outside the abdomen until the time came to cut it away and to suture the gap in the mesentery. In taking this course no time was lost and extra soiling of the peritoneum was avoided. Nor was any attempt made to cleanse thoroughly the peritoneal cavity before the anastomosis except that by pressure as much foul fluid was squeezed out as possible and the bowels were protected by gauze. When the enterectomy was complete the cavity was swabbed out with gauze as completely as possible, but could only, of course, be regarded as relatively clean. Nevertheless, both the intestinal wounds and the incision in the abdominal wall healed soundly. The stitches in the latter on the thirteenth day came out dry with the exception of one. This supports the view that the peritoneum is able to dispose of much toxic matter if not too severely injured either by the original lesion or by swabbing and irrigation. The latter I very rarely resort to now and mopping is carried out with dry aseptic gauze in the gentlest manner, with due regard to possible pools in the flanks and pelvis, to which fluid would gravitate. In this case the foul fluid appeared to come from all parts of the peritoneal cavity.

As to the anæsthesia, it was perfect from the patient's and of 46 per cent. within two months requires justification, especially as if successful the pain is almost certain to recur and may be no less severe though deferred. On the other hand, in carcinoma of the pylorus vomiting is frequently as distressing as the pain. The latter can be kept under with morphine; we have no specific drug to combat the former. I have no doubt that gastro-enterostomy in many instances relieves the vomiting even though it does not cure the pain. Taking these points into consideration I should therefore recommend that this operation should not be entertained in non-obstructive growths of the stomach and that in obstructive cases the decision should be left largely to the patient without persuasion and with a definite statement of the risk. In early cases only, especially where there is a doubt as to the malignancy, can I recommend that operation should in any way be pressed. Some of the most successful non-malignant cases have been those operated on with the idea that there was carcinoma.

Non-malignant cases.—Here gastro-enterostomy is an operation which may have extraordinarily good results. Patients whose lives have been a misery to themselves and to their friends may enjoy ease which they never thought possible and from being confirmed invalids may be able to do a full day's work. Any operation where this is the case is worth consideration even if the risk is great.

In considering the advisability of gastro-enterostomy two questions arise. Which cases are mechanically suitable? How soon in the illness should the operation be done? As regards the suitability of cases, I have no doubt that where there is obstruction at the pylorus due to chronic gastric ulcer gastro-enterostomy should be performed. The outlook without operation is hopelessly bad and the condition will become progressively worse; the prospect after operation is good. But one must remember that some cases unaccountably fail; a surgeon with a run of successes will have one occasionally where the symptoms are in no way relieved. A more difficult problem arises where there is chronic ulceration but no definite obstruction. Here, again, the outlook without operation is bad, but the prospect of relief by operation is not so good as in the obstructive cases. But some patients certainly do well and I do not believe that pyloric obstruction is an essential in a case that gastro-enterostomy may give relief. I should, therefore, recommend that the operation should be performed as soon as it becomes evident by repeated relapses that the ulcer will be permanent. I believe that where more than two relapses have taken place in a gastric ulcer a comfortable life is improbable apart from operation. A further problem arises in cases where with the symptoms of chronic gastric ulcer the stomach is found on exploration to be apparently normal, or perhaps to be slightly hypertrophical though no obstruction is apparent. Some cases done at a venture under similar circumstances have done well, and I think that the operation is worthy of trial if the general condition of the patient is good. It is very fatal where there is atonic dilatation with general debility. Though there have not been enough cases of duodenal ulcer in this series on which to base deductions, still the results are so distinctly above the average that I have little doubt that gastro-enterostomy should be performed as soon as it becomes apparent by repeated attacks of the typical dyspepsia, severe enough to prevent the patient efficiently carrying on his employment, that medicine and rest will give no permanent cure. I apply this to non-obstructive as well as to obstructive cases of duodenal ulcer. In looking through all the non-malignant cases there is only one (No. 41) where the symptoms are worse after the operation, and here it is the advance of the disease rather than the treatment which has made the difference.

While it is difficult to say whether earlier operation would have lessened the number of failures I feel certain that it would have materially diminished the number of deaths. The suitable time for operation is that at which a decision is first arrived at that the patient will not recover by medical means so as to enjoy life. Delay adds to the risk, for by constant malnutrition the patient becomes less able to withstand the severe operation. I believe that it lies in the hands of the practitioner and physician to prevent much suffering by handing over to the surgeon chronic cases of gastric ulcer and to do away with much of the risk of the operation of gastro-enterostomy by doing this while the patient is still in good condition.

Manchester.

A CASE OF TRAUMATIC SUBDURAL HÆMATOMA TREPHINED THREE MONTHS AFTER INJURY.

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IN an interesting address on Some Experiences of Intracranial Surgery[1] Mr. Charles Ballance drew attention to the obscurity which may mark the course of cases of subdural hæmorrhage following injury, and to the fact that the condition is certainly remediable by operation. The following case illustrates strikingly the very gradual development of the results of such an injury, the uncertainty which may beset the diagnosis even when the symptoms have become pronounced, and happily also the satisfactory results which may be achieved by operation. The patient was under the care of Dr. Selby W. Plummer of Durham, to whom and to Dr. W. E. Hume I am indebted for notes of the case and for assistance in its investigation.

The patient, a man between 50 and 60 years of age, fell from his bicycle in the early morning of August 9th, 1907, and received a cut on the back of the head on the left side. He lay unconscious for a few minutes and came to himself standing in the midst of a group of workmen who had come to his assistance. The wound was dressed by a surgeon later in the day. It healed readily and the ordinary habits of life and business were not interrupted. But from the date of the accident he felt vaguely ill and suffered from a constant feeling of anxiety and depression. This feeling seems never to have left him, and in a written statement which he has furnished he gives so graphic an account of his condition to the time of his complete breakdown that I am tempted to transcribe the more salient parts of his story. After dwelling on his ever-present anxiety and trouble of mind, he says:

> About the middle of September I had three weeks' leave (the remainder of my annual vacation), the first few days of which I spent with friends in the country. From there I went on a voyage to Hamburg, where I lived on the steamer in one of the harbours. The sea and fresh air did me good, but I still suffered from want of sleep and the ever-recurring feeling of worry and anxiety about anything I had to undertake. I must confess to a constant urging towards suicide; it seemed so easy to drop overboard in the dark and end all my troubles. When I returned to work I began to suffer from pains in the left side of my head, particularly if suddenly startled or confronted with any difficulty in business, which at that time seemed mostly difficulties. My handwriting deteriorated, my signature became difficult. Towards the end of October I began to have great difficulty in shaving owing to loss of power in my right hand; I also found it trying to walk up stairs and hills. I had very constant urgings to pass water and began to suffer from constipation, a very unusual thing with me. I finally broke down on Tuesday, Oct. 29th, on which day I could hardly sign my name and had great difficulty in getting up the hill on [illegible] home. After my collapse my memory is very confused and I [illegible] hing between things that really [illegible] mer [illegible] our [illegible] luring [illegible] much from my head, but all this I have forgotten.

I saw the patient with Dr. Plummer on Nov. 1st. The scar from the wound referred to was insignificant in extent and free from any sign of unhealthy healing. The patient was drowsy and complained of headache. When questioned he seemed to be curiously on his guard as if afraid of saying the wrong thing. He had vomited suddenly several times. There were distinct loss of power in the right hand, so that he could not sign his name, and less distinct paresis of the right leg. I saw him again on Nov. 7th when all his symptoms had increased in gravity. He was more drowsy and breathed stertorously when asleep. When roused he had a pained and puzzled expression and could not find or form the words he evidently wanted. There was right facial paralysis in addition to more marked affection of the arm and leg. Motions and urine had on several occasions been passed in bed. The knee-jerks were absent and there was no ankle clonus or plantar response. The optic discs were congested, with blurred edges. The temperature was slightly raised and the pulse was of moderate rate, not characteristic of cerebral pressure. Two days afterwards a more detailed investigation of the speech mechanism was made. He could speak but not effect on cretins and also on tissue changes, but whether it acts directly on the cells themselves or has a detoxicatory function—i.e., has a destructive or neutralising action on poisonous substances formed in metabolism—is still *sub judice*. In favour of the latter view, that the thyroid secretion is detoxicatory, is the experiment of Blum[4] who found that thyroidectomised dogs which were doing well on a milk diet developed symptoms of athyroidism directly they were fed on meat. This fact may mean that toxic materials are formed from meat in the intestine which under normal conditions are neutralised by the thyroid secretion or that the products of incomplete metabolism of proteids within the tissues are destroyed when the metabolism is normal but not when the metabolic thyroid secretion is absent.

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[1] THE LANCET, Dec. 21st, 1907, p. 1741.

There are also other experiments in support of the view that the normal function of the thyroid is detoxicatory of metabolic products. In 1894 Ballet and Enriquez, acting on this theory, injected the blood of thyroidectomised goats into patients suffering from exophthalmic goitre with beneficial results. In 1899 Burghart[5] reported three cases that improved, two markedly so, when treated in a similar way, but he did not confine himself to the use of injections, but administered a dried alcoholic extract of the blood per os. Schultes,[6] Möbius,[7] Blumenthal,[8] and others reported similar successes. Assuming that the quality of the blood is communicated to the milk, Lanz in 1894 treated two cases with milk from thyroidectomised goats. The results were so favourable that the treatment was applied to four other patients all of whom showed marked improvement and gain in weight. Serum from thyroidectomised animals has been made by various firms of chemists, antythyroidin (Möbius) by E. Merck, and thyroidectin, a reddish brown powder prepared from the blood of thyroidectomised sheep (five grains in a capsule, from 1 to 3 thrice daily) by Parke, Davis and Co., and rodagen, a dried powder made from the milk of thyroidectomised goats (dose from half a drachm to one drachm or more thrice daily) prepared by E. Merck. I shall have something further to say about these preparations at a later stage.

There is no doubt, as has already been shown, that thyroid secretion is capable of causing intoxication. Assuming, then, that the hypothesis that exophthalmic goitre is due to intoxication from hypersecretion of the thyroid gland is correct, we have still no satisfactory explanation of the cause of the hyperactivity of the thyroid. It has been suggested that it is due to degeneration changes in the cervical sympathetic, or hyperplasia following an intestinal intoxication, but the intimate relation which exists between the thyroid and the generative organs—the gland often swells at the menstrual period, involutes or atrophies at the menopause, causing myxœdema, hypertrophies at puberty or during pregnancy, causing exophthalmic goitre (this is illustrated in three cases of mine)—inclines me strongly to the view that some abnormality in the function of the generative organs may be the starting point of the thyroid derangement.

Before leaving the pathology of exophthalmic goitre I must refer to the parathyroids—small epithelial bodies which lie in close apposition to the lobes of the thyroid gland, and which if removed in dogs cause muscular twitchings, spasms, exhaustion, and death, a condition of aparathyroidea as it has been called, so that some experimenters attribute the acute nervous and muscular symptoms of total thyroidectomy to the simultaneous removal of the parathyroids, and indeed in some cases of Graves's disease the parathyroids have been found to be atrophied. Against the theory that exophthalmic goitre is due to parathyroid insufficiency the following facts have been drawn up by Wells[9]: 1. Removal of one lobe of the thyroid often causes improvement or recovery of this disease, yet with the lobe of the thyroid is generally removed the adjacent parathyroid, which would decrease the amount of parathyroid tissue and make worse any parathyroid insufficiency. 2. Therapeutic administration of parathyroid tissue or extract has had no significant effect on the disease. 3. No considerable or characteristic anatomical changes occur in the parathyroids in exophthalmic goitre, while the great majority of all cases show hypertrophic changes in the thyroi 4. The parathyroids have no particular influence on met bolism (MacCallum), while metabolic abnormalities are ver marked in exophthalmic goitre.

There is one other point in the morbid anatomy of this disease to which Mackenzie directs attention—i.e., the persistence and sometimes hypertrophy of the thymus, which occurs in so many cases, that he says, "Perhaps every case of persistent thymus is one of potential or latent Graves's disease."[11]

Since 1905 I have treated all cases of exophthalmic goitre which have come under my care with either rodagen or thyroidectin. The results have been so satisfactory that a further trial is strongly encouraged. Of the following 14 cases nine were treated by rodagen: one was cured, seven were greatly improved, and one is *in statu quo*. Five cases were treated by thyroidectin: all were greatly improved, one after non-improvement with rodagen. I will summarise my cases briefly.

CASE 1.—A man, aged 26 years, showed marked symptoms. He was very nervous, restless, did not sleep well, the pulse was 120 with occasional severe attacks of tachycardia, the temperature was frequently raised above normal, he perspired freely, and the circumference of his neck was 16 inches, the right lobe of the thyroid being considerably enlarged. He was quite unfit for work. Indeed, he had all the appearance of passing into fatal toxæmia. No improvement in his condition occurred until he was placed on half-drachm doses of rodagen thrice, and later four times, a day, with immediately good effect. The pulse-rate fell from 120 to 80 per minute, the tachycardia subsided, the tremors lessened, sleep returned, and his thyroid gland gradually diminished in size, his neck becoming 14½ inches in circumference. He had had one or two slight relapses (especially when he had been without rodagen), but I saw him on Jan. 30th, 1908, and his improvement was well maintained. He was able to work, his exophthalmos was less, the pulse was 76 per minute, there was no tachycardia, tremors were barely perceptible, and the circumference of his neck was 14½ inches—i.e., one and a half inches less than when first placed on this treatment. (This case I showed at one of the clinical meetings.)

CASE 2.—A woman, aged 32 years, first came to the Stanley Hospital in 1904. She had all the symptoms and signs well marked, with a five months' history. The illness was dated to a fright during pregnancy. She was treated with rest in hospital and dilute hydrofluoric acid (1 per cent.) and belladonna internally without much benefit. In December, 1905, when she was an out-patient, I ordered her rodagen in half-drachm and later one-drachm doses thrice daily, with the result that in six months' time all her symptoms, including marked exophthalmos, had quite disappeared, and they have not returned. Nevertheless I am bound to admit that during this time she had developed a patch of phthisis in the apex of her right lung, for which she has since been treated, and, I am glad to say, fairly *successfully*. How much of the cure was due to rodagen and how much to the phthisis I was at first in doubt, but as I have now a patient (Case 10) under my care who is suffering from both Graves's disease and phthisis, I think we are bound to give the credit to the drug.

CASE 3.—A woman, aged 32 years. The symptoms were very definite on admission in February, 1906, exophthalmos being so evident that the lids did not cover the eyeballs. After six weeks under administration of rodagen the pulse-rate fell from being over 100 to between 80 and 90 per minute, the eyelids covered the eyes when closed, the circumference of the neck decreased three quarters of an inch, and all the other symptoms greatly improved. She also gained five pounds in weight.

CASE 4.—A woman, aged 32 years, was in the Stanley Hospital at the same time as the preceding case. The symptoms were very marked, tachycardia, sweats, and "flushings" being very troublesome. Whilst in hospital she had an attack of acute tonsillitis. With half-drachm doses of rodagen there was marked improvement, exophthalmos became less, the circumference of the neck diminished three-eighths of an inch, tachycardia and sweatings subsided. She had remained greatly improved, except of 46 per cent. within two months requires justification, especially as if successful the pain is almost certain to recur and may be no less severe though deferred. On the other hand, in carcinoma of the pylorus vomiting is frequently as distressing as the pain. The latter can be kept under with morphine; we have no specific drug to combat the former. I have no doubt that gastro-enterostomy in many instances relieves the vomiting even though it does not cure the pain. Taking these points into consideration I should therefore recommend that this operation should not be entertained in non-obstructive growths of the stomach and that in obstructive cases the decision should be left largely to the patient without persuasion and with a definite statement of the risk. In early cases only, especially where there is a doubt as to the malignancy, can I recommend that operation should in any way be pressed. Some of the most successful non-malignant cases have been those operated on with the idea that there was carcinoma.

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[4] Virchow's Archiv, 1900, (162), 375.
[5] Deutsche Medicinische Wochenschrift, No. 33, 1899.
[6] Münchener Medicinische Wochenschrift, No. 20, 1902.
[7] Ibid., No. 4, 1903.
[8] Burghart und Blumenthal: Therapie der Gegenwart, August, 1903.
[9] Clinical Pathology, by H. G. Wells, p. 496.
[10] MacCallum: Johns Hopkins Hospital Bulletin (16), 237.
[11] Brit. Med. Jour., vol. ii., 1905, p. 1079.

Non-malignant cases.—Here gastro-enterostomy is an operation which may have extraordinarily good results. Patients whose lives have been a misery to themselves and to their friends may enjoy ease which they never thought possible and from being confirmed invalids may be able to do a full day's work. Any operation where this is the case is worth consideration even if the risk is great.

In considering the advisability of gastro-enterostomy two questions arise. Which cases are mechanically suitable? How soon in the illness should the operation be done? As regards the suitability of cases, I have no doubt that where there is obstruction at the pylorus due to chronic gastric ulcer gastro-enterostomy should be performed. The outlook without operation is hopelessly bad and the condition will become progressively worse; the prospect after operation is good. But one must remember that some cases unaccountably fail; a surgeon with a run of successes will have one occasionally where the symptoms are in no way relieved. A more difficult problem arises where there is chronic ulceration but no definite obstruction. Here, again, the outlook without operation is bad, but the prospect of relief by operation is not so good as in the obstructive cases. But some patients certainly do well and I do not believe that pyloric obstruction is an essential in a case that gastro-enterostomy may give relief. I should, therefore, recommend that the operation should be performed as soon as it becomes evident by repeated relapses that the ulcer will be permanent. I believe that where more than two relapses have taken place in a gastric ulcer a comfortable life is improbable apart from operation. A further problem arises in cases where with the symptoms of chronic gastric ulcer the stomach is found on exploration to be apparently normal, or perhaps to be slightly hypertrophical though no obstruction is apparent. Some cases done at a venture under similar circumstances have done well, and I think that the operation is worthy of trial if the general condition of the patient is good. It is very fatal where there is atonic dilatation with general debility. Though there have not been enough cases of duodenal ulcer in this series on which to base deductions, still the results are so distinctly above the average that I have little doubt that gastro-enterostomy should be performed as soon as it becomes apparent by repeated attacks of the typical dyspepsia, severe enough to prevent the patient efficiently carrying on his employment, that medicine and rest will give no permanent cure. I apply this to non-obstructive as well as to obstructive cases of duodenal ulcer. In looking through all the non-malignant cases there is only one (No. 41) where the symptoms are worse after the operation, and here it is the advance of the disease rather than the treatment which has made the difference.

While it is difficult to say whether earlier operation would have lessened the number of failures I feel certain that it would have materially diminished the number of deaths. The suitable time for operation is that at which a decision is first arrived at that the patient will not recover by medical means so as to enjoy life. Delay adds to the risk, for by constant malnutrition the patient becomes less able to withstand the severe operation. I believe that it lies in the hands of the practitioner and physician to prevent much suffering by handing over to the surgeon chronic cases of gastric ulcer and to do away with much of the risk of the operation of gastro-enterostomy by doing this while the patient is still in good condition.

Manchester.

A CASE OF TRAUMATIC SUBDURAL HÆMATOMA TREPHINED THREE MONTHS AFTER INJURY.

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IN an interesting address on Some Experiences of Intracranial Surgery[1] Mr. Charles Ballance drew attention to the obscurity which may mark the course of cases of subdural hæmorrhage following injury, and to the fact that the condition is certainly remediable by operation. The following case illustrates strikingly the very gradual development of the results of such an injury, the uncertainty which may beset the diagnosis even when the symptoms have become pronounced, and happily also the satisfactory results which may be achieved by operation. The patient was under the care of Dr. Selby W. Plummer of Durham, to whom and to Dr. W. E. Hume I am indebted for notes of the case and for assistance in its investigation.

The patient, a man between 50 and 60 years of age, fell from his bicycle in the early morning of August 9th, 1907, and received a cut on the back of the head on the left side. He lay unconscious for a few minutes and came to himself standing in the midst of a group of workmen who had come to his assistance. The wound was dressed by a surgeon later in the day. It healed readily and the ordinary habits of life and business were not interrupted. But from the date of the accident he felt vaguely ill and suffered from a constant feeling of anxiety and depression. This feeling seems never to have left him, and in a written statement which he has furnished he gives so graphic an account of his condition to the time of his complete breakdown that I am tempted to transcribe the more salient parts of his story. After dwelling on his ever-present anxiety and trouble of mind, he says:

> About the middle of September I had three weeks' leave (the remainder of my annual vacation), the first few days of which I spent with friends in the country. From there I went on a voyage to Hamburg, where I lived on the steamer in one of the harbours. The sea and fresh air did me good, but I still suffered from want of sleep and the ever-recurring feeling of worry and anxiety about anything I had to undertake. I must confess to a constant urging towards suicide; it seemed so easy to drop overboard in the dark and end all my troubles. When I returned to work I began to suffer from pains in the left side of my head, particularly if sudde[illegible] confronted with any difficulty in business, which at [illegible] difficulties. My handwriting deteriorate[illegible] difficult. Towards the end of October I began to have great difficulty in shaving owing to loss of power in my right hand; I also found it trying [illegible] constant urgings to pass water a[illegible] unusual thing with me. I [illegible] which day I could hardly [illegible] ing up the hill on my wa[illegible] ry confused and I have g[illegible] hings that really [illegible] happened and what must have been mer[illegible] something of most days except the four [illegible] operation. These seem a blank, durin[illegible] much from my head, but all this I have forgotten.

I saw the patient with Dr. Plummer on Nov. 1st. The scar from the wound referred to was insignificant in extent and free from any sign of unhealthy healing. The patient was drowsy and complained of headache. When questioned he seemed to be curiously on his guard as if afraid of saying the wrong thing. He had vomited suddenly several times. There were distinct loss of power in the right hand, so that he could not sign his name, and less distinct paresis of the right leg. I saw him again on Nov. 7th when all his symptoms had increased in gravity. He was more drowsy and breathed stertorously when asleep. When roused he had a pained and puzzled expression and could not find or form the words he evidently wanted. There was right facial paralysis in addition to more marked affection of the arm and leg. Motions and urine had on several occasions been passed in bed. The knee-jerks were absent and there was no ankle clonus or plantar response. The optic discs were congested, with blurred edges. The temperature was slightly raised and the pulse was of moderate rate, not characteristic of cerebral pressure. Two days afterwards a more detailed investigation of the speech mechanism was made. He could speak but not drug and with a better understanding of the procedure and an improved technique in carrying it out they have almost entirely disappeared. In this country Mr. A. E. Barker[1] has done more than anyone else to place spinal analgesia on a sound and safe basis. He was the first to advocate the use of an injection compound of greater specific gravity than the cerebro-spinal fluid and to demonstrate that by the use of gravity and a study of the spinal curves a high analgesia could be obtained with perfect safety and regularity. In his method the rise in height of the analgesia is entirely due to his heavy compound travelling to the lowest point of the canal, usually somewhere about the upper dorsal region. There is not the least danger of any effect on the upper cervical region, as this is kept well elevated by raising the head and neck, and it must be apparent that it is impossible for his heavy fluid to travel upwards as it settles by mere weight at the lowest part of the canal. By using this heavy fluid one has definite control over the height of analgesia. Where one relies on the injection compound spreading upwards by diffusion or by shifting of the whole column of cerebro-spinal fluid one has no guarantee that once started upwards one will be able to control or limit it. Barker[2] has now recorded over 200 cases treated by this method with most successful results and without any serious after-effects. Spencer and Houghton[3] have likewise recorded 50 very successful cases. McGavin[4] has recently published 50 cases done by the same method with excellent results. In the following 50 cases practically the same procedure as described by Barker has been adopted and his stovaine-glucose solution has been used throughout. I would like briefly to refer to a few of the more important points.

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[1] THE LANCET, Dec. 21st, 1907, p. 1741.

Position of the patient.—Careful attention to this is one of the most important factors in the success of the method. *The patient lies on the side* to be operated on with the head and neck well raised, except in hæmorrhoid and perineal cases, where the puncture is done in the sitting position. When lying the knees are fully flexed on the abdomen and held there by an assistant. If single-handed, the method of making the patient grasp his own legs and draw them upwards is a good one. Where a leg is injured as in fracture and cannot be drawn up properly I have found the flexing of one leg sufficient to enable the puncture to be performed. The head and neck are always carefully raised by means of pillows or a rest, thus insuring the safety of the cervical region. As regards elevation of the pelvis, there is no absolute rule, except that at most only a slight elevation, one or two inches, is necessary. It is important to have the patient in proper position with the head raised and the pelvis elevated before the puncture is done, so that as little movement as possible will be required after injection.

Puncture.—This can be done either between the third and fourth or second and third lumbar spines. When done here there is no danger of injuring the cord itself, as this terminates at the lower border of the first lumbar vertebra. The fourth lumbar spine is situated on a line joining the highest points of the iliac crests, so that the position for puncture is easily found. Speaking generally, where the highest analgesia is aimed at it should be done between the second and third spines. Occasionally, however, the interval between the second and third has felt so small and that between the third and fourth so much larger that I have used the latter in preference, and have been quite *successful* in obtaining a high analgesia. Undoubtedly the puncture is most easily and satisfactorily performed absolutely in the middle line, and after a little practice there is little difficulty in entering the dural sac accurately in almost every case. A few exceptional cases may give rise to difficulty, as, for instance, one where the spines could not be felt at all, and where the whole lumbar spine seemed fixed in a forward curve. It was impossible in this case to get the needle in at all. It is important that the needle should be boiled in plain water and not in soda solution, as a trace of this renders the stovaine inactive.[5] I found the nickel needles recommended by Barker to be most satisfactory in every way.

As a rule, from 2 to 2½ drachms of cerebro-spinal fluid should be removed before injecting the analgesic compound. It is striking how in some patients the cerebro-spinal fluid spurts out and in others comes slowly, drop by drop. I have noticed that those cases where the cerebro-spinal tension seems high are more apt to have headache afterwards. It is consequently advisable to draw off rather more cerebro-spinal fluid from them. The compound used has been practically the same as Mr. Barker's and has been specially prepared in ampoules by John Macmillan, Limited, Glasgow: stovaine, 5 grains; glucose, 5 grains; and sterilised water to 100 minims. 1 cubic centimetre (17 minims) is used each time, but as 2 minims remain in the needle one can only count on 15 minims of the solution reaching the canal—i.e., three-quarters of a grain, or about 5 centigrammes, of stovaine are injected. The dose has not been varied almost at all and the most severe abdominal operations have been performed with this dose. A few operations on the extremities have been done with a smaller dose. After injection the patient is gently rolled on to his back, the head and pelvis being kept in the same relative position, and in from five to ten minutes analgesia is usually quite complete and the patient ready for operation.

Height of analgesia.—I have endeavoured by a study of the spinal curves in individual patients to obtain a low analgesia when the operation was on the extremities and only a high analgesia when required. It is obviously unnecessary in operations on the extremities to obtain analgesia to the nipples, and in fact is undesirable, as nausea is more apt to occur with high analgesias. It must be remembered that the spinal curves vary somewhat in different people and also the size of the shoulders and pelvis has an effect on the level of the canal. Accordingly, it is sometimes necessary to modify slightly the procedure in individual cases. In operations on the extremities the puncture is usually made between the third and fourth spines without any elevation of the pelvis, and if thought desirable the shoulders are slightly raised, *so that the analgesia does not usually* spread higher than the umbilicus. Where a high analgesia is desired the shoulders rest on the table, the pelvis is elevated from 1 to 2 inches according to the case, and the puncture is made between the second and the third spines. It seems probable that analgesia spreads upwards more rapidly when the patient is in the lateral position, so it is consequently advisable to keep him on his side from one to two minutes before rolling him on to his back. As a rule the patient has been kept in the same position with the head raised and the pelvis slightly elevated throughout the entire operation, although recently I have been removing the pelvic pad when the analgesia was high enough. By carefully following out these details, slightly modified in individual cases, one can obtain analgesia to the sternum or nipples without the least danger. In no case has there been any difficulty with the breathing, even although analgesia has several times been noted from 1 to 2 inches above the nipples. The Trendelenburg position has never been used and two inches have been the utmost amount of pelvic elevation. No morphine or scopolamine has been given previous to operation. A screen is placed between the patient and the field of operation so that he cannot see what is going on and everything is done as quietly as possible. It is most important that someone should engage the patient in conversation and keep his attention occupied during the operation. His head and neck should be kept raised while he is being removed from the theatre and he should be well propped up on his return to bed. It is hardly necessary to add that, of course, strict asepsis is essential to the safety of spinal analgesia. I have now carried out this method in 50 cases and have found it very satisfactory. From the following list it will be seen that it has been used in a large variety of surgical conditions.

The following is a summary of the abdominal cases: Appendix (quiescent), 9 cases; appendix (acute), 3 cases; laparotomy above umbilicus, 4 cases; intestinal obstruction, 3 cases; and fæcal fistula of cæcum, 1 case; total abdominal operations, 20 cases. The operations on other parts of the body comprised: Inguinal hernia, 6 cases; removal of testis, 5 cases; removal of semilunar cartilage, 2 cases; removal of renal calculi, 1 case; circumcision, 1 case; varicose veins, 2 cases; hæmorrhoids, 5 cases; wiring patella, 1 case; plating fracture of tibia, 1 case; and suprapubic prostatectomy, 1 case. Failure to produce with occasional feverish attacks; lately he had become very lethargic, unwilling to exert himself, and mentally somewhat dull and apathetic. He had frequent backache and supra-orbital headache. He appeared to be a quiet, somnolent, emaciated man, with a heavy, slightly anxious expression. He required to be aroused before he answered questions; his replies were delayed. He estimated time incorrectly, placing the events of the previous week as a few hours past. He had forgotten that he was ever in Africa. After laborious computation he added and subtracted single figures; he failed entirely with double numbers. In multiplication he showed a curious and persistent error, always using a multiplicand one less than that given to him—thus, for example, making 4 by 12 equal 44; 2 by 9 equal 16. He said he was perfectly well, that he required rest, and relapsed into lethargy when left alone. The knee, Achilles, biceps, triceps, supinator, extensor, and flexor of wrists and jaw-jerks were all exaggerated. On eliciting either knee-jerk a response was obtained in the other leg. The plantar response was very active and flexor in both feet. The cremaster, abdominal, and epigastric reflexes were faint; the corneal, palatal, and bulbo-cavernosus were active. There was no incontinence of urine or fæces on admission. The eyes showed equal pupils, regular in outline and slightly dilated, they reacted to light and for accommodation; no strabismus was present; there was slight jerkiness of outward rotation, no actual nystagmus; convergence was good; there was no lagophthalmos and the fundi were quite normal. Hearing was acute; the right membrane was slightly congested. Speech was slow and slightly thick or mumbling, response to questions being very slow. The response to touch was normal over the chest, abdomen, and upper arms; hypersensitive over the forearms and feet. Pain was somewhat difficult to determine; there were distinct areas of hyperæsthesia over the body and limbs. Heat and cold were accurately discriminated. Considerable incoördination of hands and feet was shown. The gait was slow, the patient shoving his feet along the floor. No Rombergism was present; there was a very slight degree of heel-stamping. Marked myotatic irritability was present. Emaciation was general and equal on either side. The thighs measured 11½ inches, the upper arms 8 inches; the other measurements were similarly reduced. The weight was 5 stones 9 pounds and the height was 5 feet 6 inches. The inguinal, axillary, intercostal, supraclavicular, submaxillary, and concatenate glands were all enlarged; there was interscapular dulness to percussion over the mediastinal glands. In the right groin one of the glandular masses was swollen, red, and painful. The thyroid was not enlarged. The blood was anæmic; the red cells numbered 3½ millions per cubic millimetre; the whites numbered 6500; polymorphs, 51 per cent.; lymphocytes, 29 per cent.; large mononuclears, 15 per cent.; and eosinophiles, 5 per cent. There was slight poikilocytosis; the hæmoglobin was 60 per cent. The heart was slightly dilated; there were systolic, functional, mitral and pulmonary bruits. The lungs were healthy; there was dulness to percussion over the mediastinum posteriorly, probably due to enlarged glands. The Calmette ophthalmo-reaction was negative. The abdomen was tumid and slightly resistant. The spleen was enlarged, the vertical axillary diameter being 6 inches and the horizontal diameter 5 inches. The vertical diameter of the liver in the mid-clavicular line was 6 inches. The urine had a faint trace of pus and albumin but was otherwise normal. The skin was dry, somewhat papular, showing patches of erythema in places; considerable itching was felt. On admission the temperature was 97° F., the pulse was 84, and the respirations were 24.

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[1] Barker: Brit. Med. Jour., March 23rd, 1907.

[2] Ibid., Feb. 1st, 1908.

[3] Spencer and Houghton. Journal of the Royal Army Medical Corps, Nov. 19th, 1907.

[4] McGarin: THE LANCET, April 11th, 1908, p. 1058.

[5] Dean, Meeting of the British Medical Association, 1907.

The patient was put upon a liberal diet of chicken, veal, and other white meats with two pints of milk in the day. As his condition might possibly have been due to the effects of syphilis he was given potassium iodide grains 40, and liquor hydrargyri perchloridi minims 60, four times daily, and this was continued until Sept. 28th, the patient bearing the drugs well but showing no improvement in his condition. He required to be roused at meal times but took whatever food was given well. On Sept. 14th incontinence of urine and fæces had occurred several times; there was considerable mucus in the stools. His weight was now 5 stones 9 pounds, showing no loss. Slight pyrexia of two days' duration occurred, the highest temperature being 99·8°. His general condition was unchanged. On the 18th he had had a pyrexial attack of four days' duration, the highest temperature being 102·4°. No rigors occurred. Twitching of the left arm and leg had appeared, which increased on voluntary movement. The albumin had disappeared from the urine. Lumbar puncture was performed on the second day of the pyrexia; there was a marked lymphocytosis but the trypanosoma was not detected. The patient was greatly collapsed subsequent to the puncture and the needling was not repeated. On the 25th the following note was taken: "During the past week the tremors have become general; they are now most marked on the right side. The knee-jerks are greatly increased and a crossed reflex is given. The gland in the right groin is discharging. On excising a gland from the groin numerous cocci were found but no trypanosomes were discovered. Occasional retention of urine necessitated catheterisation. Rigidity of neck and limbs was present at times. There were emotional outbursts when sore was dressed."

The condition was now diagnosed as sleeping sickness on the following grounds. Syphilis was excluded by the absence of history, the healthiness of the wife and children, and lack of response to three weeks' vigorous anti-specific treatment. The cerebral symptoms of general paralysis were wanting. The reflexes, gait, and history negatived tabes. Tubercle bacilli were not present in the urine, sputum, spinal fluid, or gland excised; the Calmette test was negative. Uræmia was discounted by the rapid return to normal of the urine, the absence of œdema, papillitis, arterio-sclerosis, and other symptoms of chronic renal disease. On the other hand, we had the definite West African history. The mental and physical lethargy agreed with the accounts of Laveran, Bruce, Nabarro, and Greig. The general gland enlargement, together with the pathological condition of the one excised, agreed with the reports of Bettencourt and Mott, who lay stress on these points. The unstable emotions, the tremors, fibrillary and general, increased on voluntary movement, and their occasional epileptiform character, the rigidity of the neck and other muscles at times, the areas of hyperæsthesia, all agreed with these and other observers. The skin showed the changes marked by Dupont and Low.

The question of not having found the trypanosoma arises; the spinal fluid was only examined once and that during an attack of pyrexia; this, according to Moffat, is a most unfavourable time. In cases reported by such observers as Dutton, Todd, Christy, Broden, Dupont, and Dias they failed to find the organism. Kudicke in one of his cases found it only after inoculating a monkey. According to Nabarro the previous drug history could have accounted for the absence of the organism in the spinal fluid; he also suggests the probability of a periodicity in its appearances necessitating constant examinations. At the time we were not acquainted with the importance of frequent gland puncture. According to Mott's reports the glands which he examined contained pyogenic organisms such as were present in this case.

In view of the favourable results of Thomas and Breinl we decided to treat this case with injections of atoxyl, and from Sept. 25th to Oct. 2nd inclusive a solution of atoxyl was injected every four hours in increasing daily doses of from 1 to 5 grains. On Oct. 5th it was decided to adopt the more recent combined atoxyl and mercury treatment of Moore, Nierenstein, and Todd. On the first day 16 minims of saturated watery solution of atoxyl were to be injected into the basilic vein, on the three succeeding days 32 minims were to be similarly injected, after one day without treatment intermuscular injections of 32 minims of 2 per cent. hydrargyri perchloridum were to be given for three days, then—after a suitable interval—the eight-day course of treatment was to be repeated. On the 6th, at the commencement of this scheme of treatment, the condition was as follows. The lethargy and drowsiness had increased greatly; he was quite incontinent and required to be fed by the nurse; tremors were constantly present; there was considerable head retraction; there were bed-sores over the sacrum, left shoulder, and iliac crest; the mouth was foul; the face was drowsy, heavy-lidded look, with wrinkled forehead; when aroused he could answer questions only after long delay and intense mental exertion. The temperature had become subnormal and remained so until Dec. 3rd. The weight was reduced to 5 stones 4 pounds. The patient was on a water-bed and was fed four-hourly. The temperature was 97°, the pulse was 88, and the respirations were 24. On Oct. 13th (the date of the completion of the first course of injections) he continued incontinent; the bed-sores were stationary. He was a little brighter at times during the day. The tremors and head retraction continued. The man, aged 20 years. There was a troublesome puncture and bleeding, blood coming with cerebro-spinal fluid. The patient got analgesia up to one inch above the pubes, but as it was an appendix operation a general anæsthetic had to be given. Case 39, a man, aged 25 years, *with varicocele*; there was an easy puncture and only a partial analgesia was obtained. The skin incision caused some pain and a general anæsthetic was necessary. Case 43, a man, aged 57 years. There was a troublesome puncture, blood coming with cerebro-spinal fluid. Absolutely no effect was produced. McGavin[6] has also recorded three very similar cases where little or no effect was produced.

Three explanations of these failures have been offered: (1) inactive stovaine; (2) a failure to land the full dose within the spinal theca; and (3) insusceptibility of the patient. I feel convinced that the cause in cases such as the above is the fact that the compound has not been wholly landed within the dural sac, but has really been injected outside. It is possible for this accident to occur even though cerebro-spinal fluid has been got. By using Barker's fine cannula it is hardly possible for the injection to escape between the needle and the post layer of the dural sac unless the patient moves at the time of injection when the point might slip out. With a very lax sac, however, it is quite easy to puncture both layers of the sac and when injection is made for the whole or part of the compound to escape anteriorly. This is undoubtedly not common, but I suggest it as accounting for some of the cases where no effect has been produced. I had one other case where the injection caused absolutely no effect, and so convinced was I that the compound had not entered that I repunctured and again injected the full dose. This acted in absolutely the usual way. I was not able to give any of the three failures a second injection, but had it been done, failure might have been prevented. It is difficult to say whether the fact that blood came with the cerebro-spinal fluid and in one case continued to do so even after two drachms had been withdrawn, had anything to do with the failure. It is, of course, always a possibility that the stovaine may be inactive, but when freshly and carefully prepared this is not likely. Provided the full dose of active stovaine is injected accurately within the sac it is hardly conceivable that it should act on the nerves of one person and fail utterly to affect those of another. I feel that the explanation of idiosyncrasy is only to be accepted when all others fail. Where the analgesia cannot be got to rise it is always possible that some of the heavy compound has run down into the sacral curve and got imprisoned there. While these failures are undoubtedly flaws in the method I feel that they are all preventable and with increased skill and experience will not occur at all.

Length of analgesia.—The longest operation performed was a fæcal fistula of the cæcum which lasted 80 minutes. Analgesia to a needle has been noted in the legs as long as two hours after injection. Generally speaking, however, analgesia from 50 to 90 minutes can be relied on, with rather a shorter period for the epigastric region.

After-effects.—No bad results of any kind have developed afterwards which could be traced to the analgesia. Headache and sickness are occasional sequelæ but have not been marked in our series. 35 of the cases have had absolutely no headache or sickness. Five cases, mostly nervous patients, have been troubled with sickness and five have had some headache which, however, has always been controlled by aspirin or phenacetin. It is to be noted that none of the acute abdominal cases have had the least trace of headache, nausea, or sickness. The paralysis of the legs has always passed off completely in from one and a half to three hours, and no prolonged or permanent paralysis has been seen. There has never been any trace of meningeal irritation. One case was operated on twice with stovaine, and at the second operation, five days after the first, the cerebro-spinal fluid was found quite normal. Paralysis of the external rectus of the eye, which has been recorded,[7] has not been seen in any of the cases. Retention of urine does not seem to be more marked after using spinal analgesia. As a matter of fact, most of the hernias and abdominal cases passed urine themselves. Tympanites has been present next day in a certain number of the cases but never to any marked extent. As many as possible of the cases have been examined a month or six weeks after dismissal and have been found absolutely well.

Shock.—The question whether spinal analgesia prevents shock is one of the greatest importance and has been urged as one of its chief advantages. Dean,[8] who has drawn special attention to this aspect of the subject, is of the opinion that it is the method *par excellence* in acute abdominal cases where shock is feared. One of our abdominal cases, an operation on the stomach and transverse colon of 80 minutes' duration, undoubtedly suffered from shock three hours later, but in her case the analgesia had passed off before the end of the operation and some chloroform was required for closing the abdominal wall. None of the other cases have shown any signs of shock and everyone has been struck with how satisfactory the method is in weakly patients and in acute abdominal conditions. It is also striking that such procedures as dilatation of the sphincter, ligature and division of the cord, division of the foreskin, and division of the peritoneum not only give rise to no pain but do not affect the pulse in the slightest degree.

Conclusions.—In ordinary healthy people it comes to be a matter of choice whether spinal analgesia is used or not. Those who have a dread of general anæsthesia will, as a rule, choose spinal analgesia, and there now seems no reason why they should not have the benefit of it. Nervous patients, on the other hand, will usually prefer general anæsthesia. It is, however, when an operation has to be performed on a patient unsuited for general anæsthesia that the great advantage of the method is seen. When properly used it has no bad effect on the heart or lungs, and is therefore much safer in some cases. I have also been struck with how well suited it is for certain types of cases which are unfavourable for general anæsthesia, such as old people with arterio-sclerosis, weak, feeble patients, and those suffering from certain acute abdominal conditions. Alcoholics who are notoriously troublesome to anæsthetise do excellently well with spinal analgesia. Tuffier[9] also points out that it can often be safely used where an operation has had to be abandoned on account of anxiety with the anæsthetic and records two cases of this nature. In our own series we have had two cases (a fæcal fistula and a hæmorrhoid case) where the patients took the anæsthetic so badly that it was discontinued. They were both operated on next day under stovaine without any anxiety.

From a study of the recorded cases and from my own experience of this method I feel that it can now compare favourably in point of safety with general anæsthesia. Moreover, I think there is little doubt that in a fair number of surgical conditions it is the safer and better method and its use gives the patient an increased chance of recovery. At the same time it must be clearly understood that a careful study of the subject and the utmost care in carrying it out are necessary to insure its success and safety. Dr. J. Crawford Renton has operated on the majority of the cases and has been much pleased both with the analgesia and with the condition of the patients after operation. I am indebted to him for opportunities of carrying out this method. I would also like to thank his house surgeons, Dr. T. P. Grant and Dr. H. M. Grainger, for their assistance.

Glasgow.

AN APPLICATION OF OPSONIC METHODS IN COMPARING HUMAN AND BOVINE TUBERCULOSIS.

BY F. L. POCHIN, M.D., C.M. EDIN., D.P.H. CAMB.

UNTIL 1901 it was generally thought that tuberculosis in animals and man was one and the same disease. In that year, however, Koch created a sensation among those assembled at the British Congress on Tuberculosis by stating that, in his opinion, human tuberculosis differed from bovine and cannot be transmitted to cattle. Further, he maintained that bovine tuberculosis is scarcely, if at all, transmissible to man.[1] His opinion, it will be remembered, was arrived at as the result of the following experiments. 1. Six bovines were fed for seven months with food mixed with sputum of a dog-fish, and there was absence of sweat. This condition also affected the upper arms and to a less degree the forearms—the flexor surfaces rather more than the extensor. The hands were not so much affected but the skin was dry and inelastic, and the nails were atrophic and curved over the finger-tips. The lower limbs were similarly affected; the thighs more than the legs, and the flexor more than the extensor surfaces; there was a good deal of keratosis on the feet. Enlarged lymphatic glands could be felt in front of and behind the ears, behind the angle of the jaw, in the submaxillary and submental regions, in front of and behind the sterno-mastoids, below the occiput, in the axillæ; one over the second left rib, above the internal condyle of the humerus on each side, and in the groins. The glands were of moderate hardness, separate, and somewhat tender on pressure. There was slight beading of the ribs. The limbs were much wasted and the legs appeared tender on pressure. The tibiæ were bowed antero-posteriorly and the shins were thick and rounded but there was no pain on percussion of the bones. Both knee-joints were distended with fluid and fluctuation and patella-tapping were readily elicited; the overlying skin was not reddened but there was increase of heat. The knee-jerks were present and the plantar reflexes were normal. There was no retinitis. The mucous membrane of the tongue and the inside of the mouth was pale but otherwise normal; there was no gingivitis or evidence of oral sepsis; the tonsils were large and pale. A systolic murmur was audible over the heart. The spleen was enlarged and hard; the liver could not be felt. The patient was lethargic and his intelligence was, and always had been, below normal.

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[6] Loc. cit.

[7] Torrance: Surgery, Gynæcology, and Obstetrics, December, 1907.

[8] Loc. cit.

[9] Tuffier: Société de Chirurgie, Paris, May, 1908.

[1] THE LANCET, July 27th, 1901, p. 187.

Whilst in hospital the patient's temperature oscillated as a rule between 99° and 100° F.; on two occasions it rose to between 101° and 102°. His pulse on admission was 136; it was 124 on the following day but afterwards kept between 100 and 112. The bowels acted daily and the motions were somewhat loose but otherwise natural. The amount of urine varied between 34 and 54 ounces daily: it was acid in reaction, of specific gravity 1012 to 1015, contained no sugar, and on only one occasion out of five a faint trace of albumin. He weighed 5 stones 9 pounds. Examinations of the blood were made as follows: March 17th, red cells, 1,152,000 per cubic millimetre; leucocytes, 6200; March 18th, red cells, 1,184,000 per cubic millimetre; leucocytes, 6000 in the following proportions:—

"Mononuclears"	4320 per c.mm.	= 72·0 per cent.
Large lymphocytes	370 " "	= 6·1 " "
Small lymphocytes	380 " "	= 6·3 " "
Polymorphonuclears	720 " "	= 12·0 " "
Transitionals	170 " "	= 2·8 " "
Myelocytes	40 " "	= 0·6 " "

No basophiles or eosinophiles. Two normoblasts and two megaloblasts in counting 600 leucocytes. March 26th, red cells, 1,107,000 per cubic millimetre; leucocytes = 7000 in the following proportions:—

"Mononuclears" and large leucocytes	5868 per c.mm.	= 83·8 per cent.
Small lymphocytes	361 " "	= 5·1 " "
Polymorphonuclears	606 " "	= 8·6 " "
Transitionals	127 " "	= 1·8 " "

One myelocyte and one normoblast in counting 600 cells; no basophiles or eosinophiles.

In all films examined there was much poikilocytosis. A few erythrocytes were polychromatophilic, but no basophile granules were seen. Variation in size of the red cells was not so marked as is usual in pernicious anæmia and the average size was perhaps rather less than normal. By a regrettable oversight the hæmoglobin estimations were not recorded. The cell which has been termed "mononuclear" had the following characters. It was spherical and varied much in size. Commonly about 12 μ in diameter, some were considerably larger and a few smaller than this. The nucleus generally filled the cell, but in some instances a narrow segment of protoplasm, containing no granules and stained pale pink with Ehrlich's triacid mixture, was to be seen at one part of the circumference. The nucleus stained deeply but not evenly of a dull slate-blue colour, very different from the light bluish-green of the lymphocytes. Forms intermediate between these cells and lymphocytes and many atypical finely granular eosinophiles were met with. With Leishman's stain no distinction between these mononuclear cells and lymphocytes was possible. Whether this cell should be regarded as a member of the lymphocyte series or as a non-granular myelocyte or even as a still more alien invader of the blood stream it is difficult to say, though on the whole perhaps the first is most probable.

The swelling of the patient's knees diminished whilst he lay in hospital but the lymphatic glands, notably those around the jaw, increased in size and became more tender. On March 30th, a fortnight after admission, death occurred rather suddenly, being preceded for a short time by restlessness and dyspnœa. An examination of the body was made about 12 hours later. The following account is taken from the post-mortem register:—

Body very wasted. P.M. rigidity present. [illegible] Skin everywhere very dry and harsh with, in parts, [illegible] brownish yellow scales; these are most mar[illegible] groins, anterior abdominal wall, and backs of the knees. Subcutaneous and omental fat practically nil. No perirenal fat. Muscles pale and watery looking. Blood watery and appears to be less in amount than normal.

Lymphatic glands: The pre-auricular, cervical, epitrochlear, and axillary glands enlarged. A mass of enlarged glands in the superior mediastinum and two over the lower part of the pericardium. The mesenteric glands not enlarged but those in the lesser omentum and along the portal vein and head of the pancreas markedly so. All the groups of inguinal glands enlarged and a chain of big glands extended along the iliac vessels and lumbar spine to the pancreas. The affected glands were greyish white and [illegible] were round or oval and as large as [illegible] ne were as large as walnuts and a [illegible] a five-shilling piece. On section they were white and showed no evidence of softening.

Brain, 46 ounces. Pale, otherwise normal. Pineal and pituitary bodies normal. Pericardium healthy. Heart, 9 ounces; no tabby-cat striation; no valvular disease; one small patch of atheroma on anterior cusp of mitral valve; no atheroma thoracic or abdominal aorta. Thymus not persistent. Thyroid normal. Tonsils enlarged. Pleuræ healthy, no adhesions or increase of fluid. Lungs: upper lobes very pale; lower lobes red, congested, gelatinous looking; contained air; floated in water. Stomach distended; contained a fair quantity of greenish semi-digested food. Intestines: solitary follicles white and prominent; Peyer's patches not swollen. Liver, 66 ounces, not obviously diseased. Gall-bladder normal; contained bile of normal appearance. Spleen, 14 ounces; enlarged; normal colour and consistence; bright red on section; a spleniculus of the size of a marble was found. Left kidney, 11 ounces, enlarged in all diameters; more wedge shaped than normal adult kidney; very pale; capsule slightly adherent. No trace of right kidney to be found. The right suprarenal capsule appeared normal except for the presence in the medulla of a few white patches evidently of the same substance as that of which the enlarged lymphatic glands were composed; in the left suprarenal the whole medulla had undergone transformation into white brain-like material. Pancreas, 4 ounces; normal.

Knee-joints contained an increased quantity of pale-yellow synovia rather more fluid than normal. The synovial membrane was soft, thickened, and injected. The [illegible] with the convexity forwards at the junctur[illegible] thirds; the margins of the bone were ro[illegible] canal of the femur and tibia contained firm pale-pink marrow, with one or two patches of white deposit and a few small hæmorrhages. Smears of the marrow showed that it consisted [illegible]

The liver gave a well-marked blu[illegible] and hydrochloric acid, the kidney [illegible] slate colour. Neither liver, kidne[illegible] action with iodine.

[illegible] corneum [illegible] ser [illegible] ers [illegible] tissue of which appeared [illegible] and coarser than normal, the coil glands and hair follicles did not appear abnormal, but the sebaceous glands were ill-marked and appeared compressed. Sections of the lymphatic glands showed a mass of cells resembling lymphocytes closely packed together; almost complete disappearance of the stroma of the gland and all distinction between germ centres and lymph channels lost. The spleen presented a similar appearance but the amount of supporting tissue was much greater. Leukæmic deposits were present in the kidney and adrenals; in the liver the portal spaces [illegible] which extended thence in the form of [illegible] The pancreas, thyroid, and tonsils [illegible] the synovial membrane of the knee showed just beneath the endothelium a sharply defined continuous layer of leukæmic deposit rather more than 0·05 mm. in depth; deeper in the synovial membrane were some scattered patches of lymphocytes mainly in the neighbourhood of the blood-vessels.

The chief points of interest in this case may be summarised as follows: 1. The presence of ichthyosis, unusual in that the flexor surfaces were implicated to a greater extent than the extensor. 2. The supervention of a condition of leukæmia characterised by deposits of lymphocytic cells in the lymphatic glands, bone marrow, spleen, liver, kidney, and elsewhere, but anomalous in the profundity of the anæmia, the absence of increase in the total number of leucocytes in the blood, and in the presence of free iron in the liver and spleen. 3. The occurrence of a symmetrical synovitis of the knee-joints due to a leukæmic invasion of the synovial membrane. 4. The fact that the patient had only one kidney.

In conclusion, I must thank Dr. Bannatyne for permission to report this case which was under his care at the hospital;

that in each case the mode of entrance to the body were the same; and I think one might go further and omit this last proviso, for by the method under description the actual

TABLE II.—*Bacilli Ingested by Polymorphonuclear Leucocytes of Children under Ten Years of Age.*

Number.	Human bacilli.	Bovine bacilli.	Remarks.
1	1·25	4·04	Strong healthy boy.
2	0·91	2·02	Delicate rickety boy.
3	1·23	2·25	Robust boy.
4	1·10	1·66	Robust girl.
5	1·06	1·56	Healthy girl.
6	0·39	1·62	Badly nourished girl.
7	0·76	1·75	Healthy girl.
8	0·80	3·79	"
9	0·74	2·08	Healthy girl, phthisical mother.
10	0·53	1·85	Healthy girl.
Total	8·89	22·62	—
Average of 1000 counts	0·889	2·262	—

resisting power of the blood, as conferred by the potency of its opsonins, is measured, and, as far as we know, this is the same in the other parts of the body as it is in the intestinal walls.

Unfortunately for the race, the degree of immunity against tuberculosis enjoyed by human beings is not great. Indeed, judging by the incidence of the disease per unit of population, it appears to be small—so small that an increase of two and a half times enjoyed in relation to the bovine variety by no means secures such a degree of safety as to warrant for one moment any relaxation of measures of precaution against infection through milk.

TABLE III.—*Bacilli Ingested by Polymorphonuclear Leucocytes of Healthy Adults (Average of 100 Counts).*

Number.	Human bacilli.	Bovine bacilli.
1	0·99	1·21
2	0·80	1·46
3	0·66	1·00
4	0·99	2·29
5	0·74	2·45
6	1·12	1·53
7	0·42	0·93
8	0·84	3·90
9	1·31	4·23
10	0·76	2·92
Total	8·63	22·12
Average of 1000 counts	0·863	2·212

While showing some rather wide variations in individuals the above table approximates in its totals and averages very closely to the results shown by *Table II.* and the same remarks apply to it.

A few observations have been made by the writer in the cases of two phthisical patients who are undergoing treatment by Koch's tuberculin T.R. regulated by opsonic methods. In each of these cases the opsonic index has always been taken with bovine as well as with human emulsion to ascertain whether the indices in each set of observations move in harmony the one with the other. So far it appears that such is not the case. The index to bovine bacilli appears to be very little affected by injection of tuberculin prepared from human bacilli. As far as the observations go, however, the use of a bovine tuberculin is followed by a marked rise in the opsonic index to bovine bacilli. The observations are so far very few and this part of the subject will be submitted to further investigation.

In an ordinary country practice the number of cases available for observation is not large and the time over which such observations will have to be spread in order to get an adequate series of cases will naturally be considerable.

I think that the series of observations described in this paper tends to confirm the conclusions of the Royal Commission and to support the view that Koch's opinion was erroneous, and I also hold that this application of the discoveries and methods of Wright and Douglas affords a certain, expeditious, and inexpensive (though tedious) mode of carrying on observations on the resistance of animals to diseases of human origin, and further that it also affords a method of gauging the resistance of human beings to virulent diseases from which man and animals suffer in common.

Fakenham, Norfolk.

EPIDEMIC INFANTILE DIARRHŒA.[1]

BY V. J. GLOVER, M.D. LIVERP., M.B., CH.B. VICT.

I.—*Etiology.*

DURING the course of my practice in the year 1904 I was struck by the great number of cases of epidemic infantile diarrhœa that I met with. Prior to this, as a lecturer on hygiene, it had always seemed to me that our evidence as to its causation was unsatifactory—in fact, it was *nil*. We all knew the months when it was most prevalent and the atmospheric conditions then existent; as also that breast-fed infants usually escaped attacks, but that infants, especially not breast-fed and under one year of age, were the chief victims. Almost universal has been the cry to provide sterilised milk, and in towns depôts were established to supply this commodity with the result that the disease has been less prevalent where the depôts were instituted.

From this result I formed the belief that under certain conditions milk carried the infecting agent. But then there was the disturbing factor—how do the breast-fed infants who contract epidemic summer diarrhœa, small though the percentage be, contract it? This was the stumbling block. In the year 1904 I noticed that while my own infant was sleeping in the garden, with his mouth open and full of saliva, as infants' mouths usually are, several house flies were not only on his lips but actually within the mouth. The child was subsequently attacked by a most virulent diarrhœa. This was in August. From this time I focussed my attention upon the house fly. I found that the great majority of cases of diarrhœa occurred amongst the working class. The conditions of life amongst them entail that the kitchen, which is always small, hot, and stuffy, is, besides being the cooking place of the family, also the one and only living room by day. Food is practically never off the table; the milk-jug and sugar-bowl are at all times in evidence. The kitchen and scullery consequently by their temperature and contents attract the house fly. I have been conducting observations during and since 1904 and I find that "*whenever* there is summer diarrhœa in a house there are also house flies in abundance, particularly in the working man's house." If the dwelling be a larger one, as that of a wealthier man, still in the kitchen and pantries where the food is stored there is the fly again in strong numbers.

In the earlier part of 1905 I propounded my view to Lieutenant H. Pierpoint, I.M.S. (Holt Fellow in Pathology), as to the causation of epidemic infantile diarrhœa. It was as follows: "The house fly is the carrier of the infection of infantile summer diarrhœa. It infects breast-fed infants by creeping into their mouths when they are asleep; a habit of many infants is to sleep with the mouth slightly open or lips a little apart. Such infants' mouths contain a plentiful supply of saliva mixed with milk. Infants which are not breast-fed are *infected* by ingesta—e.g., usually the milk, an infection-carrying fly having fallen into it." As I was too busy in general practice to devote the necessary time to bacteriological research he agreed to help me when the disease became prevalent, as it did later in the year. I provided myself with sterilised milk, taking care to do the sterilisation myself. At different periods I caught flies in infected houses and placed them in a tube of the sterilised without any difficulty across the ward. Nourishment was taken well. The first dressing was done under gas on June 1st, after which he complained of tinnitus in the right ear. Except for an attack of follicular tonsillitis he made an uneventful and uninterrupted recovery. He was able to walk downstairs *ten days after the operation* and left the hospital on June 30th. Marked rotatory nystagmus had been noted on June 4th; it was decidedly weaker on June 6th and was absent on June 17th. Before he left the hospital the patient began to hear the voice again with the right ear *and functional* testing on June 29th gave the following result: left ear, *nil*; right ear, voice three inches, Galton whistle 11048·30 vibrations. Bone conduction to all forks, *nil*. Air conduction, 3C16 and 2C32 = 0, 1C64 = ? perception, C128 = perception, C^{1}256 = – 27 seconds, C^{2}512 = –38 seconds, C^{3}1024 = –19 seconds, C^{4}2048 = –35 seconds.

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[1] An extract from the M.D. thesis.

The patient spent the greater part of July at Deal and returned to me on July 28th. There was occasional slight buzzing on waking up, but no vertigo. His facial paralysis was improving. I last saw him on Sept. 2nd when over three months had elapsed since the operation. His condition then was as follows. The facial paralysis was much improved. He has occasional slight buzzing in the left ear on waking and after taking tea or coffee. This noise is not constant and nothing like the unbearable, machinery-like tinnitus from which he suffered before the operation. He has never had any vertigo or even slight giddiness since the operation. He stands firmly with the heels together and the eyes closed and has no nystagmus. By air conduction (right ear) he can hear all forks from C^1(256) to C^4(2048) inclusive, but not those of lower pitch, but he still cannot hear any fork by bone conduction. He can converse well by lip-reading and can hear the ordinary voice by means of an ear-trumpet or when spoken close to the ear, and he can carry out his duties with ease and comfort.

The history of these operations on the labyrinth for the relief of vertigo or tinnitus incurable by other means and occurring in non-suppurative cases has already been given in the paper by Lake, already referred to. To recapitulate briefly the instances in which such operations have been performed, the first was that of Milligan,[3] the second that of Lake,[4] who, however, antedated Milligan in publication. The third case, also reported by Lake, was, I believe, the first in which the cochlea was attacked. Four more operations of the kind have been performed by Lake with success. I have been told of one unpublished and unsuccessful case performed in London by another surgeon, so that the one here reported is the ninth operation which has been undertaken. It has been, as the reader will have gathered, in every way successful. The method which I adopted—viz., simple opening of the cochlea, vestibule, and canals, with the destruction of the ampullary soft parts—proved quite sufficient and was unaccompanied by the severe constitutional disturbance recorded by Lake in his first cases in which he removed one or more canals only. In my opinion the attacking of the labyrinth *viâ* the radical mastoid operation is more scientific and certainly more justifiable (and less dangerous) than attempting to divide the auditory nerve in the skull, and this opinion I expressed at the Glasgow meeting of the Otological Society in 1904.[5]

Harley-street, W.

TWO CASES OF PNEUMOTHORAX.

By J. PENN MILTON, M.R.C.S. ENG., L.R.C.P. LOND.

CASE 1.—The patient, a male, aged 20 years, was admitted to the Udal Torre Sanatorium, Yelverton, on July 22nd, 1907, with a history of hæmoptysis off and on since March 1st. He was very pale and anæmic and had lost weight. Consolidation and crepitations were present on the right side from the apex to the fifth rib. There was a fair amount of expectoration. The temperature was above the normal, but it gradually settled down to normal. The patient was putting on weight and the lungs were clearing up. On Sept. 22nd the temperature rose to 102° F. after a short walk, and the patient went to bed. On Oct. 22nd a slight hæmoptysis took place. On Nov. 8th as the temperature had been normal for several days it was arranged for him to get out of doors on the following day. At 5 A.M., however, the nurse found him with acute pain in the right chest, suffering from collapse with hurried respirations. Morphine was given. No physical signs could be heard to indicate the cause, but pneumothorax was suspected and it was easily diagnosable on the next day. Dyspnœa and pain became so urgent owing to accumulation of air in the right pleural cavity that I inserted a cannula in the fifth intercostal interspace and immediate relief followed. A yellowish clear serous fluid escaped. On Nov. 13th I withdrew the cannula, but in a few hours the pain and dyspnœa were just as bad. Re-insertion of the cannula again gave relief. On Nov. 14th I removed the patient to the Charlton Nursing Home at Plymouth to be under the care of a surgeon (Mr. C. Hamilton Whiteford). During the journey the cannula came out. On arrival at the home the patient's condition was so good that the cannula was not re-inserted. From this time forward absolutely uninterrupted recovery was made and the patient returned to the sanatorium on Dec. 20th. From this date to last March, when the patient left, the temperature had been practically normal. The gain in weight since the attack had been 15¾ pounds. The right lung, which was collapsed, had made some progress towards expansion and a fair amount of exercise could be taken. The general condition was good and the disease apparently was arrested.

CASE 2.—The patient, aged 35 years, was admitted to the sanatorium on August 31st, 1907. On arrival he looked ill and his colour was unhealthy and earthy. A hard cough with no expectoration was present. The temperature was slightly above the normal. Consolidation and crepitations were present at the right apex with harsh breathing and prolonged expiration at the left apex. Improvement was quick; the temperature became normal and the general condition became distinctly better. After making good progress the temperature rose, expectoration commenced, and the right apex began to break down. The patient was confined to bed and the temperature was neither amenable to drugs nor to serums. The mental condition gave cause for anxiety; it was such that I advised a change and he was taken to the same nursing home as the last patient. Here progress was again marked with a great reduction in the temperature and an improvement in the spirits of the patient. But after about a fortnight the patient was found to be in a state of collapse at midnight. Dr. H. A. Lyth was hurriedly called in and he found the patient propped up in bed in great distress from acute dyspnœa, cold and livid, the pulse being 150, the respirations 57, and the temperature subnormal. There was no pain. On examination on the next day there were lack of movement on the right side and recession of the intercostal spaces during inspiration. On auscultation over the hyper-resonant area amphoric breathing with loud bubbling râles could be heard. A perforated lung with pneumothorax, which was shut off from the lower half of the chest by adhesions, was diagnosed. After the initial shock was passed the temperature rose again and the disease continued its active course as before, the patient dying on the fourteenth day from cardiac syncope. A post-mortem examination made by Dr. Lyth showed the right lung to be universally adherent, the apex having to be torn away. The lower half, including the diaphragmatic adhesions which were recent, was easily separated. A localised pneumothorax was found over the adjacent parts of the upper and middle lobes. The perforation of a large cavity in the upper lobe showed as a freely open round hole a quarter of an inch in diameter. No fluid was present. There were tubercles in the upper and lower lobes of the left lung.

The two cases compared are interesting from the fact that pneumothorax was present in both cases in practically the same spot. Pain was present in one case and absent in the other. One patient died, the other recovered. The interesting point is whether the insertion of a cannula into the pleural cavity of the one case which recovered, causing a complete collapse of the lung and arrest of the disease, would have been equally successful in the case of the patient who died. Personally, in all future cases of pneumothorax I should feel very strongly inclined to insert a cannula into the

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[3] Journal of the British Laryngological, Rhinological, and Otological Association, August, 1904.

[4] THE LANCET, June 4th, 1904, p. 1567.

[5] Transactions of the Otological Society, vol. v., p. 67.

An Address

ON

THE CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA AND THE PROBABLE RELATIONSHIP OF THESE TO THROMBOSIS.

Delivered before the Medico-Chirurgical Society of Glasgow on March 6th, 1908,

BY C. O. HAWTHORNE, M.D. GLASG., M.R.C.P. LOND.,

EXAMINER IN MEDICINE AND CLINICAL MEDICINE, UNIVERSITY OF GLASGOW; PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND THE CENTRAL LONDON OPHTHALMIC HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—I have the honour to offer to the Society some observations on the cerebral and ocular complications which occur as occasional events in the clinical histories of anæmic women, and I propose to maintain, subject to your better judgment, that the interpretation of these events is to be found *in the intravascular formation* of blood clot. That among the special characters which pertain to the anæmic state there must be included an undue tendency to blood coagulation is generally admitted. At least, this is true so long as the blood is contained within the blood-vessels. When withdrawn from the vessels it would appear that the opposite condition obtains and that clotting is both delayed and incomplete. Upon what exactly this difference depends it may be difficult to say, but the fact certainly suggests that intravascular coagulation in anæmia is dependent less on some particular quality of the blood than on an abnormal state of the circulation; and seeing that such clotting is far more frequent in venous than in arterial channels, and that it is mainly confined to situations where, for anatomical reasons, the movement of the blood is comparatively slow, the suggestion may be accepted that an important or determining factor in the thromboses of anæmia is a delayed or sluggish rate of blood-flow. There are, however, quite a number of rival theoretical explanations of the occasional occurrence of thrombosis in *anæmic patients*, though none of them would appear to have secured anything like *unanimous acceptance*. In connexion with this communication it is not necessary that these explanations should be discussed; nor is it necessary to inquire why, though thrombosis is in exceptional instances a prominent feature in anæmia, the enormous majority of the cases of this condition *give no clinical* evidence of any such tendency. For the most part, indeed, the disease, *at least as seen in the shape* or fashion of chlorosis, pursues a course so uniform and so undisturbed that even a considerable clinical experience may fail to secure a personal introduction to any *development* which owes its existence to thrombotic or other exceptional events. Yet it is beyond dispute that *serious and even fatal* complications sometimes occur in anæmic women, and it is not less certain that the explanation of at least some of *these is to* be found in intravascular clot formation. Hence, whatever be the exact pathological interpretation of this event or of its restriction to a relatively small number of patients, it is necessary to accept thrombosis as an occasional accident in the course of anæmia and to be prepared, both as an exercise in diagnosis and as a practical *responsibility* in regard to treatment, to deal with the situations thus created. One of the *objects of this communication* is to suggest that not only certain acute and serious *complications* but also a number of comparatively minor disturbances occasionally observed in anæmic women owe *their origin to* intravascular blood-clotting. Such disturbances are, perhaps, more frequent than is generally allowed, and if the proposition that they are due to thrombosis *is established they* become of considerable clinical importance. For they then appear as warnings or danger signals of the possibility, or even of the probability, of clot formation on a large scale or in particularly dangerous situations, and they thus claim the special therapeutic measures by which results so *disastrous* may be averted.

In short, the argument here to be presented will be that in thrombosis may be found an explanation not only of various grave, urgent, and well-recognised complications of the anæmic state, but also of certain relatively minor disturbances which appear as occasional departures from the usual course of anæmia *as this exists in its simpler and less* serious types.

Probably the most frequent and obvious exhibition of thrombosis in anæmia is met with in the large veins of the lower limbs. The symptoms include pain, tenderness, and œdema, and there may or may not be febrile temperatures. The thrombosis may extend from the femoral to the iliac veins, and even to the inferior vena cava; and in occasional instances it would appear that the process has been limited to these larger channels. It is rare for the veins of the upper limbs to be involved, but they are not wholly exempt; and the same is true of the large veins of the neck and chest. Of course, in all such cases there is a risk of pulmonary embolism, and the whole of the facts in this connexion have been repeatedly verified by post-mortem examination. Apart from embolism, however, the prognosis in anæmic venous thrombosis is far from gloomy, and it is of interest to note that the circulation in the obstructed veins may be completely restored. This is shown, not only by the disappearance of dropsy, but also by the recession of a collateral circulation, which, as a compensatory process, may have become established in superficial venous channels. Hence it must be accepted—and the fact is important in connexion with the *argument here to be advanced*—that an obstructing clot formed in a vein in association with anæmia may, presumably by absorption or organisation, be so completely removed as to cease to exercise any disturbing effect on the normal flow and movement of the circulation. Such a satisfactory issue has been observed even when the thrombotic process has been so widely spread as to affect the majority of the large veins both of the trunk and limbs.

The next situation to be recalled in connexion with the occurrence of anæmic thrombosis is the intracranial veins and sinuses. Every now and then there is recorded in the medical journals the sudden development of acute cerebral symptoms in a young woman who, save for the existence of anæmia, had previously been regarded as entirely free from evidences of organic disease. The symptoms include severe *headache*, *vomiting*, pain in the neck, retraction of the head, *stupor*, *delirium*, various paralyses, and sometimes double optic neuritis, and in not a few of the cases there has been a fatal issue. In view of these symptoms the diagnosis of intracranial tumour, or when, as is sometimes the case, there are febrile temperatures, of meningitis, can hardly excite surprise. Yet there can be no doubt that most, if not all, of these cases are examples of venous thrombosis within the skull. This position is fully justified by the fact that in not a few instances post-mortem examination has demonstrated the presence of thrombosis in the intracranial veins and sinuses, and has at the same time failed to detect any other lesion capable of explaining either the symptoms or the fatal issue. There are other records in which, with similar symptoms, recovery has followed, and here the diagnosis of intracranial thrombosis has *sometimes been* supported by the development of thromboses in other situations, as, *for example*, in the jugular or femoral veins.

Upon this order of cases two observations may be offered. The first is, that as in thrombosis affecting the veins of the limbs both the obstructing clot and the consequences which attend such obstruction may, in a clinical sense, entirely disappear, the fact of complete recovery from an acute cerebral attack cannot be *successfully* quoted against a diagnosis of intracranial thrombosis as the cause of such an attack. *If* the circulation may be restored after thrombosis of, say, the femoral vein, a similar result may surely follow thrombosis of the cerebral veins and sinuses. Thus, while widespread clot formation in this latter situation may perchance produce a fatal result, a less extensive thrombosis may well be attended by clinical disturbances from which a complete recovery is possible. Hence recovery, whether from a group of symptoms or perchance from a single symptom of manifestly cerebral origin, is entirely consistent with a diagnosis of thrombosis affecting the intracranial veins and sinuses.

The second remark submitted in connexion with severe or fatal cerebral attacks occurring in anæmic women is that such cases may include among their symptoms the presence without any difficulty across the ward. Nourishment was taken well. The first dressing was done under gas on June 1st, after which he complained of tinnitus in the right ear. Except for an attack of follicular tonsillitis he made an uneventful and uninterrupted, recovery. He was able to walk downstairs ten days after the operation and left the hospital on June 30th. Marked rotatory nystagmus had been noted on June 4th; it was decidedly weaker on June 6th and was absent on June 17th. Before he left the hospital the patient began to hear the voice again with the right ear and functional testing on June 29th gave the following result: left ear, *nil*; right ear, voice three inches, Galton whistle 11048·30 vibrations. Bone conduction to all forks, *nil*. Air conduction, 3C16 and 2C32 = 0, 1C64 = ? perception, C128 = perception, $C^{1}256$ = – 27 seconds, $C^{2}512$ = – 38 seconds, $C^{3}1024$ = – 19 seconds, $C^{4}2048$ = – 35 seconds.

The patient spent the greater part of July at Deal and returned to me on July 28th. There was occasional slight buzzing on waking up, but no vertigo. His facial paralysis was improving. I last saw him on Sept. 2nd when over three months had elapsed since the operation. His condition then was as follows. The facial paralysis was much improved. He has occasional slight buzzing in the left ear on waking and after taking tea or coffee. This noise is not constant and nothing like the unbearable, machinery-like tinnitus from which he suffered before the operation. He has never had any vertigo or even slight giddiness since the operation. He stands firmly with the heels together and the eyes closed and has no nystagmus. By air conduction (right ear) he can hear all forks from C^{1}(256) to C^{4}(2048) inclusive, but not those of lower pitch, but he still cannot hear any fork by bone conduction. He can converse well by lip-reading and can hear the ordinary voice by means of an ear-trumpet or when spoken close to the ear, and he can carry out his duties with ease and comfort.

The history of these operations on the labyrinth for the relief of vertigo or tinnitus incurable by other means and occurring in non-suppurative cases has already been given in the paper by Lake, already referred to. To recapitulate briefly the instances in which such operations have been performed, the first was that of Milligan,[3] the second that of Lake,[4] who, however, antedated Milligan in publication. The third case, also reported by Lake, was, I believe, the first in which the cochlea was attacked. Four more operations of the kind have been performed by Lake with success. I have been told of one unpublished and unsuccessful case performed in London by another surgeon, so that the one here reported is the ninth operation which has been undertaken. It has been, as the reader will have gathered, in every way successful. The method which I adopted—viz., simple opening of the cochlea, vestibule, and canals, with the destruction of the ampullary soft parts—proved quite sufficient and was unaccompanied by the severe constitutional disturbance recorded by Lake in his first cases in which he removed one or more canals only. In my opinion the attacking of the labyrinth *viâ* the radical mastoid operation is more scientific and certainly more justifiable (and less dangerous) than attempting to divide the auditory nerve in the skull, and this opinion I expressed at the Glasgow meeting of the Otological Society in 1904.[5]

Harley-street, W.

TWO CASES OF PNEUMOTHORAX.

BY J. PENN MILTON, M.R.C.S. ENG., L.R.C.P. LOND.

CASE 1.—The patient, a male, aged 20 years, was admitted to the Udal Torre Sanatorium, Yelverton, on July 22nd, 1907, with a history of hæmoptysis off and on since March 1st. He was very pale and anæmic and had lost weight. Consolidation and crepitations were present on the right side from the apex to the fifth rib. There was a fair amount of expectoration. The temperature was above the normal, but it gradually settled down to normal. The patient was putting on weight and the lungs were clearing up. On Sept. 22nd the temperature rose to 102° F. after a short walk, and the patient went to bed. On Oct. 22nd a slight hæmoptysis took place. On Nov. 8th as the temperature had been normal for several days it was arranged for him to get out of doors on the following day. At 5 A.M., however, the nurse found him with acute pain in the right chest, suffering from collapse with hurried respirations. Morphine was given. No physical signs could be heard to indicate the cause, but pneumothorax was suspected and it was easily diagnosable on the next day. Dyspnœa and pain became so urgent owing to accumulation of air in the right pleural cavity that I inserted a cannula in the fifth intercostal interspace and immediate relief followed. A yellowish clear serous fluid escaped. On Nov. 13th I withdrew the cannula, but in a few hours the pain and dyspnœa were just as bad. Re-insertion of the cannula again gave relief. On Nov. 14th I removed the patient to the Charlton Nursing Home at Plymouth to be under the care of a surgeon (Mr. C. Hamilton Whiteford) During the journey the cannula came out. On arrival at the home the patient's condition was so good that the cannula was not re-inserted. From this time forward absolutely uninterrupted recovery was made and the patient returned to the sanatorium on Dec. 20th. From this date to last March, when the patient left, the temperature had been practically normal. The gain in weight since the attack had been 15¾ pounds. The right lung, which was collapsed, had made some progress towards expansion and a fair amount of exercise could be taken. The general condition was good and the disease apparently was arrested.

CASE 2.—The patient, aged 35 years, was admitted to the sanatorium on August 31st, 1907. On arrival he looked ill and his colour was unhealthy and earthy. A hard cough with no expectoration was present. The temperature was slightly above the normal. Consolidation and crepitations were present at the right apex with harsh breathing and prolonged expiration at the left apex. Improvement was quick; the temperature became normal and the general condition became distinctly better. After making good progress the temperature rose, expectoration commenced, and the right apex began to break down. The patient was confined to bed and the temperature was neither amenable to drugs nor to serums. The mental condition gave cause for anxiety; it was such that I advised a change and he was taken to the same nursing home as the last patient. Here progress was again marked with a great reduction in the temperature and an improvement in the spirits of the patient. But after about a fortnight the patient was found to be in a state of collapse at midnight. Dr. H. A. Lyth was hurriedly called in and he found the patient propped up in bed in great distress from acute dyspnœa, cold and livid, the pulse being 150, the respirations 57, and the temperature subnormal. There was no pain. On examination on the next day there were lack of movement on the right side and recession of the intercostal spaces during inspiration. On auscultation over the hyper-resonant area amphoric breathing with loud bubbling râles could be heard. A perforated lung with pneumothorax, which was shut off from the lower half of the chest by adhesions, was diagnosed. After the initial shock was passed the temperature rose again and the disease continued its active course as before, the patient dying on the fourteenth day from cardiac syncope. A post-mortem examination made by Dr. Lyth showed the right lung to be universally adherent, the apex having to be torn away. The lower half, including the diaphragmatic adhesions which were recent, was easily separated. A localised pneumothorax was found over the adjacent parts of the upper and middle lobes. The perforation of a large cavity in the upper lobe showed as a freely open round hole a quarter of an inch in diameter. No fluid was present. There were tubercles in the upper and lower lobes of the left lung.

The two cases compared are interesting from the fact that pneumothorax was present in both cases in practically the same spot. Pain was present in one case and absent in the other. One patient died, the other recovered. The interesting point is whether the insertion of a cannula into the pleural cavity of the one case which recovered, causing a complete collapse of the lung and arrest of the disease, would have been equally successful in the case of the patient who died. Personally, in all future cases of pneumothorax I should feel very strongly inclined to insert a cannula into the mysterious aspect. It will, however, be allowed that the condition of anæmia established by hæmorrhage is one in which thrombosis may readily occur, as, indeed, is occasionally demonstrated by clot formation in the veins of the trunk or limbs after considerable loss of blood attending surgical operations. Hence it is not impossible—not even improbable—that free bleeding from a mucous surface may be followed by intracranial thrombosis, and this may be advanced as the cause of the optic neuritis in the cases now under consideration. It is at least suggestive that optic neuritis sometimes occurs in circumstances in which intracranial thrombosis is certainly a possibility, and where an explanation of the neuritis other than thrombosis is not easily imagined. Thus the occasional occurrence of optic neuritis in the acute anæmia following free hæmorrhages from mucous surfaces may be quoted in support of the doctrine that the optic neuritis sometimes seen in chlorosis is dependent on intracranial thrombosis.

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[3] Journal of the British Laryngological, Rhinological, and Otological Association, August, 1904.

[4] THE LANCET, June 4th, 1904, p. 1567.

[5] Transactions of the Otological Society, vol. v., p. 67.

Another condition in which optic neuritis may appear without any very manifest explanation is suppurative disease of the middle ear. In some of these cases the neuritis is associated with an ocular paralysis, and in others an ocular paralysis exists without any attendant optic neuritis. That is, purulent disease of the middle ear may present ocular complications identical with those which are occasionally found in simple anæmia—namely, optic neuritis and ocular paralysis—and these two events may be associated, or either of them may exist apart from the other. So far as optic neuritis is concerned the suggestion has been made that this may complicate tympanic disease altogether apart from intracranial complications. Obviously this can only mean apart from intracranial complications producing manifest cerebral symptoms, and the suggestion by no means guarantees the absence of sinus thrombosis, to which purulent otitis media is notoriously liable. For the most part, however, an optic neuritis, and perhaps still more an ocular paralysis, developing in the course of suppurative disease of the middle ear, means, without question, some more or less serious development within the skull. This development may be abscess, meningitis, or sinus thrombosis, and to judge from post-mortem records it would appear that of the three it is thrombosis which most frequently gives rise to optic neuritis.

Further, on more than one occasion it has happened that removal of clot from the lateral sinus has been followed by disappearance of an existing optic neuritis, and although in those cases where the patient has recovered it is impossible *absolutely* to exclude meningitis, the absence of evidences of this condition has repeatedly been noted during the operation, and in some of the fatal cases necropsy has demonstrated that meningitis was not present, and that sinus thrombosis, perhaps with more or less œdema of the brain, was the only abnormal intracranial condition that could be detected. Still more, it has on several occasions been found that optic neuritis—and sometimes, too, an ocular paralysis—has existed in middle-ear disease quite apart from any other evidence of cerebral disturbance and yet has disappeared, either without operation or after operative measures restricted to the *mastoid* and tympanum and not involving the cranial cavity. Obviously in these cases there cannot have been a cerebral abscess, and meningitis is improbable or at least is less probable than thrombosis. Among the recognised possibilities of the situation, therefore, there remains only thrombosis, and this, as shown in the records already quoted, is fully competent to explain the ocular conditions to which attention is now directed. In short, both optic neuritis and ocular paralysis may complicate middle-ear disease, and these complications may be explained by intracranial thrombosis, to which such disease may most certainly give rise. In certain fatal cases no intracranial condition competent to explain these events other than thrombosis has been discovered. Is it not, therefore, in the highest degree probable that when either optic neuritis or an ocular paralysis occurs as *the single unusual* event in the course of purulent disease of the middle ear that sinus or venous thrombosis is the responsible cause? And if this is true of middle-ear disease, is not a similar conclusion inevitable in reference to anæmia? In both diseases thrombosis is a possibility; in both such thrombosis occasionally produces severe cerebral disturbances which may include either optic neuritis or an ocular paralysis; and in both each of these last-mentioned facts may exist as the sole unusual event. To find, apart from thrombosis, an element common to the two diseases and able to account for optic neuritis or an ocular paralysis existing as an isolated fact is a task not easily accomplished, and it may therefore be urged that there is at least a strong presumption that intracranial thrombosis is in each instance the correct explanation.

Here, then, are three conditions, namely, acute anæmia, middle-ear disease, and chlorosis, in each of which optic neuritis, apart from other complications, occasionally makes its appearance. In each there is a possibility of intracranial thrombosis, and this must be allowed as at least a possible cause of the neuritis. To suggest some other cause, which is at the same time common to the three diseases now in question, is a demand not readily satisfied. Hence it may be claimed that the study of the clinical history of acute anæmia and of purulent disease of the middle ear adds force to the contention that the optic neuritis sometimes seen in anæmic women is dependent on the occurrence of thrombosis in the veins and sinuses within the cavity of the skull.

From all these facts it might perhaps be concluded that the suggestion of intracranial thrombosis as the cause of the optic neuritis of anæmia is so strongly supported that it needs must command universal assent. This, however, is far from being the case. On the contrary, the proposal excites both incredulity and the opposition of rival interpretations. At the outset criticism applies to it this censure—that as there is no known or conceivable link by which thrombosis as a cause can be connected with optic neuritis as a consequence, the suggestion that the one is the cause of the other is not tenable. To this it may be answered that failure to provide an exact explanation of the mechanism uniting two associated events cannot be successfully pleaded against the proposition that one of these is the cause of the other provided there are, otherwise, valid reasons which render such a relationship probable. Were such a canon of criticism enforced it would, to quote but a single illustration, compel a refusal to accept intracranial tumour as a cause of optic neuritis, for the pathway leading from the one to the other is far from being apparent. Yet, while claiming the protection of this general proposition, it may be advisable to attempt to find some apt and suggestive *reasons on which* a belief in the capacity of thrombosis to produce such consequences as optic neuritis and ocular paralysis *may be reasonably* based. Regarding the latter there can be no difficulty. Indeed, it is universally recognised that thrombosis in certain of the sinuses at the base of the skull does, as a matter of experience, and presumably by pressure on the trunks of the cranial nerves, cause paralysis of the muscles of the eyeballs. Perhaps the most obvious examples of *this condition* are those in which the thrombosis involves the cavernous sinus, and where the resulting paralysis appears *in the distribution* of the third and sixth nerves. But by extension of the thrombosis into, say, the petrosal sinuses, nerves other than the two just mentioned may also be implicated, and in this way a comparatively wide area of paralysis may be produced, presumably by the pressure of blood clot. Again, thrombosis must be considered in connexion with the disturbances likely to occur in the tissues in the immediate neighbourhood of the obstructed vessel. These disturbances include such events as hæmorrhage, œdema, and softening, any one of which, if favourably situated, may readily interfere with the functions of the centre or trunk of one or other of the cranial nerves. Possibly such considerations, though *plainly applying to* ocular paralyses occurring in anæmia, may be said to leave untouched the issue in regard to optic neuritis. Yet even here the chance of finding an explanation is not altogether hopeless. A thrombus, particularly if it is *formed* in one of the larger sinuses, may fairly be regarded as a "foreign body" or "adventitious product" within the skull, and in this *sense* comes under Hughlings Jackson's definition of intracranial tumour. So presented, it appears as a not improbable cause of *optic* neuritis, or at least the connexion between it and optic neuritis is hardly more mysterious than is the connexion between optic neuritis and any other form of "tumour." With this suggestion, too, must be taken the fact that sinus thrombosis pure and simple is very much less likely to be accompanied by general symptoms of cerebral disturbance than is thrombosis affecting the cerebral veins. Indeed, there can be little doubt that a limited sinus thrombosis may occur entirely without clinical evidence of the fact. On the other hand, it is in cases where the cerebral veins are involved—and especially where they are extensively involved—in the officers and the subject be properly taught to students. The third should be *to make a thorough course* of instruction in anæsthetics a necessary part of the medical education of every legally qualified medical practioner, so that before administering anæsthetics on his own responsibility he would have administered a large number under the *supervision of a competent* teacher. There is ample material, not only in our general but in our special hospitals, for the most thorough practical instruction of all our medical students. The fourth reform needed is the registration by all hospitals of all anæsthetics administered, so that it may be possible, at all events as regards such institutions, to ascertain the death-rates of the different agents employed and to watch the effects of any reforms *that may be introduced.*

If such changes as these were effected the public would undoubtedly be protected as far as is possible against deaths under anæsthetics, for they would have at their disposal throughout the country qualified and thoroughly trained practitioners who would realise the responsibilities intrusted to them. Moreover, in our provincial towns and other centres throughout the country there would always be available *numerous practitioners* who, *as the result of the* improved hospital equipment, had held resident or non-resident anæsthetic offices. Such specially qualified practitioners, *whilst practising as surgeons, physicians, or general practitioners*, would be of incalculable value in surgical and in dental practice. It is in the highest degree probable that under such a *régime* deaths during anæsthesia would rapidly decline in number, and that the discreditable incidents now *too often associated with the giving of anæsthetics* for surgical and dental operations would become a thing of the past. It is a matter for great congratulation that the General Medical Council has lately looked favourably upon the more important of the above-mentioned reforms, and it is to be hoped that ere *long legislation may* be *granted* in the directions indicated.

Queen Anne-street, W.

A CASE OF FRACTURE OF THE RIBS, RUPTURE OF THE LUNG, AND PNEUMOHÆMOTHORAX,

WITH NOTES OF THE POST-MORTEM EXAMINATION.

By MARY C. DE GARIS, M.D., B.S. MELB.,
RESIDENT SURGEON AT THE MUTTABURRA HOSPITAL, QUEENSLAND.

A BUSHMAN, aged 50 years, was admitted to the Muttaburra Hospital on August 11th, 1907. He stated that on the preceding Thursday (the 8th) he was thrown by his horse, which then rolled on him. He was alone *with nothing to eat* or drink but some tea until he was brought into the hospital. He said that he coughed up a large amount of blood after the accident, that he passed blood with his urine, and that his bowels had not been opened.

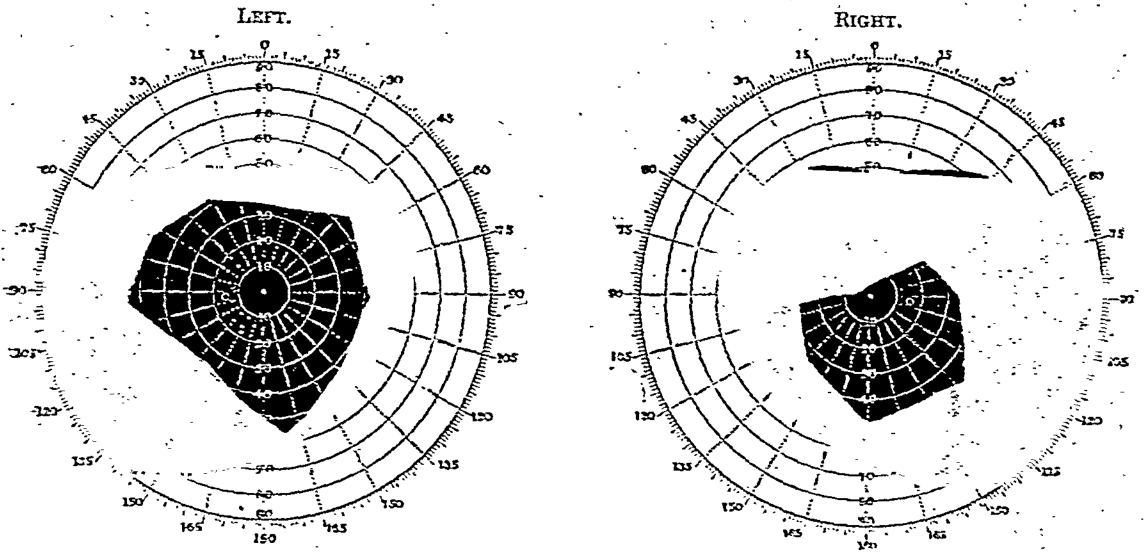
On *examination there were several bruises* on the back of the shoulders. His head was bent forward and his neck could not be straightened without pain. There was an ecchymosis below the right eye. His right arm hung helpless at his side, both passive and active movement being very limited; the humeral head was in *normal position, but the acromion* process was very prominent, and there was apparent crepitus on passive movement of the shoulder. There was no swelling about the shoulder. The clavicle, acromion, and forearm bones were all sound. The abdomen showed no abnormal signs. His *temperature* was 101° F., the pulse was from 120 to 130, and the respirations were 48 There was very severe pain in the right side of the chest, referred especially to the axilla. There was marked orthopnœa (which persisted throughout his illness, he being compelled to maintain the sitting posture *almost constantly*). He was very tender in the right axilla especially, but no crepitus was felt. There was limited subcutaneous surgical emphysema felt in the right side of the neck, not extending below the right clavicle in front, nor quite to the upper level of the scapula behind, nor beyond the *middle line* in front. The respiratory movement of the right side of the chest was very poor. He was coughing up a considerable amount of very blood-stained expectoration, the cough being frequent and distressing. The apex beat was visible in the fifth interspace one inch outside the nipple line; the first sound was slightly murmurish in the apical area, otherwise the heart sounds were clear. On percussion the right side of the chest was found to be highly *resonant*, the upper level of the liver dulness being markedly lowered. There was a very marked diminution of breath sounds in the right side of the chest both anteriorly and posteriorly; the breath sounds were not amphoric, nor was there any metallic tinkling. Some *adventitious sounds* were heard and were considered to be due to crepitus from fractured ribs. There were some tenderness and swelling over the spines of the lower cervical vertebræ, but their position was normal. The urine was very high coloured, acid, of specific gravity 1022, with much albumin, and no blood. Urates were present. The examination made was as limited as possible owing to the patient being in so much distress. The diagnosis of rupture of the lung with pneumothorax was made.

The treatment was as follows. The patient's right side was strapped with Mead's plaster and his arm was bandaged loosely and supported in a sling so as not to hamper the movements of the chest. These measures afforded him great relief, though his *cough remained exceedingly troublesome.* A cough mixture containing some opium was given. His bowels were got freely open. He slept very badly throughout, *sleep being only obtainable by the aid of morphine. The* cough and orthopnœa and restlessness were present throughout, but the expectoration changed from nearly pure blood to a nearly rusty character, becoming very viscid and difficult to dislodge, so that during the last few days the doses of morphine were reduced to a minimum.

On the day after admission crackling crepitations were heard in the left axilla; these persisted. The *stiffness* of the neck disappeared completely after two or three days, and the patient became able after five or six days to move the arm *much more freely, though* never able to elevate it. An ecchymosis became obvious in the right loin about six or seven days after admission.

On August 13th the chest was explored and almost pure blood containing no air was obtained. The respirations reached 70 *on this day and the temperature* varied from 98·2° to 101°. It was considered inadvisable to aspirate in case of hæmorrhage recommencing. On the 16th the chest was again explored and then aspirated in the hope of relieving the distressing dyspnœa; only a few drachms of blood-*stained fluid* and a good deal of air were obtained. This procedure made no difference to the position of the apex beat and apparently did little good; it necessitated the removal of the strapping, which was not replaced. On this day the urine was examined and was found to be free from albumin. On the 17th the surgical emphysema was almost gone and was not observed at all on the 18th. The temperature from the 17th remained subnormal, the pulse became very feeble though less rapid, and on the 19th slight delirium was noticed. Pain below the right clavicle was very troublesome for the two days preceding *his death, otherwise* the patient was much easier than on admission. He at no time exhibited much cyanosis, so that no occasion arose for the performance of venesection. Respiration was always laboured, but the rate varied from 70 to 50 to 28 at different times. He died quietly at 12 15 A.M. on August 20th.

A post-mortem examination was performed. An incision was made on to the head of the right humerus, which was *found in the* normal situation and without fracture. There was a small bony mass in one tendon near its insertion into the humerus, which must have caused the crepitus felt. On opening the right pleura air escaped from it with a rush. A small amount (about eight ounces or so) of slightly blood-*stained* fluid was found in the right pleura (being possibly the serum of the clotted blood). There was a large amount of clot adherent to the lung surface *and to the* parietal pleura; this clot gave one the impression of having air in it. The right lung itself was small, collapsed, fleshy, *airless*, with a tear of the middle lobe. There was no abnormal inflammation. The left lung was resonant, but blood had evidently been inspired into it, for a frothy bloody fluid escaped on section. There was a remarkable absence of compensatory emphysema, the lung being only *of about normal* volume. There was an old fibroid tuberculous patch at the apex of the left upper lobe. There was no evidence of pneumonia. The *pericardium contained* a very small amount of clear fluid. The heart showed some flabbiness of the right ventricle, TO ILLUSTRATE CASE IN DR. HAWTHORNE'S ADDRESS ON THE CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA AND THE PROBABLE RELATIONSHIP OF THESE TO THROMBOSIS.



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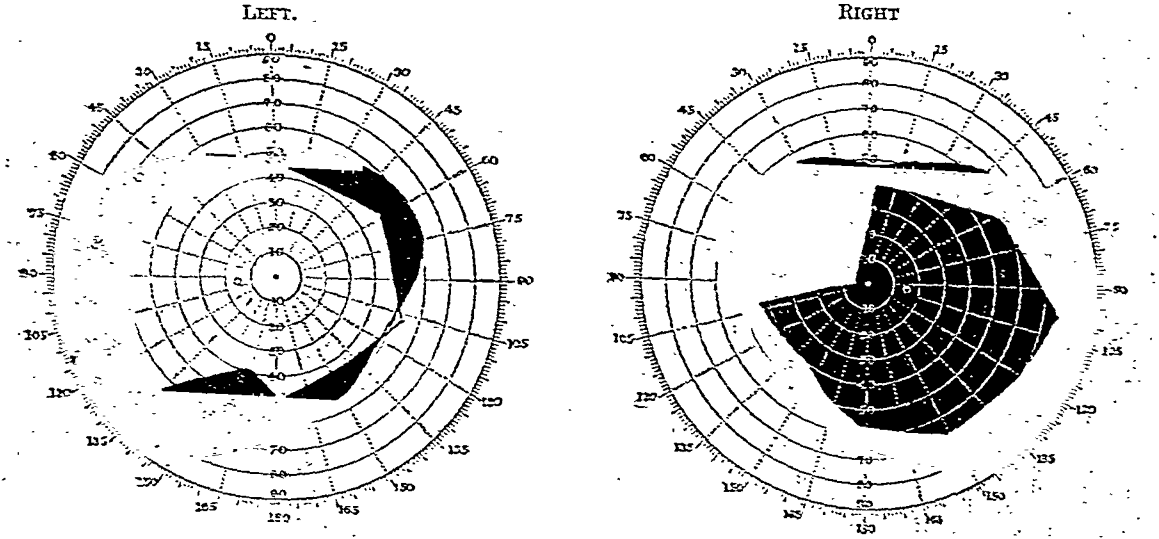

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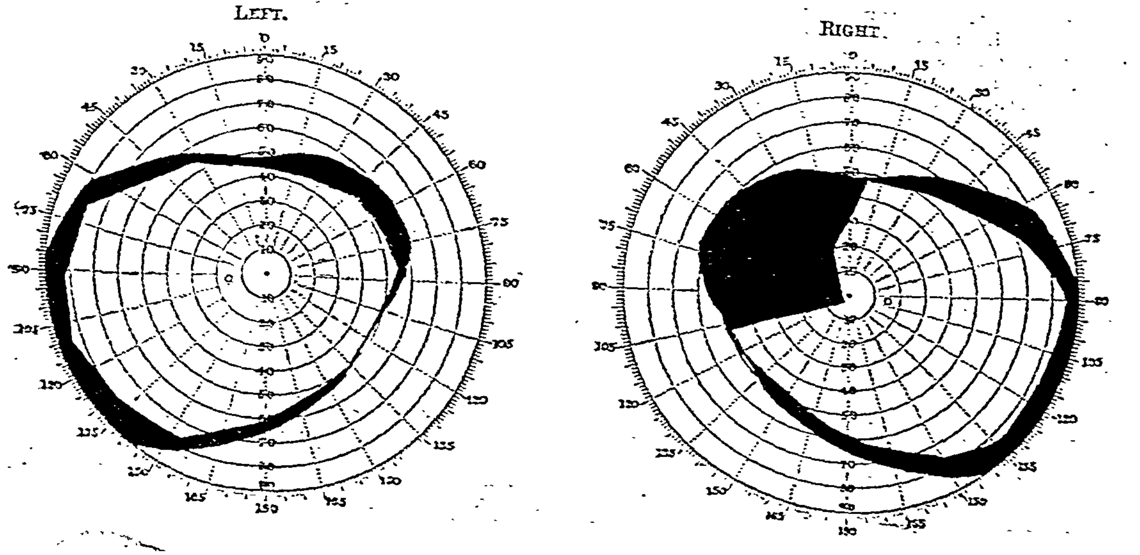

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hydrate. This mixture is heated to from 55° to 60° C. on a water bath or in a thermostat for 24 or 36 hours.

Solution II., Eosin.—One gramme of eosin (Grubler's yellow shade, soluble in water) is dissolved in 5 cubic centimetres of absolute alcohol, then 95 cubic centimetres of distilled water are added.

To make up the stain.—Take 35 cubic centimetres of Solution I., add about 50 cubic centimetres of methyl alcohol (Merck) and shake well, then add 30 cubic centimetres of Solution II. and make up the total volume to 350 cubic centimetres with methyl alcohol. With some samples of methylene blue it is advisable to employ 40 cubic centimetres instead of 35 cubic centimetres of Solution I. The staining of a trial blood-film will indicate whether this is necessary, and, if so, the extra quantity of the blue solution may then be added. The stain thus produced may be used at once, neither filtration nor evaporation being necessary. The differentiating qualities are improved by incubation at 37° C. for 24 or 48 hours, care being exercised to retard evaporation of the alcohol by tightly plugging the flask or bottle with cotton wool. If contained in a well-stoppered vessel the fluid will keep for at least four months—probably much longer, and improves rather than deteriorates in staining properties.

The method of fixing and staining preparations is similar to that employed in Leishman's process—viz., first one minute in the undiluted solution, then three minutes after adding from two to four volumes of distilled water. If the films be then thoroughly irrigated for about 20 seconds with distilled water, by means of a wash-bottle, it is not necessary to allow the water to remain for a minute, as suggested by Leishman. With but little experience, clean and evenly stained preparations are produced.

One point in the technique that should be emphasised is as follows. When the staining is complete the excess of fluid must not be tipped off but, the slide being held horizontally, it must be flooded off with a jet of distilled water. For demonstrating the structure of trypanosomes and other blood parasites better results are obtained by prolonging the staining period to 10 or 20 minutes.

The stain may be reduced to the form of a powder by evaporating the solution to dryness at about 60° C. To make up the stain from this powder weigh up 0·3 gramme and mix with 10 cubic centimetres of distilled water. Allow this to macerate for five or ten minutes, then add methyl alcohol to 100 cubic centimetres. This solution may be used at once but is improved by standing for a day.

Johannesburg.

Reviews and Notices of Books.

The Principles and Practice of Modern Otology. By JOHN F. BARNHILL, M.D., Professor of Otology, Rhinology, and Laryngology, Indiana University, &c.; and ERNEST DE W. WALES, B.S., M.D., Associate Professor of Otology, Rhinology, and Laryngology, Indiana University, &c. With 305 Illustrations. London and Philadelphia: W. B. Saunders Company. Pp. 575. 1907. Price 24*s.* net.

IT is stated in the preface that the primary object which has been kept in view is to modernise the subject; secondly, to correct certain traditional beliefs, the principal one being that children outgrow their ailments; thirdly, to advocate the earliest possible prophylaxis or treatment; fourthly, to emphasise the importance of a thorough examination; and fifthly, thoroughly to illustrate the text. This is a large programme, and a work even as richly illustrated as this, unless its illustrations throw new light upon their subjects or disprove established views, will have difficulty in being of great value from a modernising point of view; and the author's aim is but partially achieved.

The first chapter, on the anatomy of the temporal bone, is certainly very complete and very well illustrated, but the physiology of the organ of hearing is summed up in five pages, commencing with the statement that "very little is actually known about the function of hearing; the physiology of the internal ear is wholly theoretic, and theory is but another name for ignorance." The third chapter, on the bacteriology of the ear, contains most of what is known up to the present time but we do not notice anything new. The fourth chapter is on the causation of diseases of the ear, while the next ten chapters are devoted to diseases of the external ear. The seventeenth chapter is devoted to the methods of examination of the patient, and here we find, as is not at all uncommon in modern text-books of this description, a reproduction of a photograph of a consulting room. In Chapter XVIII. we are told that "as a therapeutic measure Politzerisation holds a middle position between the Valsalva method and inflation by means of the catheter." This cannot be considered as at all a modern view, considering how universally Valsalva's method is condemned by modern otologists.

The section dealing with the examination of the function of the ear presents a fair description of the various tests and the evidence upon which the diagnosis should be made between middle-ear and labyrinthine deafness. The twenty-first chapter is on acute tubo-tympanic catarrh which is an excellent name for the condition more usually described as acute Eustachian obstruction; we feel that this title forms a definite advance in the right direction. In the succeeding chapter, which deals with acute catarrhal otitis media, which is after all but another stage of the preceding complaint, we notice a description which we have not seen before but which is, nevertheless, absolutely correct—namely, that the benefit of packing a discharging ear with dry gauze rests not so much in its antiseptic properties as in its syphon action. Acute mastoiditis, with its treatment, operative and otherwise, occupies the next chapter. There is only one criticism which we would make on the treatment of acute mastoiditis, which is to ask why the bowels should not be opened until the third or fourth day. Chapters XXIV. to XXX. deal with chronic suppurative otitis and contain amongst other illustrations several extremely good microphotographs, one of a much thickened tympanic membrane in this disease, and some very pertinent remarks are here made with regard to the influence of nasal and naso-pharyngeal trouble on this complaint. In discussing the various operations ossiculectomy is carefully described, and an angular knife is depicted which is used to divide the capsular ligament between the stapes and the incus, a refinement of operative technique which is as unnecessary as it is probably difficult. In the chapter on chronic mastoiditis there is a series of excellent illustrations showing many of the various conditions which occur. But here, in the description of the operation for chronic mastoiditis, which is otherwise most accurately written, the reader is warned against separating the whole of the external meatus from the bone without previously dividing it at its inner extremity if the ossicles are still present and attached to any remnant of the drum membrane, as otherwise the stapes might be torn from its position. This is a statement which is so obviously fallacious that we wonder how it could have found its way into the book. Intracranial complications are very well dealt with and some excellent diagrams and plates illustrating the subject are given, including a flap for exposing the temporo-sphenoidal and antral regions at the same time, which seems to us to be a very valuable one. On p. 465 there is a useful table to assist in the differential diagnosis between the various forms of intracranial lesions.

Chronic non-suppurative otitis media comes under one heading; no attempt is made at any differentiation between the various conditions found. In its treatment, if other and milder methods have failed, various operative procedures are suggested, amongst which complete ossiculectomy, including removal of the stapes, is recommended. The last chapters on diseases of the internal ear, including deaf-mutism, appear normal or may show nothing more than some fulness of the retinal veins. In the intermediate cases, that is, those in which papillitis and visual defect are both present, it may be surmised that thrombosis has involved both the vessels of the optic disc and also those of the nerve trunk. One further remark in connexion with these cases may be added. It does sometimes happen that a patient shows papillitis in each eye and in one or both eyes also a serious reduction of visual acuity. The latter fact, as already suggested, implies a lesion in the optic nerve trunk. Therefore when with double papillitis there is marked visual loss it seems probable that the thrombosis, assuming this to be the responsible lesion, is bilateral and peripheral, and further warrant for this view may be found in cases described as retrobulbar neuritis where the affection attacks both eyes, either simultaneously or in rapid succession. Thus there may be distinguished in anæmia two groups of cases in which bilateral papillitis (optic neuritis) is present. In one there is marked visual defect and here, for reasons just given, the probabilities are in favour of a bilateral peripheral lesion. In the other and more common variety there is little or no impairment of vision. In such circumstances it is sufficient to assume, as has already been suggested, a central or intracranial thrombosis, and the experience that with this order of neuritis more or less conspicuous clinical evidences of cerebral disturbance are sometimes present may be advanced in support of such an assumption. But in both groups, as well as in other cases in which optic neuritis and visual loss, either alone or in combination, are present, it may be submitted that thrombosis affords a possible explanation of the facts, and that by such explanation these cases are brought into a reasonable relationship with other cerebral and ocular conditions which occasionally manifest themselves in patients in whom, in spite of exact and continued clinical observation, nothing abnormal can be discovered other than a depreciated quality of the blood.

Such, then, in outline, are some of the cerebral and ocular complications[5] which may appear in the subjects of simple anæmia. It may perhaps be said that these accidents are very unusual. Still, they occur, and therefore demand explanation; and it is possible that in their slighter forms they would more frequently be discovered were examination made for them. Further, the infrequency of these complications is by no means out of harmony with the suggestion that they depend on thrombosis; as, however, it may be explained, thrombosis, although a potential development in all cases of anæmia, only on rare and unusual occasions takes shape and form as a definite clinical occurrence. If the view here advocated is accepted, the occasions of thrombosis are somewhat enlarged, but even so increased there is no desire to pretend that these occasions are either relatively or absolutely frequent. Whether few or many, however, it is to be desired that clinical events shall be duly arranged in their appropriate order and relationship. The hypothesis here advanced is an attempt in this direction. Assuming it to be justified, it brings under a common explanation a number of events which, apart from it, are isolated and detached alike from one another and from the state of anæmia to which, in some fashion or other, their existence is undoubtedly due. In the practical sphere, the suggestion that optic neuritis, ocular paralyses, hemianopsia or other abnormalities of the visual field, retinal embolism, and retrobulbar neuritis, occurring in anæmic patients, are probably due to thrombosis, is significant, because on such interpretation any one or more of these events appearing in an individual case must be accepted as the sign of a tendency to thrombosis in an unusually marked degree, and must therefore claim the prompt application of the therapeutic measures which such a conclusion demands.

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[5] Hæmorrhages in the retina are occasionally seen in patients suffering from chlorosis and may possibly be either direct or secondary to thrombosis. They are quite exceptional, and even when present probably not more than one or two will be detected. In pernicious anæmia, on the other hand, multiple retinal hæmorrhages are the rule.

A RUSSIAN OTO-LARYNGOLOGICAL CONGRESS.—From Jan. 8th to 11th next the first all Russian Oto-Laryngological Congress will be held in the Pirogoff Museum. Advantage will be taken of the occasion to hold an exhibition of instruments, apparatus, &c., related to oto-rhino-laryngology.

THE MEDICAL ASPECT OF GASTRO-ENTEROSTOMY, BASED ON 128 OPERATIONS AT THE MANCHESTER ROYAL INFIRMARY.

BY E. B. LEECH, M.D. CANTAB., M.R.C.P. LOND.,
RESIDENT MEDICAL OFFICER AT THE MANCHESTER ROYAL INFIRMARY.

IN general hospitals there is a large class of cases of chronic gastric ulcer admitted to the medical wards, treated there for a few weeks, usually with immediate relief, and then dismissed with a certainty of recurrence, and this recurrence may even take the form of an acute perforation. An interest in this class of cases has led me to obtain permission from the surgeons of the Manchester Royal Infirmary to collect information concerning the after-history of their patients on whom gastro-enterostomy has been performed, for gastro-enterostomy is apparently the least dangerous and most efficient surgical means of treating many of these cases. I thought that by investigating, on the one hand, the previous sufferings, and, on the other hand, the operation results, good or bad, I might throw some light on the advisability of the operation in various circumstances.

It is, then, from the medical point of view rather than from the surgical that I have approached the subject, and though surgical questions have arisen I have not laid much stress on them. The question that has interested me is, Which are the cases of gastric trouble that the practitioner or physician should send to the surgeon for gastro-enterostomy? My object has been to learn what cases are suitable for operation rather than to decide how best to perform it. As but little extra labour was involved, my research was further extended to malignant as well as to non-malignant cases. I have been fortunate in tracing by letters and personal visits every one of the 128 cases of gastro-enterostomy performed in this hospital before the middle of 1907. My deductions being purely critical, in so much as I have had no direct interest in the operations, are free from personal bias. The standard by which I have judged the results has been a high one; the reports are given as far as possible in the actual words of the patients. Those cases alone are counted as cures where no persistent symptoms are mentioned by the patient.

STATEMENT OF CASES.

Of the 128 operations 79 were for non-malignant conditions, 46 were for malignant, while three have been excluded for reasons stated below. It must be remembered, however, that many of the operations were primarily exploratory, to decide whether the disease was malignant and, if so, to decide whether it was suitable for pylorectomy. In several instances where the patient's condition did not allow a thorough examination at the time of operation, time alone has decided the malignancy or otherwise of the case. The number of patients who have left hospital with a doubtful or wrong diagnosis is very striking; ten supposed malignant cases have shown themselves to be benign, and in three cases the opposite error has been made. For this reason any deductions involving a comparison of the success in malignant and non-malignant cases, and based on a sharp division to these two classes, may give a false impression.

The question of method of operation is so entirely in the surgeon's hands and is now so nearly settled in broad principle that I need only give a bare statement of the forms employed. The posterior anastomosis has been made in 74 non-malignant and in 33 malignant cases, the anterior in one and seven respectively; in ten there is no note as to the position of the opening. A partial gastrectomy has been performed in four cases, a gastroplasty in two cases, and an entero-enterostomy in two cases, but these figures do not include cases where any of these operations have been performed subsequently owing to failure of the original gastro-enterostomy. Murphy's button has been used twice, both times without giving relief. Robson's bobbin has been used in two cases in which relief ensued and in one case which died; Senn's plates have been used in one successful case.

Non-malignant cases.—These naturally form the most important group as the results may be permanent. The children are set forth. The second part of the book is in the form of a dictionary of treatment, alphabetically arranged. Illustrations are added where they are required. The individual articles are necessarily brief, but they are usually practical. We find, for example, that intubation is recommended in diphtheria as preferable to tracheotomy in hospital practice but not in private cases, in which constant supervision is impossible. The dosage of diphtherial antitoxin, however, is given in cubic centimetres, not in units—a mode of measurement which we can hardly commend. In enteric fever the regular administration of a saline purge every third day is advised by Bouchard, while Grancher relies on large doses of quinine, and the authors of the present work combine these modes of treatment. Tepid baths are used to reduce the fever. For hæmophilia the use of fresh animal serum both locally and hypodermically is said to be of great value. The book concludes with a number of prescriptions for various conditions and with a table of doses suitable for different ages. It affords a useful opportunity for comparing the practice in this country with that of our neighbours, containing as it does a very compact summary of the pædiatric procedures in vogue in France, and for this reason as well as for its general utility we commend this volume favourably to our readers.

Green's Encyclopædia and Dictionary of Medicine and Surgery. Vol. VIII: Physiology to Rhinolalia. London and Edinburgh: William Green and Sons. 1908. Pp. 588.

THIS Encyclopædia and Dictionary of Medicine and Surgery has now reached its eighth volume, and the articles in this instalment extend from Physiology (second part) to Rhinolalia. The second half of the monograph on Physiology, by Professor D. Noel Paton, occupies nearly 100 pages and includes a section dealing with the subject of hormones. The action of the hormones or "activators" yielded by the suprarenal bodies and other structures is well discussed and a good summary is given of the present knowledge on the subject. The thyroid gland and the parathyroids receive due attention and the conclusion arrived at by the author is that the nervous symptoms which follow ordinary thyroidectomy—the tremors, and so on—seem to be due to the loss of the parathyroids, while the metabolic changes are probably due to want of the internal secretion of the thyroid. Other important contributions to this volume are those on Pregnancy (in 11 sections), on the Puerperium (in six sections), and on Rheumatism (in four sections). Under the last-named heading are articles on rheumatism in children, rheumatoid arthritis, and chronic rheumatism. Dr. F. J. Poynton's remarks on acute rheumatism are well worthy of perusal. In discussing the "exciting cause" he expresses the opinion that one and not several different bacteria will prove to be the true excitant of this disease, but the peculiar poisons that are formed and the peculiar vital chemistry of the human tissues are as yet unknown. New articles have been added in which prescribing and methods of administering drugs are fully considered. A short communication also appears on the nature of radium and its physiological and therapeutical effects.

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The Treatment of Uterine Retro-deviations. By G. A. CASALIS, M.B., C.M. Edin., Gynæcological Surgeon to the Victoria Cottage Hospital, Wynberg. With 35 illustrations. Cape Town: T. Maskew Miller. 1906. Pp. 175.—This book is one of the first medical works to be published in South Africa. The author reviews very fully the treatment, both palliative and surgical, of uterine retro-deviations. He recommends that all such displacements producing definite symptoms should be treated. The plan of correcting a retroversion by the use of a sound or of a uterine repositor is condemned and the method of bimanual reposition, if necessary in the genu-pectoral position, is preferred. The chapter on the use of pessaries presents a clear account of these instruments but the impression conveyed to the reader is that Dr. Casalis is not really in favour of their use. He puts forward the theory that chronic uterine hyperplasia is a cause of the development of fibroid tumours of the uterus; hence the correction of uterine retro-deviations is of great importance so as to check any tendency to uterine congestion and the production of uterine hyperplasia. The second part of the book is devoted to a consideration of all the various surgical operations which have been devised for the purpose of treating these displacements of the uterus. The rules laid down for the correct choice of the particular operative procedure required are good and gastrostomy has recently been performed. In the other case of limited relief pain and vomiting have returned, though less severely than before operation.

Besides this last class, in some of which there is no obstruction to the passage of food, I wish to call attention to the other successful cases where there does not seem to have been stenosis in any part of the stomach. In one an ulcer was found at the cardiac end of the stomach (Class *f*), the pylorus being apparently free. In another no lesion at all could be found. Another (Class *i*) supposed at the time, owing to a hard mass felt, to be one of pancreatic growth, no lesion of the stomach was found. The continued relief of this patient after gastro-enterostomy shows that the diagnosis of malignancy was wrong but the method of relief is by no means clear. In another non-obstructive case there was less success. In spite of a history pointing to gastric ulcer nothing definite was found at the operation and the gastro-enterostomy which was done gave absolutely no relief. At a further operation the opening was closed and the stomach and gut were left in their original condition. There was no improvement at first, but three months later the patient suddenly improved and rapidly increased three stones in weight. I cannot explain this.

One of the two unsuccessful cases of the various class certainly now has locomotor ataxia with typical gastric crises. There probably was also an ulcer at the time of operation: the other patient of this class perhaps has the same disease.

The most unsuccessful class is that where simple dilatation of the stomach is present due to atonic gastritis combined with general weakness. All the three cases which I have put in this class died.

In order to obtain a general idea of the cause of failure in the non-malignant cases I have collected these causes and the forms in which the trouble persists in the following table, which includes all of the 16 cases in the "limited" and "no improvement" classes.

TABLE C.

Persistent pain	10 cases.
Vomiting (two with bile)	8 „
Locomotor ataxia...	2 „
Merycism	1 case.
Development of œsophageal obstruction	1 „

I next consider the fatal cases *en bloc*. The mortality class is unexpectedly large, but it is only fair to point out that it includes every case where death occurred within two months of the operation; this is a longer period than is usually taken in statistics of surgical results. The cases fall under two headings: (1) unsuitable cases; and (2) errors in operation. It is, however, difficult to divide them sharply. Under unsuitable cases I include not only those which were unsuitable from a mechanical point of view, but those where the patient was unable to withstand the shock owing to bodily weakness. The following 12 may be considered in the class of unsuitable cases, seven of syncope or gradual failure, two of broncho-pneumonia, one of cerebral thrombosis, one of abortion after operation with hæmorrhage, and one where the operation was performed fairly soon after corrosive poisoning; here a sharp kink was found post mortem in the duodenum. Six deaths may be classed as due to errors of operation. In one the jejunum was anastomosed to the pyloric half of an hour-glass stomach, in another the opening was made between the stomach and ileum, one died from pyæmia, another from general peritonitis, another with continual vomiting, and the last from gastric hæmorrhage.

The ages of the non-malignant cases operated on are of interest, for age itself seems to be no bar. Of the 79 cases 63 are below and 16 above 50 years of age. Of the 16 older cases 12 are in the relieved or nearly relieved classes; four are dead. The percentage of cures happens to be greater here over than under 50 years of age.

Malignant cases.—The success in these cases is shown by the following table:—

TABLE D.

	Number of cases.		Percentage.
Class 1. Living over two months; relief obtained	15	=	32
Class 2. Living over two months; no relief	10	=	22
Class 3. Dying in less than two months after operation	21	=	46

This shows that only 32 per cent. of operations have been "worth while" and that 68 per cent. (Classes 2 and 3) are failures. This contrasts with the non-malignant cases, where the figures are reversed, 68 per cent. being successful and 32 per cent. being failures. With regard to the position of the growth, I find that in these 46 cases it was in 40 at the pylorus either primarily or by invasion; in one it was on the lesser curvature, in two on the posterior wall; in one there was invasion of the stomach from a secondary growth of the liver; the primary growth in this case was in the breast. The situation of the growth was not stated in two cases, but in both it was widespread. It may be well first to dispose of the cases not at the pylorus. The patients with growths on the lesser curvature and posterior wall all died within a few days of operation and the woman with secondary pyloric growth obtained no relief. The 40 obstructive cases fall into the classes as follows: some relief in 18, no relief in nine, early death in 13. In the relief class the success in some of the cases is certainly striking, especially when we remember that each of them was not considered fit for a partial gastrostomy at the time of operation and that therefore the disease must have been well advanced. Six of the patients were able to work for a year. In other instances, where health was not restored sufficient for work, vomiting, in many patients the most distressing symptom, was relieved. A strange contrast of success and failure is seen in the case of a musician who had a palpable tumour, which was found at the operation to be a fairly advanced carcinoma. The relief from the gastro-enterostomy was so marked that he was able to resume his work and believed himself cured. While working he cleared off a debt which had accumulated during his previous illness and had the happiest year of his life. Then pain recurred, though the gastro-enterostomy opening apparently remained patent throughout. The medical practitioner who attended him writes that he finally had the most extraordinary period of agony he had ever seen in any patient, and says that in his opinion the operation was not worth while.

The no relief class, which has an average after life of six months, is the most unsatisfactory, for here the patient has the discomfort of an operation which, without relieving the symptoms, may even prolong life. The mortality-class, though unsatisfactory from the surgeon's point of view, is in other respects not so distressing, for the operation is often done at the patient's special request and life would have been little longer if the risk had not been taken.

The longest survival after gastro-enterostomy for malignant disease has been 30 months. There has been no increase in the number of malignant cases operated on in recent years. The figures stand at 11, 8, 9, and 5 (six months only) for the years 1904–7. The operation is evidently not increasing in favour.

Excluded cases.—I have excluded three cases from the above tables. In two the question of malignancy has not been settled; one died five months after leaving hospital from sudden gastric hæmorrhage; the other, who underwent operation in May, 1907, is still alive and comfortable. The third patient, supposed to have acute gastric trouble, was found at the operation to have a somewhat dilated stomach. A gastro-enterostomy was performed and the patient died the same day. The acute attack was really an incipient pneumonia.

Contrary to what might be expected, there has been no great improvement in results in later years. While the recent non-malignant cases have been slightly more successful, the recent malignant cases have been strikingly more fatal than the earlier cases. In the first half of the non-malignant cases 17 were completely successful and 10 died; while in the second half 20 were completely successful and eight died. In the malignant cases 11 of the earlier ones were successful and 12 unsuccessful, while in the later cases only four were successful and 19 were failures.

ADVISABILITY OF OPERATION.

The above figures may be taken as those of a hospital where the surgery is of a high type but where no attempt has been made to pick cases or to obtain figures for records and for publication. From these and from a general knowledge of the outlook in gastric ulcer and carcinoma I draw the following conclusions.

Malignant cases.—Any operation which has a mortality children are set forth. The second part of the book is in the form of a dictionary of treatment, alphabetically arranged. Illustrations are added where they are required. The individual articles are necessarily brief, but they are usually practical. We find, for example, that intubation is recommended in diphtheria as preferable to tracheotomy in hospital practice but not in private cases, in which constant supervision is impossible. The dosage of diphtherial antitoxin, however, is given in cubic centimetres, not in units—a mode of measurement which we can hardly commend. In enteric fever the regular administration of a saline purge every third day is advised by Bouchard, while Grancher relies on large doses of quinine, and the authors of the present work combine these modes of treatment. Tepid baths are used to reduce the fever. For hæmophilia the use of fresh animal serum both locally and hypodermically is said to be of great value. The book concludes with a number of prescriptions for various conditions and with a table of doses suitable for different ages. It affords a useful opportunity for comparing the practice in this country with that of our neighbours, containing as it does a very compact summary of the pædiatric procedures in vogue in France, and for this reason as well as for its general utility we commend this volume favourably to our readers.

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The Treatment of Uterine Retro-deviations. By G. A. CASALIS, M.B., C.M. Edin., Gynæcological Surgeon to the Victoria Cottage Hospital, Wynberg. With 35 illustrations. Cape Town: T. Maskew Miller. 1906. Pp. 175.—This book is one of the first medical works to be published in South Africa. The author reviews very fully the treatment, both palliative and surgical, of uterine retro-deviations. He recommends that all such displacements producing definite symptoms should be treated. The plan of correcting a retroversion by the use of a sound or of a uterine repositor is condemned and the method of bimanual reposition, if necessary in the genu-pectoral position, is preferred. The chapter on the use of pessaries presents a clear account of these instruments but the impression conveyed to the reader is that Dr. Casalis is not really in favour of their use. He puts forward the theory that chronic uterine hyperplasia is a cause of the development of fibroid tumours of the uterus; hence the correction of uterine retro-deviations is of great importance so as to check any tendency to uterine congestion and the production of uterine hyperplasia. The second part of the book is devoted to a consideration of all the various surgical operations which have been devised for the purpose of treating these displacements of the uterus. The rules laid down for the correct choice of the particular operative procedure required are good and intelligently. Evidently irritated by the chimes of the neighbouring cathedral, he said repeatedly, "I want it disconnected," but could not explain what "it" was. He could not recognise objects handed to him or in the room—at any rate he could not name them. He was able to read aloud from a book but could not repeat consecutively more than three or four words dictated to him. He could not carry out any commands spoken or written.

It will be seen that the signs of pressure widely affecting the left hemisphere were unequivocal, but it was difficult to arrive at any decided opinion as to the precise agent causing the pressure. The long period that had elapsed since the accident, the readiness with which the wound had healed, and the absence of any adhesion of the cicatrix to the bone, or other indication of the bone having suffered damage, and the freedom of the patient from any sign of septic infection, all weighed against the presence of pus. As there had been no sign of compression closely following the injury, and as the case only reached a somewhat abrupt climax three months afterwards, it was not easy to interpret the condition as arising from a hæmorrhage the direct consequence of the accident. The possibility of a gross lesion in the form of a tumour was kept in mind, but the only thing which lent any support to this solution was some vague information as to a deterioration of health and an ill-defined change in the patient previous to the injury. In this case the occurrence of the accident had to be accepted as merely a coincidence. But whatever might prove to be the cause of the pressure the necessity of an exploratory trephining was clear.

The operation was carried out on Nov. 14th. The posterior parietal region was laid bare by a large flap reflected downwards. The cicatrix of the wound was included in the upper and posterior angle of the flap and the underlying bone showed no trace of injury. Three trephine discs were then removed and the intervening piece of bone was cut out with a guarded Gigli saw, so as to expose the upper Rolandic area. The exposed dura mater bulged and looked bluish, and when it was incised a quantity of porter-like fluid gushed out to the estimated amount of five or six ounces. When the exposed dura mater was fully laid open a large cavity extending downwards and forwards and loosely occupied with blood clot came into view. Many portions of the clot were adherent to the under surface of the dura mater (parietal arachnoid); none of the clot adhered to the visceral arachnoid. These adherent portions were scraped away with the sharp spoon and while this was being done it was noticed that the surface of the depressed hemisphere was slowly rising. In no long time it had risen to the normal level. A gauze drain was placed in the subdural space to prevent re-accumulation of fluid and the operation was finished with the suture of the dura mater and the re-adjustment of the scalp flap. The bone was not replaced.

When the patient was visited by Dr. Plummer in the evening he could answer the ordinary questions correctly; he could move the right leg and to a slight extent the right arm. Day by day thereafter there was a progressive recovery of function. The mental faculties were fully restored, as well as the power of speech and the use of the arm and leg. After a visit to Las Palmas to recuperate his general health he returned to the full discharge of his duties.

The best account of such cases as the foregoing is to be found in an early contribution on "Extravasations of Blood into the Cavity of the Arachnoid," by Prescott Hewett,[2] and in the treatise on Injuries of the Head by the same author in Holmes's "System of Surgery." In the first of these contributions which deals with the pathology of the subject Hewett establishes the frequency of hæmorrhage into the subdural space, and traces the changes which the effused blood may undergo. He shows that these changes are not the result of inflammation; that they begin with the coagulation of the blood and with the natural tendency to the formation of an adventitious membrane encapsuling the clot. Such an encapsuled clot adheres readily to a surface with which it rests in contact—in this instance to the arachnoid surface of the dura mater. Adhesion is speedily followed by organisation through the agency of newly formed blood-vessels which penetrate the adventitious capsule and serve to bind it more intimately to the surface to which it adheres. But these new vessels are fragile and easily ruptured and this fact gives the key to such cases as that under consideration. A hæmorrhage in the first instance may be so slight that the subject of it suffers only a passing disablement. When the resulting clot is becoming organised an incidental rupture of newly formed blood-vessels takes place and a fresh hæmorrhage occurs; and this sequence once started may repeat itself indefinitely. It follows that a hæmorrhage originally small in amount may in the end lead to fatal compression. It resembles an ingravescent apoplexy, only occupying weeks or months in attaining its full development; and the course of the case may be marked by alternations of aggravation and improvement, the first caused by renewal of the hæmorrhage, the latter by absorption of the fluid part of the exudate. Similar pathological changes and an analogous clinical course have been observed in subdural hæmorrhage of idiopathic origin. Such cases are most apt to occur in the insane, the alcoholic, and the phthisical, and these have been the subject of communications in the volumes of the Transactions of the Pathological Society, by Greenfield,[3] Wynne,[4] Newton Pitt,[5] and others.

Returning to the clinical aspects of the subject as dealt with by Prescott Hewett in his treatise on head injuries we find some points which are pertinent to the present history. He points out that "there are no symptoms which will enable us clearly to diagnose an extravasation of blood into the cavity of the arachnoid." Especially is this the case, in his view, with regard to the possibility of discriminating between a hæmorrhage into the cavity of the arachnoid and a collection upon the outer surface of the dura mater. And it illustrates the then position of intracranial surgery that it should be assumed that only under the supposition of the blood being outside the dura mater would the surgeon be led to apply the trephine. For Hewett goes on to say, "Supposing the trephine to have been applied and no blood found between the bone and the dura mater, still the blood in the arachnoid may chance to lie immediately under the spot, and the dura mater of a blue colour may bulge into the trephine hole. Under such circumstances blood in the cavity of the arachnoid has several times been let out and the patient saved." And he adds, "When, however, there are no indications of the blood in the arachnoid being under the trephine hole there is nothing to justify the surgeon in proceeding further." These sentences are of interest in that they depict the attitude of the surgeon towards the dura mater at the time they were written. They show that the surgeon abstained whenever possible from opening the dura mater just as he preferred not to open the peritoneal sac in operating for strangulated hernia. Since then the risks have been almost abolished and as in other departments of surgery intracranial operations frankly undertaken for exploration, frequently issue in the complete restoration of the patient.

Newcastle-on-Tyne.

A CASE OF SLEEPING SICKNESS TREATED WITH ATOXYL; APPARENT RECOVERY.

BY T. ARNOLD JOHNSTON, M.B., CH.B. EDIN.,
CLINICAL ASSISTANT AT THE ROYAL INFIRMARY, EDINBURGH; LATE HOUSE PHYSICIAN, ROYAL INFIRMARY, BRADFORD, YORKS.

THE following is an account of a case of sleeping sickness; it was first seen during the second stage of lethargy, tremors, and general glandular enlargement, developing later the emaciation and subnormal temperature, with aggravation of the former symptoms, which herald the third and usually fatal stage. This patient, subsequent to a rigid course of atoxyl and mercury treatment, as recommended by Nierenstein, regained full physical and mental health.

The patient was admitted to the Bradford Royal Infirmary, under the care of Dr. H. J. Campbell, on Sept. 7th, 1907. He had resided for three years in Fernando Po and on the Gold Coast and returned to England in April, 1907. He had always been a healthy man until his return from West Africa. There was no history of tubercle or syphilis, his wife being healthy, no miscarriages. and the mother of two healthy children, aged three and four years respectively. At the time of his return he complained of general malaise, individually. In the dermatological section Dr. E. G. Graham Little contributes a careful study of Granuloma Annulare, in which he groups under a single heading a series of cases which have been described under varying titles by different observers. In the laryngological section Dr. P. Watson Williams reports a remarkably successful external osteoplastic operation in a case of Malignant Growth of the Septum and Naso-pharynx. Amongst many other interesting cases may be mentioned one of hysteria with very unusual laryngeal manifestations, reported by Sir Felix Semon, and another of probable combination of laryngeal tuberculosis and syphilis by the same observer. In the medical section Dr. A. M. Gossage contributes a paper on the Tone of Cardiac Muscle, illustrated by many tracings, which embodies some original conceptions and includes observations upon dilatation, the extra-systole, and the action of digitalis. The neurological section is occupied with cases reported by Dr. H. G. Turney, Dr. G. Ogilvie, Dr. H. Campbell Thomson, Dr. Wilfred Harris, Dr. Leonard G. Guthrie, Dr. D. W. Carmalt-Jones, and others. The obstetrical and gynæcological section also contains several case reports, including one by Dr. Cuthbert Lockyer on Pregnancy in the Wall of a Tubal Sac. Dr. J. H. Teacher contributes, in conjunction with Dr. T. H. Bryce, an abstract of the Descriptive Part of a Memoir on the Examination of a Human Ovum of the probable age of 13 to 14 days. In the odontological section Mr. Arthur H. Evans contributes a case of Diffuse Fibromata of the Gums. The otological section includes cases and specimens recorded by Dr. P. McBride, Dr. A. Logan Turner, Mr. H. Wade, Dr. W. Permewan, Dr. J. M. Darling, and others, whilst the surgical section is concerned with an account of the reduction of an old subcoracoid dislocation of the humerus by excavating the glenoid cavity through a posterior intermuscular incision by Mr. W. G. Spencer; notes on cases of Cystic Tumour of the Suprarenal Body, including one recorded by Greiselius of Vienna in 1670, by Mr. A. H. G. Doran; and two difficult cases of fracture by Mr. Rushton Parker.

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[2] Medico-Chirurgical Transactions, vol. xxviii., 1845.

[3] Transactions of the Pathological Society, vol. xxix., 1878.

[4] Ibid., vol. xliii., 1892.

[5] Ibid., vol. xliii.

MEDICINE AND THE LAW.

"Dairying" in a Stable.

THE health authorities at Hastings are to be congratulated upon being successful in not only putting an end to a serious fraud that was being perpetrated upon the inhabitants of that town, but in bringing before the justices the perpetrators after they had only been operating for a space of three weeks. Two men, George Cooper and Henry Dagnell, between August 13th and Sept. 5th, purchased from retail premises at Hastings no fewer than 654 pounds of margarine in small quantities at a time. They took their purchases to a stable which they had hired and here they made the margarine up into half-pound pats (with scales which were three-quarters of an ounce against the purchaser), afterwards hawking it round the town as genuine "Devonshire" butter. Their story was that they had just come from the country with the "butter" and their general attire was quite consistent with this statement. But purchases came to be made for the purpose of analysis, and the result was that the so-called "Devonshire butter" was found to be nothing more nor less than margarine. A warrant was secured for the arrest of the two men, and within a very few hours both men were sentenced to three months' hard labour without the option of a fine for obtaining money by false pretences. It is such sentences as these that are needed in cases of gross fraud where foodstuffs are concerned, and the justices, no doubt, were influenced by the aggravating circumstances in the case. The margarine was kept and "prepared" for sale in a stable which was actually being used as such, a pony being in the stall and manure lying about the floor at the time of the inspector's visit. To have proceeded against these men by summons would probably have resulted in them not being found, the pony and cart at the stable being quite capable of carrying them and their "dairying" utensils on to some other town where the same nefarious business might be carried on, and, perhaps, for a longer period than at Hastings.

Reform in Expert Medical Evidence.[1]

The Massachusetts Medical Society is endeavouring to procure legislation to bring about a change in the present conditions of medical expert testimony in the United States. Apart from the possible combination of unworthy lawyers and unworthy medical men, examples of which have been furnished in America, there is often witnessed the sorry spectacle of honest and reputable physicians arrayed on opposite sides in a law court and made to appear to give sworn opinions in quite conflicting manners concerning subjects upon which but one view would exist were the proceedings conducted by a private consultation among the witnesses. A distinguished judge in Massachusetts is reported to have observed lately: "If there is any kind of testimony that is not only of no value, but even worse than that, it is in my judgment that of the medical expert." To ameliorate this state of affairs it is suggested to enact that the court may on its own motion and at the request of either of the contending parties appoint one or more medical witnesses of approved training and experience to give expert testimony on any case under consideration. The Bill suggested proposes that such a report shall be considered legally as similar to that given to the report of an auditor. In furtherance of this plan it is proposed that the leading medical societies should furnish the Chief Justice of the Supreme Court with a panel of 50 medical men of high professional standing from whom may be selected expert witnesses with the designation of the specialty in which each is deemed to be an authority. Reasonable compensation for services so rendered are to be allowed by the court and paid from the county funds. The appointment of these official witnesses by the court is not to preclude the testimony of other skilled witnesses who may be called privately. The passage of such a measure by the legislature would revolutionise the present undesirable conditions under which expert evidence is produced; the medical expert would then be what his designation implies and would cease from being merely a medical advocate. The Bill is said to have the cordial endorsement of the best element of the legal and medical professions in the State of Massachusetts.

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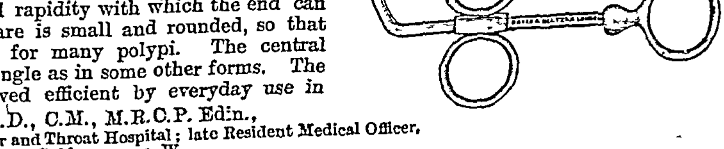
[1] A motion for reform carried by medical men in Boston was reported in THE LANCET of June 6th, 1908, p. 1651.

New Inventions.

A NASAL SNARE.



THIS snare has been made for me by Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W. The chief feature is the ease and rapidity with which the end can be threaded with wire. The point of the snare is small and rounded, so that the wire retains its loop and can be used for many polypi. The central od is drawn straight back instead of over an angle as in some other forms. The snare is light and strong and has been proved efficient by everyday use in hospital.

WILFRID GLEGG, M.D., C.M., M.R.C.P. Edin.,
Assistant Surgeon to the Birmingham Ear and Throat Hospital; late Resident Medical Officer,
Throat Hospital, Golden-square, W.
Birmingham.

intelligently. Evidently irritated by the chimes of the neighbouring cathedral, he said repeatedly, "I want it disconnected," but could not explain what "it" was. He could not recognise objects handed to him or in the room—at any rate he could not name them. He was able to read aloud from a book but could not repeat consecutively more than three or four words dictated to him. He could not carry out any commands spoken or written.

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The operation was carried out on Nov. 14th. The posterior parietal region was laid bare by a large flap reflected downwards. The cicatrix of the wound was included in the upper and posterior angle of the flap and the underlying bone showed no trace of injury. Three trephine discs were then removed and the intervening piece of bone was cut out with a guarded Gigli saw, so as to expose the upper Rolandic area. The exposed dura mater bulged and looked bluish, and when it was incised a quantity of porter-like fluid gushed out to the estimated amount of five or six ounces. When the exposed dura mater was fully laid open a large cavity extending downwards and forwards and loosely occupied with blood clot came into view. Many portions of the clot were adherent to the under surface of the dura mater (parietal arachnoid); none of the clot adhered to the visceral arachnoid. These adherent portions were scraped away with the sharp spoon and while this was being done it was noticed that the surface of the depressed hemisphere was slowly rising. In no long time it had risen to the normal level. A gauze drain was placed in the subdural space to prevent re-accumulation of fluid and the operation was finished with the suture of the dura mater and the re-adjustment of the scalp flap. The bone was not replaced.

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Newcastle-on-Tyne.

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The patient was admitted to the Bradford Royal Infirmary, under the care of Dr. H. J. Campbell, on Sept. 7th, 1907. He had resided for three years in Fernando Po and on the Gold Coast and returned to England in April, 1907. He had always been a healthy man until his return from West Africa. There was no history of tubercle or syphilis, his wife being healthy, no miscarriages, and the mother of two healthy children, aged three and four years respectively. At the time of his return he complained of general malaise, valuable and interesting study of Huntington's chorea. A brief biographical sketch illustrated with two portraits is given of Dr. HUNTINGTON who happily is still living and engaged in general practice. He is of English ancestry, being descended from SIMON HUNTINGTON who left Norwich in 1633. He has also had the advantage of a medical heredity, his father and grandfather both having practised medicine in Easthampton, Long Island, at which place Dr. HUNTINGTON, after qualification in 1871, joined his father in practice. Many of the families in this district were of old New England stock and among them intermarriage was not infrequent owing to the comparative seclusion in which they had lived. Among these families there existed a hereditary disease, which formed the subject of Dr. HUNTINGTON'S paper. The condition had been recognised by his grandfather, Dr. ABEL HUNTINGTON, and the cases had been classified by his father, Dr. GEORGE LEE HUNTINGTON, and the manuscript of the original paper was carefully revised by the latter. In the pamphlet to which we have referred a reprint is given of this original description, and it has been well described by Professor W. OSLER as "the really graphic account he has given in a few paragraphs of the salient features of the disease." In this paper stress was laid upon three points in connexion with it—namely, its hereditary character ("an heirloom from generations away back in the dim past"), the associated tendency to insanity and suicide, and the fact that it only manifests itself as a grave disease in adult life—usually between the ages of 30 and 40 years. In connexion with the manner of its hereditary transmission the peculiar fact was brought out that if a generation in one of the affected families escapes the disease the thread is broken and the subsequent offspring remain free from it. The late period at which the disease, although obviously hereditary, appears was also mentioned as a striking feature when compared with most other diseases which are transmitted hereditarily, where the taint usually makes itself apparent at a more or less early age.

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[2] Medico-Chirurgical Transactions, vol. xxviii., 1845.

[3] Transactions of the Pathological Society, vol. xxix., 1878.

[4] Ibid., vol. xliii., 1892.

[5] Ibid., vol. xliii.

A number of papers written specially for this "HUNTINGTON Number" by various authorities are included. The first of these is in German and is contributed by Professor ADOLF STRÜMPELL of Breslau, who gives his experience of the disease in Germany. He states that the condition is one of great rarity in that country and that he has only seen about half a dozen cases. He gives brief details of two of these which have been seen by him at Breslau and refers to a third patient in whom the early movements were mistaken for mannerisms but who eventually became insane. Professor STRÜMPELL in this connexion lays stress upon the peculiar associated movements, such as grimaces, gesticulations, and bizarre gestures, which occur in addition to the actual choreic twitches. He also mentions a condition of hypotonus analogous to that observable in Sydenham's chorea. A paper in French is contributed by M. LANNOIS and M. PAVIOT on "The Nature of the Histological Lesion in Huntington's Chorea," in which some interesting observations are recorded concerning the pathology of the disease. The post-mortem appearances observed in a case of Huntington's chorea are described and the results of the histological examination of the brain by means of Nissl's method are detailed. It was found that the zone of the nerve cells of the motor region of the cortex was thickly studded with small blue granules, some of them appearing to be on a plane superficial to that of the nerve cells. Under the high power these granules could be differentiated from the neuroglia cells by their smaller size and by their staining reactions. Often three or four might be seen around a single nerve cell, some of them appearing to penetrate the protoplasm. This appearance is due, however, to their being on a different plane to the cell. The nerve cells themselves were found to present a condition of diffuse chromatolysis; their nuclei were often indistinct, the nucleolus alone being apparent. A similar infiltration with these granules was found about the cells of the basal ganglia. In a previous paper[3] M. LANNOIS and M. PAVIOT have expressed the opinion that these appearances are a result of a hereditary malformation of the neuroglia of the cerebral cortex. Since then, however, they have observed similar appearances in other conditions, including myoclonus, and they now suggest that these conditions are due to a chronic encephalitis or meningo-encephalitis producing lesions which are irritative rather than destructive, and they suggest that the hereditary factor in Huntington's chorea consists in a vulnerability of the cortex, or a predisposition to chronic encephalitis after an infection or an intoxication. Dr. A. R. DIEFENDORF of Yale gives an interesting study of the mental symptoms of the disease, the result of the personal observation of 14 cases and the analysis of the history of 14 others supplied to him by physicians and relatives. He divides the mental symptoms into three groups—cases with "gradually progressive dementia; cases with crazy symptoms; and cases with symptoms of congenitally defective constitution." He states further that the second and third of these are usually only "episodes in a psychosis which sooner or later ends in a progressive dementia."

The remaining papers are mostly devoted to the history of the subject. As so frequently happens in regard to the descriptions of newly recognised diseases, the priority of Dr. HUNTINGTON'S observations has been called in question, and it is now generally recognised that the disease had been described by three observers before 1872, the year in which his own paper appeared.[4] The first description which can be traced is that of the Rev. C. O. WATERS, M.D., of Franklin, Delaware County, New York. He appears to have been a man of varied interests and activities and to have left the practice of medicine for that of the Presbyterian ministry. His only contribution to the subject was a letter written to Dr. DUNGLISON and published in his "Practice" in 1842, in which the onset in later life, the hereditary character, and the incurability of the malady were described. The second description was given by Dr. C. R. GORMAN in an inaugural dissertation presented to the Faculty of the *Jefferson* Medical College of Philadelphia in 1848 and referred to in the third edition of DUNGLISON'S "Practice." The dissertation weight had gone down to 5 stones 3 pounds. The temperature was 97° and the pulse was 96. On the 16th the second course of injections was commenced. From this date we employed half the former dosage. During the night the patient was very collapsed and 5 minims of strychnine were injected every three hours. On the next day the patient was so collapsed that his wife, who was with him, came to the sister of the ward and reported her husband as having died. The crossing of the knee-jerks had disappeared; the other reflexes were less active. On the 28th the third course was commenced. The patient was extremely weak and emaciated, his weight being 4 stones 13 pounds. He cried and moaned piteously when being attended to. Retention of urine had again occurred several times and the catheter had been required. The temperature was 97·6° and the pulse was 92. On Nov. 12th the patient had improved. He was brighter and took a little interest in his surroundings. The bedsores were healing; the glands were smaller; the tremors were less frequent. Continence was definitely re-established on this date. Mental effort continued to be difficult and replies were delayed. His weight was 5 stones 2 pounds. On the 16th the fourth course of injections was commenced. Progress continued. On the 29th the fifth course of injections was commenced. There was continued steady improvement, the tremors had ceased, the glands were steadily decreasing, the sores had healed, and lethargy was gradually getting less. He had been wheeled about the ward in an invalid chair during the past week. His weight had risen to 6 stones. The temperature was 93 and the pulse was 88.° On Dec. 14th the sixth course of injections was begun. The progress was steady towards recovery. The glands were almost impalpable; the skin was smooth and healthy. Replies were a little delayed but he could do simple problems in arithmetic correctly. He read a little and could play dominoes with the other patients; he was soon tired with these efforts and slept a good deal. The temperature had risen to normal with an occasional evening rise to 99°. His weight was 6 stones 10 pounds. On Jan. 4th, 1908, the seventh and last course of injections was commenced. The patient was alert and intelligent when questioned, giving a clear account of his African experiences; his weight was now 7 stones 9 pounds.

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[3] Revue de Médecine, March 10th, 1893.

[4] Medical and Surgical Reporter, Philadelphia, April 13th, 1872.

From this period till his departure to the convalescent home on Feb. 13th, the patient's condition steadily improved. All traces of glandular enlargement had *disappeared*, including the interscapular dulness; his reflexes were normal; no tremor was shown. During the day he went long walks and assisted in the work of the ward, his appetite was good, and his sleep at night was sound and refreshing. His weight went steadily up to 8 stones 7 pounds. In every way he was an impressive contrast to the emaciated wreck covered with sores and shaken by tremors of three months previously. During the last month he took cod-liver oil, quinine, and iron, no further injections being given. He was warned to report immediately any relapse to his medical adviser, but so far he has not returned to the hospital.

It only remains to express my deep obligations to Dr. Campbell for the freedom he allowed me in making the above observations; for these and other courtesies innumerable, while I had the privilege of being his house physician, I am more than grateful.

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Royal Infirmary, Edinburgh.

WARSAW UNIVERSITY.—The Warsaw correspondent of the *Times* states that the University, which has been closed since 1905, was opened on Sept. 14th. Of the 600 students who have entered only 38 are Poles, the rest being Russians and Jews. This is due to the fact that the Government refused to allow the University to be "polonised," and the Poles thereupon resolved to boycott it.

AN UNUSUAL TYPE OF LEUKÆMIA COMPLICATED BY SYNOVITIS IN A YOUTH THE SUBJECT OF ICHTHYOSIS.

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OUR knowledge of the causation of the various conditions comprised under the respective terms leukæmia and pernicious anæmia and of the relation of these affections to one another is so *unsatisfactory that little apology is needed for* recording at some length a case which serves to illustrate this relationship and at the same time presents other points of interest which may perhaps have a bearing on our conception of these diseases and of their possible connexion with infective processes on the one hand or with malignant disease on the other. Between a well-marked case of idiopathic pernicious anæmia with great diversity in form and size of erythrocytes, great diminution in their number, high colour index, presence of nucleated red cells, and diminution in the number of leucocytes in the blood and a case of lymphatic leukæmia with anæmia of secondary type, great increase in the number of lymphocytes in the blood, and aggregations of similar cells in the internal organs intermediate forms are met with in which, during life at least, considerable difficulty may arise in determining to which category they belong. For whilst on the one hand a relative increase of the lymphocytes is usual in pernicious anæmia, on the other certain cases of leukæmia, to which the term "aleukæmic" has been applied, present no excess of leucocytes in the blood. Further, in certain of the acute forms of lymphatic leukæmia no enlargement of lymphatic glands occurs (suggesting that such enlargement when present is secondary rather than primary) and not only normoblasts but also megaloblasts may be present in the blood stream. Again, symptoms of leukæmia and of pernicious anæmia may be combined in the same patient and it is for such cases that Leube has suggested the term leukanæmia. Most authorities agree that all the phenomena, including the blood picture, of pernicious anæmia may be consecutive to ankylostomiasis, atrophy or carcinoma of the stomach, bothriocephalus latus, &c., and perhaps the most reasonable way of looking at those cases of leukæmia which present symptoms of pernicious anæmia is to regard the latter as secondary to the leukæmic just as it may be to the other conditions mentioned.

In the following case, though undoubtedly one of leukæmia, it is *significant* that the anæmia was extreme, that both normoblasts and megaloblasts were present in the blood, that the total number of leucocytes was not increased (though this is perhaps discounted by the fact that there was not only a relative but also an *actual* increase of non-granular cells), and that free iron was present in the liver.

The patient, aged 20 years, single, was admitted into the *Royal United Hospital*, Bath, under the care of Dr. G. A. Bannatyne, on March 16th, 1907, complaining of pains in the limbs, especially in the neighbourhood of the joints. The pain was first felt in September, 1906, in the back and legs. In October he consulted a medical man and after taking two bottles of medicine the pains became less severe. A few weeks later they returned and persisted until his admission to hospital. In December he had a severe attack of nose bleeding. About the beginning of January, 1907, he noticed, for the first time, some lumps in his neck near the jaw. Three weeks before admission he had another but less severe bleeding from the nose. His skin had been harsh and scaly as long as he could remember, but no history of a like condition of skin in any other member of the family could be obtained. There was nothing in his personal or family history suggestive of syphilis and he presented none of the stigmata of that affection. On admission he was profoundly anæmic, his face being of a dirty yellowish hue. The skin over the upper part of the forehead and over both parotid regions was very scaly. The scalp was dry and scurfy, the hair being lank and lustreless; there was a little very fine hair on the upper lip and chin. There was slight eversion of the lower eyelids. The trunk, especially the abdomen, was covered with thick, horny, epidermal plaques, of a dirty greenish-yellow or brown colour. The skin was very hard and thickened and felt rough and harsh, like that in which prompt medical aid might save life, are comparatively rare in practice, and when they occur are often the consequences of previous neglect on the part of the patient or his friends. Hundreds of people, especially among the poor or among the lower middle classes, will neglect even serious illness until they suddenly become frightened, and then they run for the nearest medical man, with little regard either to their means of paying for his services or to the truthfulness of the assertions by which they induce him to dislocate the natural order of his work. Many such people are not intentionally dishonest, they are only ignorant and panic-stricken; and the profession itself is not free from blame in relation to the attitude which they assume. Some of the letter-writers to whom we have referred attribute the facility with which medical men give credit to untrustworthy persons to the amount of competition for practice which generally exists; but we think this view of the case is at least greatly exaggerated, even if it be not altogether mistaken. The truth is, we believe, that medical men, like other skilled persons, take genuine pleasure in the exercise of their skill, and in the consciousness of the relief brought by their presence to frightened sick persons and to their friends. Their first impulse is to pursue their calling, and the consideration of how or when or by whom they are to be paid is usually little more than an afterthought.

Such a state of feeling as this, while it explains alike the ordinary routine of medical conduct and the testimony borne by a large number of correspondents to the usually unstinted benevolence of the profession—testimony which the daily life of almost every practitioner would confirm—is manifestly much exposed to exploitation by the dishonest and the designing. The profession would, we think, be well advised in the adoption of any well-considered principles by which its members would be protected, while, at the same time, its brilliant record of public usefulness would be preserved and handed down. Much might be done in many localities by judicious coöperation among practitioners, and by associated resistance to the endeavours of clubs, or societies, or public authorities, or even individuals, to create and to trade upon professional rivalries or jealousies. Much might be done in the direction of educating public opinion and of producing a conviction that if it be right that medical assistance, without reference to payment, should be forthcoming in every real or fancied emergency, the duty of so providing should not be confined to the medical profession but should be shared with them by the rest of the community. This is already done to some small extent in the cases of parochial medical relief and in those in which medical aid is summoned by the police, and the principle would admit of easy extension to all real emergencies. If it be the duty of the members of the medical profession to stand prepared, as public servants, to deal with unforeseen conditions in which their skill is needed, it is equally the duty of the public to see that such service does not go unrewarded by reason of the poverty or the dishonesty of the person to whom the unforeseen occurs. In ordinary cases of illness there does not appear to be any equivalent obligation, and the profession may reasonably be expected to protect themselves to a greater extent than, we fear, they are accustomed to do at present. It is perhaps less troublesome to attend the call of a shifty or dishonest patient than it would be to refuse, but there are many circumstances in which a practitioner would be fully justified in thinking of the general interests of his profession as well as of his own, and in which a demand for cash payments as a condition of attendance would serve as a wholesome lesson, the effects of which would not be limited to the house in which it was administered. *The facility* with which some medical men give credit is in many cases a direct inducement to dishonesty.

Annotations.

"Ne quid nimis."

POOR-LAW GUARDIANS AND THE MIDWIVES ACT.

WE have referred previously to a serious difficulty arising out of the working of the Midwives Act to which a medical man called in by a midwife to a case of difficult labour is liable, namely, the difficulty of obtaining an adequate—or indeed any—fee for his work, and we have noted the action of several boards of guardians which have taken upon themselves the responsibility of meeting legitimate medical charges in a more or less liberal spirit. In March last the London and Counties Medical Protection Society circularised the 648 boards of guardians in England and Wales, stating the views of the society on the matter as expressed in a report of its Midwives Committee and asking the various boards to express their opinion, bearing in mind the provisions of Section 2 of the Poor-law Amendment Act, 1848, which are applicable to the payment of medical practitioners called in by midwives, and which run—

> It shall be lawful for [illegible] if they think proper, to pay for any medica[illegible] be rendered to any poor person on the [illegible] bodily casualty, or sudden illness, although no order shall have been given for the same by them or any of their officers or by the overseers.

Up to July 30th the society had received replies from 152 boards of guardians, and we have been enabled to read 140 of these. An analysis shows that 56 were to the effect that no action was to be taken in the matter or that its consideration was deferred; of these replies a few were from unions in which there are no midwives practising, and some others contained a direct refusal from boards to accept any responsibility of providing medical assistance for midwives altogether Eight boards consider that their own district medical officers can give the requisite attendance, and most of them have arranged to pay these officers the same fees as they already receive when they attend confinement cases under a midwifery order from a relieving officer. A good many others are willing to pay a medical man called in by a midwife, provided that the services of the district medical officer are not available and that the case is one of genuine poverty. Others express their willingness to pay a fee with only the latter stipulation and these two classes together comprise 60 replies. 16 boards are prepared to treat each case as it arises on its own merits. Of the 60 that are willing to pay, 7 accept the Local Government Board scale of £1 or £2, according to circumstances, and the fees promised by the others range from a maximum £2 for operation cases, or for those requiring the attendance of a second medical man, to the impossible minimum sum of 5*s*. From a half to one guinea, according to the difficulty of the case, is a very usual scale. In some cases *the higher fee* is fixed to include subsequent attendance by the medical

Mr. A. R. Beaumont, the house physician, for the notes which he took; Mr. R. E. Moorhead for kindly supplying me with details of the family history; and Mr. W. G. Mumford for most valuable assistance at the post-mortem examination.

Bath.

A CASE OF SEVERE VERTIGO AND TINNITUS; DESTRUCTION OF THE LABYRINTH; CURE.

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THE following case is, I believe, the ninth operation of its kind for the relief of distressing vertigo or tinnitus, or both, excluding those in which successful or unsuccessful attempts have been made to divide the auditory nerve.

The patient, a clergyman, aged 47 years, consulted me on Oct. 15th, 1907. His history was as follows. As an infant he had suffered from otorrhœa on both sides but his ears had been entirely free from discharge for over 18 years. He had always been a little deaf and for nearly 12 months he had not been able to hear his own voice. Previously to that he had been able to hear with an ear-trumpet. Deafness had been complete for seven weeks. 12 years ago he had two attacks of vertigo, the first occurring whilst he was conducting service. His health was much impaired at that time from overwork. He took a sea-voyage and was better for four years. His health again broke down and his deafness became worse, but he did not then suffer from vertigo. For the past three years he had suffered from continuous tinnitus of a roaring, machinery-like character, with attacks of vertigo about every six weeks. From May, 1907, the vertigo had become more frequent and more severe. It had been much worse during the six weeks before consultation, whilst the tinnitus was becoming "unbearable." At different times he had consulted five well-known aural surgeons and had taken a variety of drugs, including asafœtida, strychnine, bromides (until a bromide rash appeared), &c. As family history it was stated that both his grandfathers were deaf, his mother was slightly deaf, and his father suffered from vertigo at the age of 30 years.

Present condition.—The patient was a stout man, below middle height, plethoric, and suffered a good deal from constipation. He had two severe attacks of vertigo whilst in the consulting-room, in which the head was turned strongly to the left, the body was thrown back, and the eyes were closed, the eyeballs being directed to the left. There was no loss of consciousness. He stated that the attacks were specially induced by looking up or turning the head suddenly to either side, that he felt as if he would fall to the left, and that there was apparent movement of objects towards the right. He also volunteered that the tinnitus was much worse before an attack of vertigo. Both tympanic membranes were much thickened and indrawn; the left showed some loss of mobility to the Siegle pneumatic speculum. There was considerable chronic hypertrophic pharyngitis, with some hypertrophy of the tonsils. The nasal septum was deflected to the right. The only signs of any hearing power that could be elicited by careful functional testing were that with the right ear he could count the strokes of the bell at ten feet and could detect the sound of the Edelmann-Galton whistle between 4000 and 5000 vibrations. The urine was acid, of specific gravity 1015, and contained no albumin or sugar. Dilute hydrobromic acid, half a drachm, with sulphate of quinine, one grain, three times a day, was ordered, together with one grain of calomel every night.

On Oct. 29th there had been no attacks of vertigo for over a week. The week before there were six attacks, two of great severity. The patient complained of occasional "swimming *in the head*" *and much* "buzzing" in the morning, with a sense of intense weakness. There was no hearing.

Having been granted six months' leave from all duty the patient stayed until Christmas at Brighton where he had only one slight attack on Nov. 23rd, although there had been a slight dizziness from time to time. I saw him again on Dec. 31st, when he stated that his tinnitus had been constant in the left ear for the past week, that he had had a slight attack of vertigo on Dec. 26th, three similar attacks on the 28th, and four on the 30th. He had been sleeping badly for several nights and his tinnitus had been very severe until the morning of the 31st, when he had a bad fit of vertigo in which he was "convulsed," after which the noises ceased. He returned home, but not to work, and was ordered 4 minims of liquor strychninæ with 1 drachm of dilute hydrobromic acid three times a day, and 2 grains of cascara every night.

Owing to the constipation from which he suffered the patient came to London on Jan. 6th and underwent a fortnight's abdominal massage which greatly improved the condition of his digestive organs. He also learned lip-reading, in which he speedily became very proficient. He remained in London until Feb. 26th, during which time he *had slight giddiness daily and severe attacks of vertigo* on two occasions. He returned to his vicarage on Feb. 26th and from that time his tinnitus and vertigo became steadily worse. On March 4th he had four severe attacks of vertigo. On March 14th a tape seton was inserted after the method of Wilson Parry,[1] but this treatment did not appear to have any effect upon his tinnitus or vertigo. The former became "unbearable," and he had between 40 and 50 attacks of the latter of varying severity between March 4th and April 30th.

As the patient was becoming very disheartened the question of operation with a view to destroying the left labyrinth was discussed. Recourse to such a measure had been suggested but I purposely delayed urging it until other methods had been tried. On May 19th he was seen in consultation by my colleague, Mr. R. Lake. On that occasion it was found that the use of the Siegle speculum on the left side caused vertigo and that movement to the left on a turn-table at once elicited vertigo which was accompanied by very slight left lateral nystagmus. With the heels together and the eyes closed he swayed to the left. The results of functional tests were as follows: Bone conduction to all forks on both sides was *nil*. By air conduction there was perception only to C^2 (512), C^3 (1024), and C^4 (2048). With the continuous tone whistle he heard from a^2 to a^3 but missed c_4 sharp. He was quite unable to hear the voice. As Mr. Lake agreed with me as to the advisability of operation the patient was admitted to the Royal Ear Hospital on May 27th. The next morning he had a very severe fit of vertigo at 11 A.M. whilst he was being prepared. This was so far the last attack he has experienced.

I operated upon the left labyrinth on May 28th at 3.20 P.M., assisted by Mr. Lake and Dr. A. E. Peters. Gas-ether, followed by chloroform, was administered by Dr. F. E. Shipway. The auricle was turned down by Lake's method[2] and a preliminary radical mastoid operation was performed. The patient being of the short-necked, plethoric type, some difficulty was experienced in getting a wide opening, and this was added to by the hardness of the bone and the depth of the antrum. On clearing the buttress three sharp facial twitches were noted. The ossicles and membrane having been removed, including the stapes, the promontory was exposed and the cochlea opened with a fine chisel and cautiously cleared out in a direction towards the vestibule. The external semicircular canal was next opened and the posterior canal similarly treated; *the latter was* followed to the vestibule, which was scraped with a fine spoon. The ampullæ of the canals were scraped with a sharp, bent probe, and a probe was passed from the cochlear wound, through the vestibule, to the canal wound. The cochlea and vestibule were then swabbed out with a 2 per cent. solution of formalin, after which the auricle was readjusted and the wound lightly packed *viâ* the meatus. The patient passed an excellent night, sleeping very well. The temperature was 98·8° F. and the pulse was 112. On May 29th his temperature and pulse were 98·2° and 108 in the morning and 93·6° and 112 in the evening. He vomited until mid-day and was retching throughout the day, with intervals of sleep. He complained of slight tinnitus in both ears. There was no vertigo. He had left facial paralysis. On May 30th his temperature and pulse were 98·2° and 96 in the morning and 98·8° and 96 in the evening. There was still some retching. He had no tinnitus in the left ear, but it occurred once or twice slightly in the right. He did not sleep until past midnight. On one occasion he *got out of bed* alone and walked steadily and in these cases. The examination of the fæces is also important. Usually the quantity passed at each action of the bowels is small and it may consist of pulpy fragments and small lumps. Stools of small calibre, ribbon-like or thin as pencils and grooved, are very characteristic. Sometimes small cord-like mucous masses are passed and some degree of hæmorrhage occurs in certain cases, even in those of purely nervous type. The blood may be passed in larger or smaller quantities, generally at the end of defæcation, or there may be fragments of blood-stained mucus. In regard to the pathology Dr. Singer agrees with the view of Westphal that the spastic contracted condition of the intestine in the cases of nervous origin is due to a disturbed coördination of the muscular movements of the bowel. In regard to diagnosis, spastic constipation has to be differentiated from the various forms of colic, including lead colic, from gastric crises, and from intussusception and other forms of intestinal obstruction. The important features to recognise in this regard are the presence of sections of contracted bowel, the absence of pronounced meteorism and visible peristalsis. The treatment is a matter of considerable importance, since purgatives are to be avoided in spite of the constipation, their action tending to provoke or to increase the condition of spasm. In particular the drastic purgatives are harmful, and even cascara and saline aperients are, according to Dr. Singer, inadvisable. He also counsels against the use of mechanical procedures, such as massage and electrical methods of treatment. He states that the enemata of oil recommended by Fleiner are of value if used sufficiently warm. The application of moist heat to the abdomen he has also found very valuable. The most useful drug is belladonna in the form of suppositories, while bougies passed per anum are also strongly recommended by Dr. Singer. He uses the English form of rectal bougie, passed in a semi-soft condition with the patient in the knee-elbow position. The introduction is often painful at first and it may be necessary to use suppositories of codeine or belladonna. Considerable resistance is often met with at the internal sphincter and it is then necessary to allow the bougie to remain in contact with the obstruction for a time before it can be gradually pushed beyond it. Small bougies are to be used at first and later large ones. The question of diet does not appear to be one of importance in these cases, but in the nervous cases anything tending to lessen the excitability of the nervous system, such as change and rest cures, may be beneficial. Dr. Singer's paper affords an interesting study of an important condition.

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[1] THE LANCET, March 5th, 1904, pp. 649-651.

[2] THE LANCET, Jan. 6th, 1906, p. 25.

THE PERILS OF FOOTBALL.

WITHIN a fortnight of the beginning of the football season we have received reports of three broken legs (death following in one of these cases) and one dislocated collar bone. Of course, this is not by any means a complete list of the serious injuries which have been sustained by football players since Sept. 1st, and in any case the full list would probably not be even a comparatively heavy one when the number of people actively taking part in the game is taken into consideration. But when sports may be associated with death it behoves all who are interested in those sports to do what they can to prevent accidents. We have on other occasions referred to the factors which are chiefly at work in rendering football dangerous. These factors are many. Essentially a game, whether the dribbling or running code be in question, where the greatest possible muscular exertion is called into play, and where, though the highest premium may be put on pace and skill, both strength and weight can be made to tell, it is absolutely certain that dangerous collisions must now and again occur. These dangers are more than of the game; they constitute the game and cannot be removed without alteration in the rules. But this is not all. Football is, in particular, dangerous in accordance with the spirit in which it is played. The element of personal conflict is very pronounced in either code and in the give and take of a scrimmage or *mêlée* loss of temper may lead to the infliction of serious injuries. We have pointed out these things before in very much the same words, and do not consider that we are taking up the position of milk-and-water alarmists. We know that we are expressing the views of many who can justly claim consideration as athletes when we express an opinion that it is no longer a sufficient reply to protest against the dangers of football to say that thousands play it. They do, and the fact makes the danger, if a small one, a very general one, and gives to the subject almost a national importance. We hope that those papers whose more especial province football, and the discussion of football, rightly is, will not consider the fact that we again call attention to the subject other than reasonable, and we hope that referees will punish with all possible rigour persons who play foully. A suggestion which we believe is not quite a new one has recently been referred to in the lay press—namely, that injured men in football matches should be replaced by fresh players. This may be regarded as a frank admission of the fact that unscrupulous players may be found amongst the large number of men who play the game—many of whom, moreover, play it for money—who are tempted by lust of victory to injure a player with the deliberate object of reducing the number of opponents. We can conceive that an organised system of substitutes in case of injury would much complicate the game, and we mention the suggestion not as advocating it (for it seems impracticable) but only as proving the confessed existence of foul players. While there should be general desire to minimise the risks of football to life and limb we most of all particularly desire to suppress dangerous foul play, and we look to the authorities of the game to punish in the severest manner—i.e., by heavy fines—clubs whose members are found guilty of the offence.

RECENT SANITARY CONGRESSES.

OUR columns have of late been so much occupied with the proceedings of various congresses that we have been obliged to forego the detailed reporting of others which have been given considerable prominence in the lay press. Amongst the most important of these were the annual conferences of the Sanitary Inspectors' Association which met last week at Liverpool and of the Incorporated Sanitary Association of Scotland which preceded it by a few days at Peebles. The Liverpool congress especially attracted conspicuous attention and the stimulating address of the President, Sir James Crichton-Browne, with its hopeful forecast of the ultimate triumph of sanitation over disease, formed the text of a considerable amount of appreciative editorial comment in the daily papers, the news columns of some of which printed full reports of his and other papers under such striking headlines as "Apostles of Sanitary Science." This we regard as a very healthy sign of the times, for the filling of many columns of prominent newspapers with accounts of debates upon sanitary matters proves the existence of an intelligent and growing public interest in the supreme laws of the people's safety. We need only allude to the topics upon which the militant sanitarian who presided at Liverpool based his address. Leaving the pursuit of his latest quarry, rats and vermin, he repeated the indictment of the common housefly as a habitual spreader of dirt and disease which he first brought against the ubiquitous insect when addressing a affected side, so as to establish communication with the external air, as I believe that an absolute collapse of the lung, which was not primarily present in either of my cases but which connexion with the external air by means of the cannula induced in Case 1, is productive of good.

Yelverton.

THE PREVENTION OF DEATHS UNDER ANÆSTHETICS.[1]

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EMERITUS LECTURER ON ANÆSTHETICS AT
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THE prevention of deaths during and after general anæsthesia constitutes one of the most pressing questions of the present day. As one of the objects of the British Association is "the removal of any disadvantages of a public kind which impede the progress of science," and as the author of the present paper is firmly convinced that the risks connected with anæsthetics would be very materially reduced by improving the conditions and circumstances under which they are now administered, it is hoped that the Association may help to solve this question by making some pronouncement in favour of the reforms herein suggested. Although we have no reliable statistics as to the death-rates under different anæsthetics, there is ample evidence, firstly, that a very large number of persons have died wholly or partly from the effects of these drugs; and, secondly (doubtless owing to the increasing number of surgical operations), that fatalities of this kind are increasing to an appalling extent.

In order that the risks incidental to generalised anæsthesia may be reduced it is obviously necessary in the first place carefully to consider the conditions and circumstances under which anæsthetics are now administered. At the present moment (1) the law permits any person whatsoever, whether he be medically qualified or not, to produce general anæsthesia for a surgical operation; (2) many of the examining bodies for medical qualifications permit their candidates to qualify without producing evidence of having received instruction in anæsthetics; (3) the departments of anæsthetics at our general hospitals are in many instances imperfectly and inadequately equipped, both in *personnel* and in other respects, the result being that the true principles of safe anæsthetisation are often barely, if at all, appreciated either by the teachers themselves or by their pupils; (4) in both hospital and private practice anæsthetics are frequently intrusted, even in the most difficult cases, to comparatively inexperienced practitioners who from no fault of their own find themselves incapable of successfully carrying out their responsible duties; and (5) with a few exceptions our hospitals publish no records as to the number and kinds of anæsthetics annually administered, so that any returns of deaths under anæsthetics, such as those of the Registrar-General of Births, Deaths, and Marriages, are useless as indicating either the relative risks of anæsthetics or the effects of any reforms upon death-rates.

It is hardly necessary to point out that if the public is to be protected properly the administration of anæsthetics must be placed upon a very different basis from that which at present exists. Experience has conclusively shown that though powerful poisons anæsthetics may be safely administered provided that those who undertake their administration have been properly educated and trained and that the principles under which they work and the methods which they employ are based upon scientific data. It would be beyond the scope of the present paper to enter fully into the strictly medical and scientific aspects of the problem of death prevention. It is contended that before such aspects can be profitably discussed the ground must be cleared by raising the level of this department of practice and by recognising the all-important fact that it is only by equipping all medical practitioners with increased knowledge and by applying it in practice that deaths under anæsthetics may be prevented. At the same time one cannot on such an occasion as the present refrain from acknowledging the valuable contributions to the subject which have been made by Professor A. Waller and other eminent physiologists, not only at previous meetings of this Association but elsewhere. Whilst fully appreciating the importance of their work and the fact that by regulating the percentage composition of anæsthetic atmospheres accidents may certainly be reduced in frequency, I am of opinion that before such methods can be adopted by medical practitioners and properly applied medical students must receive a better and wider education in anæsthetics than at present. They must be made fully to understand, in particular, the importance of free and absolutely unobstructed respiration; and when once the standard of education has thus been raised the strictly scientific work of the physiologist will yield a fruitful harvest. It is submitted that there is no single principle the faithful observance of which will insure safety in every case in which an anæsthetic is given. When we consider the different types of our subjects, the different operations which have to be performed, the different degrees of anæsthesia which may be required, the influences which different postures may have upon the circulation and respiration, and other essentially practical points, the truth of this proposition will become apparent. I would submit that there are three main principles which must collectively be observed in order to secure safe anæsthetisation. These are: (1) the selection of appropriate anæsthetics according to the exigencies of particular cases; (2) the adjustment of the vapour percentage of the anæsthetic to meet the varying requirements of each case; and (3) the avoidance of the slightest obstruction to the free entry and exit of air throughout the administration. Many distinguished authorities pin their faith to the *second* of these three principles, maintaining that by the regulation of the percentage composition of anæsthetic atmospheres dangerous conditions may invariably be avoided. This view I find myself unable to accept. Were it practicable in the human subject to introduce anæsthetic gases and vapours below the glottis and thus to eliminate the various forms of obstructed breathing which so often complicate and render fatal the anæsthesia of surgical practice, the administration of chloroform and other agents might undoubtedly be made as safe in the operating theatre as Professor Waller has demonstrated it can be made in the physiological laboratory. But such a system is unfortunately inapplicable, and I submit that unless it can be demonstrated that there is just as free a lung ventilation when a 1 per cent. or 2 per cent. chloroform vapour is administered to human subjects through the naso-oral channels as there is when a similar percentage mixture is administered to lower animals through tracheal cannulæ, it is illogical to argue from the latter to the former subject. It would be exceedingly interesting and of great importance in solving the main question if arrangements could be made whereby a small committee of physiologists might see for themselves the manner in which anæsthetic difficulties and dangers generally come about in surgical practice. I am of opinion that such a committee would soon realise the great differences which exist between naso-oral and tracheal anæsthetisation and the marked influence which the asphyxial factor incidental to human anæsthetisation has in modifying and complicating the usual phenomena of anæsthesia. In the meantime I would urge that unless the other two principles above mentioned be applied in conducting all administrations success cannot be invariably depended upon. I am inclined, indeed, to regard the third, or last-mentioned, principle as the most important of the three, for my whole clinical experience and the examination of the records of a large number of recent fatal cases (which by the kindness of Dr. F. J. Waldo and of Dr. L. Freyberger have been placed at my disposal) convince me that in the great majority of deaths under anæsthetics some obstruction to breathing above the trachea has been a powerful factor.

I contend that the above considerations point to the urgent necessity for higher education and skill amongst those to whom the important duty is intrusted of maintaining adequate anæsthesia for surgical operations. The first reform should be to make it a penal offence for anyone but a legally qualified medical practitioner to administer an anæsthetic. The second should be to improve and extend the anæsthetic departments of our hospitals by appointing experienced men of the highest professional and academic attainments to the various offices of such departments, so that all anæsthetics shall be administered or supervised by such but instead of appointing Dr. J. W. Mackenzie, the junior assistant, to the fifth acting membership, the managers passed him over and appointed Dr. Mackay, who has thus fallen from his high estate of senior acting member to that of junior acting member. The new rule is naturally objected to, not only by the whole of the medical staff except Dr. Mackay, but also apparently by other medical men in the town. Formerly, it will be seen, the assistant members of the medical staff were practically sure of promotion, but under the new rule they are by no means so. The staff has, we hear, lodged a protest. We would remind the managers that an infirmary can get on without managers but that it cannot get on without medical men.

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[1] A paper read before the Physiological Section of the British Association for the Advancement of Science, on Sept. 3rd, 1908.

PERNICIOUS ANÆMIA IN TUBERCULOSIS.

AT a meeting of the Société Médicale des Hôpitaux of Paris on June 19th M. Marcel Labbé and M. Agasse-Lafont reported a case in which pernicious anæmia was due to tuberculosis—a very rare condition. A married woman, aged 36 years, was admitted into hospital on April 27th, 1908, for œdema, anorexia, fever, and great weakness. She had never been pregnant and had enjoyed good health until two years previously when she began to develop anæmia and to lose strength. After some months megrim, vomiting, and diarrhœa supervened. On admission she was extremely weak. The skin was very pale and the mucous membranes were completely decolourised. There was general œdema which was more marked in the lower limbs. Examination of the blood showed the changes characteristic of pernicious anæmia. The red corpuscles were reduced to 380,000 and were of very unequal size. Their hæmoglobin value was 1·85. Poikilocytosis and polychromatophilia were well marked. There were from two to four nucleated red corpuscles to every 100 leucocytes. The latter numbered from 2500 to 3600 and were almost normal in kind except for the presence of 5 per cent. of myelocytes. The fæces were yellow and did not contain any parasites. The abdomen was very tense and œdematous and showed a collateral circulation. The liver was large, extending two or three fingers' breadth below the ribs. The spleen appeared to be normal. In the chest bronchial breathing at both apexes and bronchitic râles were heard. There was abundant foamy sputum which did not contain the tubercle bacillus. The temperature varied from 102·3° to 103·1° F., being highest in the evenings. The pulse was from 120 to 130 and feeble; the heart was slightly dilated. There was slight albuminuria. Though the blood examination showed the presence of pernicious anæmia the temperature pointed to an infection. Cultures made from the blood remained sterile. The pulmonary signs pointed to tuberculosis but the absence of the bacillus from the sputum prevented this from being diagnosed. The fresh marrow of the calf, saline injections, and oxygen inhalations were prescribed. The diet consisted of a litre of milk, the yelks of one or two eggs, and some grammes of raw meat daily. The state of the blood improved slightly and on May 13th the red corpuscles numbered 520,000, but the other symptoms did not improve and the patient grew weaker and died on May 26th. At the necropsy all the organs were found decolourised. There was some citrin fluid in the pleural cavities and the bases of the lungs were united to the diaphragm by recent soft adhesions. The bronchi contained pus. The apex of the left lung was congested and greyish at certain points. The lower lobe of the right lung was very œdematous and showed on its surface fine granulations and in its interior a little caseous tubercle. The tracheobronchial glands formed a voluminous mass and several of them were indurated or caseous. Attempts to find the tubercle bacillus in sections of the lungs and glands proved negative. The peritoneal cavity contained from three to four litres of sero-fibrinous fluid. The great omentum contained small, semi-transparent granulations of tuberculous appearance. The liver showed fatty degeneration of all its cells and peri- and intra-lobular sclerosis and masses of round cells suggesting young tubercles. The bone marrow in some places showed a myeloid reaction. The principal point of interest is the relation of the pernicious anæmia to the tuberculosis. Was the latter grafted on the former, as it sometimes is in leukæmia, or was it the cause of the former? The first hypothesis is negatived by the fact that the tuberculous lesions were old. A moderate degree of anæmia occurs in almost all cases of tuberculosis and is well recognised, but forms of anæmia which dominate the clinical picture are not well known, though they are more frequent than has been supposed. The slightest and the most frequent form of anæmia in tuberculosis is of the chlorotic type; the most severe and the most uncommon is of the type of pernicious anæmia. Between these two are intermediate forms. Only a few cases of the type of pernicious anæmia have been reported. Paul and Rivet have recorded a case of chronic pulmonary tuberculosis in a woman, aged 41 years, in which anæmia supervened. The red corpuscles numbered 488,000 and the blood contained normoblasts, myelocytes, and hæmatoblasts. The necropsy showed pulmonary tuberculosis, fatty degeneration of the liver, and a feeble myeloid reaction of the spleen and marrow.

THE MATHEMATICS OF PRESCRIBING.

A CONTRIBUTOR to the *Chemist and Druggist* has drawn attention to an interesting account in Sprengel's "History of Medicine," published about a hundred years ago, of a unique method of prescribing worked out by Jacob-Ebn-Izhak-Alkhendi, who lived in Bagdad in the ninth century. Sprengel obtained the particulars from Alkhendi's work on the "Degrees of Compound Medicaments." Alkhendi was a mathematician as well as a physician and he based his theory of prescribing on Galen's doctrine of hot and cold, humid and dry drugs. He formulated the equation $x = b^{n-1}a$, and explained it thus: a is the first degree, b the last, x the exponent, and n the number of terms. In applying the equation to remedies the following explanation is given: "The first degree results from the multiplication of an equal mixture by two; the second of that of the total of the first degree by two; and the third of that of the second degree by two. Thus, the total of the second degree is the quadruple of the equal mixture and that of the third eight times stronger than that mixture. The total of the fourth degree is equal to the uniform mixture in the sixteenth quality, and to the first degree in the eighth quality." In case this explanation is not clear an example is given of one of Alkhendi's prescriptions:—

	Hot.	Cold.	Humid.	Dry.
Cardamoms, 1 drachm	1	½	½	1
Sugar, 2 drachms	2	1	1	2
Indigo, 1 drachm	½	1	½	1
Myrobalans, 2 drachms	1	2	1	2
	4½	4½	3	6

"This compound medicine," it is explained by Sprengel, "is exactly balanced as regards heat and cold, but the dry qualities being double the humid ones, the mixture is dry in the first degree. If the total had been twelve of the dry to three of the humid, the mixture would have been dry in the second degree. Let it be remembered that these hot and cold, wet and dry medicaments of the first, second, third, and fourth degrees had to balance cold and hot, dry and wet, diseases of the same number of degrees, and that medicines adapted for one part of the body were rather rigorously not permitted to trespass on the domain of those applicable to another part. ...... The theory of degrees but was otherwise healthy with clean valves. The aorta showed one or two tiny patches of atheroma near the aortic valves. The liver was large and friable. The spleen was soft. The kidneys showed rather adherent capsules, especially the right one, with stellate veins, striate cortices, and ill-defined pyramids; they were very red and tough but there were no granulations. There was no sign of injury to the kidneys from the accident. The appendix was long, thin, curved, and bound down in nearly all its length; there were several fine band-like adhesions holding it near its tip. The second, third, fourth, and fifth ribs were fractured at about 1 inch to 1½ inches from the costo-chondral junction; they showed no displacement. The sixth and seventh ribs were fractured about 1½ inches from the side of the spinal column; they had evidently been displaceable into the chest and may have been responsible for the tear in the lung. The first and other ribs escaped fracture. The skull and brain were not examined.

Muttaburra, Queensland.

THE PATHOGENESIS OF TABES DORSALIS.

By TOM A. WILLIAMS, M.B., C.M. EDIN.

CONTROVERSY as to the pathogeny of tabes has not ceased since Duchenne[1] surmised its sympathetic origin and Charcot[2] later supposed it to be a posterior column dystrophy, similar to that of Friedreich's ataxia. His great authority prevented due attention to the researches of Obersteiner and his followers until the memoir of Redlich appeared in 1896.[3] The discoveries as to the syphilitic etiology of tabes caused greater attention to the work of Nageotte,[4] who in 1894 had indicated the constancy of lesions on the radicular nerve at the point where it receives its meningeal sheaths. These lesions correspond to one or other stages of the granulomatous process, varying as they do from simple round-cell infiltration to granuloma, and even breaking down with formation of cavities. They are due to primary chronic meningitis, evidenced by the lymphocytosis found by spinal puncture during life and post mortem when skilfully looked for, although the tendency of the process to resolution and fibrous-tissue formation leaves only a slight thickening in the membrane, already fibrous by nature.

The changes in the cord are consecutive to this. That this is so is proved by similar changes of the posterior column after disease of, or experimental section of, individual roots[5] and by the changes occurring in the mechanical affection of the radicular nerves due to the increased intraspinal pressure caused by the growth of cerebral tumours.[6] The noxa falls upon the root fasciculi very disparately[7] and this corresponds to the disparate nature of the sensory troubles, which do not preponderate so much as formerly supposed upon the fibres which subserve the sense of attitudes and of muscular movement; for it is now definitely shown that cutaneous sensations are always involved more or less, though probably later in the disease.[8] The superficial lightning pains described by Gowers[9] and the psychometric analysis of the sensibility of tabetics by Vaschide[10] are an index to this, while the researches of Head[11] enable us to explain the modifications in terms of deep, protopathic, and epicritic sensibility. The fibres subserving the life of internal relation may differ morphologically from those subserving external relationship as contended by Pierre Bonnier[12] with particular reference to the eighth nerve, the principal posterior root, where the cochlear portion whose function concerns the outside world is affected only rarely, while the vestibular portion is concerned with intrinsic relationships and is involved very commonly indeed in the tabetic process. However this may be, it is certain that impaired sense of attitudes is always accompanied by *impairment of the deep pain sense* and of perception of the vibrations of the tuning fork by the bones,[13] and as these functions are conveyed in the same peripheral path while they are separated within the cord[14] clinical evidence is in entire harmony with the pathogenetic theory advanced by Nageotte. The data furnished by the optic nerve symptoms are *similarly best explicable* by a meningeal affection, involving in this case not a posterior root but a homologue of an intraspinal path.[15]

The tabetic symptoms referable to the sympathetic do not differ from those produced by experimental section of the spinal roots, nor from those in syringomyelia, which, however, attacks the cell bodies in the intermedio-lateral column.[16] Charcot's negation of changes in the sympathetic is effectively disproved by the researches of Roux,[17] who found the medullated fibres markedly decreased in tabetics. The anterior roots are not unaffected, but the relative absence of serious myopathies early in the disease is accounted for by the rapid regeneration of the fibres. This is shown by the "*terminaisons en croissance*" exhibited by Nageotte's[18] preparations and by the results of section experiments.[19] The regeneration of the posterior root fibres extends only to Redlich's ring at which they lose the neurilemma sheath.[20] Finally, evanescent lymphocytosis and reflex iridoplegia, the two most characteristic signs of tabes, are found in many cases of syphilis without other tabetic symptoms[21]; indeed, both sometimes occur in the secondary stage, the former in as many as 40 per cent.[22] The contention of Babinski and Nageotte[23] is therefore accepted that a chronic syphilitic meningitis is responsible for what has been called tabes dorsalis and that it was formerly disregarded on account of the tendency to the occurrence of resolution and fibrosis of the lesions.

The practical application of this conclusion may be of the greatest importance in the treatment of the disease. Cases taken early may be completely arrested,[24] and in all cases the active manifestations may be resolved if adequately treated before the destruction of the noble elements has occurred, though naturally the residues of former exacerbations cannot be removed.

Washington, D.C., U.S.A.

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[1] Duchenne: Archives de Médecine, 1858.

[2] Charcot: Leçons Cliniques, 1888.

[3] Redlich: Centralblatt für Allgemeine und Pathologische Anatomie, 1896, p. 935.

[4] Nageotte: Pathologie de Tabes Dorsalis, Paris, C. Naud, 1903 and 1904.

[illegible] in der troph.

[illegible] de Pathologie

[illegible] 1906.

[illegible] dans le Tabes,

[11] Head, Rivers, and Sherren: Brain, 1907, The Afferent Nervous System from a New Aspect.

[12] Bonnier: Le Vertige, Paris, 1904; Le Tabes Labyrinthique, Nouvelle Iconographie de la Salpêtrière, 1899.

[13] Marinesco: Semaine Médicale, 1905, vol. xxv., p. 565.

[14] Head: Brain, 1906, Grouping of Afferent Impulses within the Cord.

[15] Marie et Lori: Revue Neurologique, 1905.

[16] Bruce: Review of Neurology and Psychiatry, The *Intermedio-lateral Tract*, 1907, p. 1.

[17] Roux: Thèse de Paris, 1900.

[18] Na[illegible]

[19] Bickles: [illegible] 1907.

[21] Babinski: Rev[illegible]

[22] Ravaut et Boletre: Société [illegible]

[23] Babinski et Nageot[illegible]

[24] Duhot: Annales de [illegible]

A MODIFICATION OF THE ROMANOWSKY STAIN.

By F. H. JOSEPH,
ASSISTANT BACTERIOLOGIST.

(*From the Government Laboratories, Johannesburg, South Africa.*)

THE following quick and simple method of preparing an eosin-methylene blue compound stain gives excellent results. The appearances of blood films stained by this method are similar to those coloured by Leishman's stain, although the blue and violet tints are a little different and the red is deeper. The nuclear structure is particularly sharply defined and the granules of the various leucocytes are well shown. The stain has now been in constant use in these laboratories for 18 months, and in our hands has given better and more uniform results than Leishman's stain.

Solution I., Polychrome methylene blue.—Dissolve 1 gramme of Grubler's ordinary methylene blue in 100 cubic centimetres of distilled water. After 24 hours decant the supernatant fluid, and to 90 cubic centimetres add 10 cubic centimetres of a 1 per cent. aqueous solution of sodium straining at stool found five metres of small intestine protruding from the anus. Professor Adelmann mentions a case seen by Pyle where a young woman who had been kicked and thrown down experienced great difficulty the next time she went to stool, and after violent straining forced out a mass of small intestine and a large quantity of blood. She died shortly afterwards and at the necropsy the abdominal organs were found considerably displaced, the mass protruding through an extensive wound in the posterior wall of the rectum consisting of part of the cæcum and nearly the whole of the jejunum. Roché[1] actually saw a woman who had previously consulted him for a vesico-vaginal fistula pass through a prolapsed rectum a mass of small intestine while he was examining her. Two cases of female children where wounds of the rectum were produced by an enema tube and a fall on a broken chair respectively were mentioned in a clinical lecture delivered by Mr. G. H. Makins at St. Thomas's Hospital,[2] but no protrusion of the small intestine occurred in either. Stuthgard of Copenhagen saw a man who with the idea of curing excessive constipation had pushed a pole into his rectum so as to cause perforation. Dr. J. B. Neal has recorded[3] the case of a woman in the Wandsworth and Clapham Infirmary who seems to have been thrown on her face, a small cucumber having then been forced up her rectum, the anterior wall of which was torn half across 3½ inches from the anus. It has been found by experiment that violence of this kind caused rupture into Douglas's pouch if the body was prone but that the force impinged against the sacrum if it was supine.

RECENT SUMMER DIARRHŒA IN ENGLISH TOWNS.

THERE are few features of urban mortality that have received from sanitary experts more studious attention than the annual recurrence, with varying intensity, of infantile summer diarrhœa, and yet no satisfactory measures for its control and abatement have yet been devised. During the recent early summer the rate of mortality in the 76 large English towns, dealt with in the Registrar-General's weekly returns, was unprecedentedly low, but during August the death-rate showed a very marked increase. The deaths registered in these towns during the four weeks ending the 29th of last month exceeded by no less than 4012 the average mortality recorded in the preceding five weeks of July, of which increase 938 occurred in London and 3074 in the 75 towns outside the metropolis. Of this marked excess of deaths in the 76 towns during August, 3138 were deaths of infants under one year of age, of which 728 were recorded in London and 2410 in the 75 towns outside London. During the five weeks ending August 1st, the average weekly number of deaths in the 76 towns attributed to diarrhœa did not exceed 166, whereas in the succeeding four weeks ending August 29th the weekly average increased to 923; the aggregate excess in the number of fatal cases of this disease during the four weeks was 3026, of which 670 occurred in London and 2356 in the 75 provincial towns. It may be noted that of the 810 deaths in London referred to diarrhœa in the four weeks of August, 625 were of infants under one year of age and 159 of children aged between one and five years; thus only 26 of the 810 deaths from this cause occurred among persons aged above five years. It may, moreover, be fairly assumed that practically the whole of the marked increase of mortality during August occurred among young children under five years of age, since of the recorded increase in London at all ages and from all causes (938) 905 were deaths of children under this age. In view of the admittedly intimate connexion between the mortality from summer diarrhœa and temperature and rainfall the meteorological conditions prevailing during the past two months are not without interest. The mean temperature of the air at Greenwich during the five weeks ending August 1st was 62·1° F. and 0·4° below the average in 65 years, and 3·66 inches of rain were measured on 12 days. During the four weeks ending August 29th the mean temperature did not exceed 59·8° and was 2·0° below the average, and 2·89 inches of rain were measured also on 12 days. The mean temperature in July, therefore, differed but slightly from the average, while that in August was distinctly below the average, and the rainfall somewhat exceeded the average in each month. The marked increase in the fatality of diarrhœa among children during August can therefore scarcely be attributed to meteorological conditions, as the mean temperature was considerably lower than in July. Still more difficult to explain are the startling variations in the fatality of this disease in different towns, unless they be attributed to varying degrees of ignorance and neglect in the care and treatment of infants. In the seven weeks ending Sept. 5th, for instance, 178 deaths resulted from diarrhœa in the South Wales mining district of Rhondda, against but 62 in Cardiff, which has a much larger and more distinctly urban population. The marked difference between the mean rates of mortality from diarrhœa in Lancashire and Yorkshire manufacturing towns has, moreover, never been satisfactorily explained.

A TELEGRAM from the governor of Mauritius received at the Colonial Office on Sept 11th states that 2 cases of plague were notified for the week ending on that date and that there were 2 deaths from the disease. The Department of Public Health of Queensland, in a bulletin dated August 8th, states that for the week ending on that date one case of plague was reported—namely, a man, aged 50 years.

WE regret to announce the death, at the early age of 41 years, of Mr. Edward Percy Paton, the dean of the Medical School of the Westminster Hospital. Mr. Paton, Mr. H. L. Barnard, and Dr. Bertram Abrahams were three of the best known of the younger men attached to the great metropolitan hospitals and their loss will be severely felt.

REPORT OF THE ROYAL COMMISSION ON THE FEEBLE-MINDED.

I.

THE report commences with a consideration of the Poor-law and its effects upon the condition of the mentally defective in towns and in the country, apart from the metropolis. An investigator of the Commission writing of certain northern unions, reports that there the majority of the mentally affected persons met with in the Poor-law institutions are sufficiently looked after though their condition can by no means be regarded as satisfactory. "They are perfectly free to leave the workhouse at will, and when it is borne in mind how many young women, who have already had illegitimate children, there are amongst them, it will be recognised what grave risk there is, in both sexes, of the further propagation of their defects. The occupation of those who are in the workhouse is also capable of radical improvement; many of them could do, under efficient supervision, a certain amount of useful work, which would make them more serviceable members of society than they are at present in enforced idleness or doing only the roughest or most unskilled work." Of the classes of feeble-minded persons there are several. There are those either born in the workhouse and who are nearly always illegitimate, or who enter at a very early age owing to the death of the contain considerable information, and there is a brief allusion to the fact that certain neuroses are associated with deafness characterised by a great loss of bone conduction. In Chapter XLVII. labyrinthine suppuration, combined with caries and necrosis, is described, and Chapter XLVIII. briefly discusses deaf-mutism and the means of dealing with deaf-mutes.

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[1] Revue Médico-Chirurgicale, 1853.
[2] THE LANCET, Oct. 28th, 1899, p. 1145.
[3] THE LANCET, Feb. 4th, 1882, p 182.

The writing and illustration of the book are excellent. We have been critical in the above review out of regard for the size of the task which the author has essayed. If he has not been completely successful he has, at any rate, given us a very good book.

International Clinics. Edited by W. T. LONGCOPE, M.D., Philadelphia; U.S.A. Vol. IV., Seventeenth Series. 1907. London and Philadelphia: J. B. Lippincott Co. Pp. 308.

SEVERAL interesting contributions will be found in this volume dealing with various branches of medical science. Dr. A. S. Warthin, professor of pathology in the University of Michigan, makes a suggestive comparison between the value of Roentgen irradiation and the administration of arsenic in the treatment of leukæmia. After an analysis of over 200 cases of leukæmia treated by Roentgen irradiation he arrives at the following conclusions. There is no positive proof of an absolute cure of leukæmia by this method of treatment, although a symptomatic cure occurs with remarkable frequency. Not all cases, however, respond to the treatment, even after "extended irradiation," but the earlier in the course of the disease the exposure to the rays is begun the more pronounced is the reaction of improvement. In all of the cases recurrence of symptoms eventually takes place and the fatal termination of the disease has in no case been averted. It is apparent, however, that the fatal issue is postponed and many of the patients have gained an extension of life varying from several months to one or two years. With regard to the use of arsenic, temporary improvement is also produced, but a fairly large number of cases do not respond to the drug, and, further, since the good effect of arsenic can only be obtained by pushing the drug to the limits of tolerance and continuing it indefinitely, it follows that the danger of arsenical poisoning must be considered. After reviewing the whole of the evidence Dr. Warthin is of opinion that a combination of the two methods of treatment affords the best means of delaying the fatal issue of leukæmia. A careful and systematic examination of the patient's blood should be frequently made. An increasing diminution of the red cells is an indication for pushing the arsenic, while an increase in the number of white cells or a change in the proportion is a signal for renewing the irradiation.

Another article that will well repay perusal is by Dr. H. K. Pancoast, lecturer on skiagraphy, University of Pennsylvania, entitled "A Study of Gastroptosis from the Radiographic Standpoint." By means of numerous diagrams the various types of gastroptosis are well shown. This is a subject upon which definite knowledge has hitherto been wanting, and this paper denotes a valuable advance in the demonstration of the abnormalities which may occur. Professor G. Calmette writes on the Ophthalmo-Reaction to Tuberculin. He maintains that this test enables the practitioner "to reach with almost absolute certainty a diagnosis in various forms of tuberculosis when clinical and bacteriological examination fails to give a definite result."

Amongst other contributions to this volume are a Report of Cases of Perforation in Typhoid Fever Operated Upon at the Pennsylvania Hospital, by Dr. C. T. Mitchell, surgeon to the out-patient department of the Pennsylvania Hospital; Immunity and Vulnerability, by Dr. C. D. Palmer, emeritus professor of obstetrics and gynæcology, medical department of Cincinnati University; Right-angled Contraction of the Tendon Achillis as a Cause of Stumbling and Halting in Children, by Mr. A. H. Tubby; and Disorders of Sleep, by Dr. Purves Stewart.

The various numbers of "The International Clinics" generally contain many valuable papers, and the volume now before us well maintains the standard which characterises its predecessors.

A Manual for Midwives. By C. J. NEPEAN LONGRIDGE, M.D. Vict., F.R.C.S. Eng., M.R.C.P. Lond., Pathologist and Registrar, late Resident Medical Officer, at Queen Charlotte's Hospital; Examiner to the Central Midwives Board, and Lecturer on Midwifery for the London County Council. London: J. and A. Churchill. 1908. Pp. 309. Price 3s. 6d. net.

IN this book designed for midwives Dr. Longridge has tried to write each sentence in such a way that it could not be misunderstood, and certainly we can congratulate him on the success with which he has carried out this endeavour. Of the many and various works which have been written for midwives during late years this is one of the simplest and the best. Dr. Longridge has had drawings made from specimens in the Museum of the Royal College of Surgeons of England of the pregnant uterus and thus he is able to refer his reader to the actual specimen itself if she is so fortunate as to be carrying out her studies in London. The ritual of the method of making a vaginal examination looks a little complex on first reading it, but this is an error, if error it be, on the right side, since over-elaboration of detail is not likely to do any harm and may well serve to impress the midwife, who perhaps is already in practice, when she contrasts what she possibly does in such a case with what the author tells her she should do. It is a pity that Dr. Longridge thinks it necessary to recommend the use of two antiseptic solutions—namely, lysol and perchloride of mercury—but we quite agree with him when he calls attention to the disadvantages of swabbing the vulva with a solution of the latter. The value of the book is increased by the addition of the rules of the Central Midwives Board, a short chapter on the early symptoms of cancer (an excusable digression in view of the importance of the subject), and a section on advice to mothers on the care of their children, published by the authorities of Queen Charlotte's Hospital. Altogether this is a most excellent manual highly to be commended.

Traité Pratique de Thérapeutique Infantile Médico-Chirurgicale. By Dr. PAUL LE GENDRE and Dr. AUG. BROCA. Second edition. Paris: G. Steinheil. 1908. Pp. 759. Price 15 francs.

THIS work, written by a physician and a surgeon, is a very complete manual of the treatment of children's diseases. It opens with a brief introductory consideration of the special features presented by disease in children and of the importance of feeding and other general measures as *opposed to* drug treatment. The first chapter then deals with infant feeding, and we are glad to find that *no* complicated methods of percentage feeding are commended. The second chapter is devoted to the child's surroundings—light, warmth, ventilation, and so on—as well as to general therapeutic measures, such as hydrotherapy, massage, and gymnastics. In the third chapter are discussed "general therapeutic indications," in which are included procedures such as purgation, sweating, diuresis, and so forth, the use of tonics, hypnotics, and antipyretics, the general hygiene of the sick room, serum treatment, and the notification of infectious diseases. In the fourth chapter methods of administration of remedies and the dosage suitable for class of children, receives the children into its classes between the ages of five and 16, but at the latter age no provision for them is forthcoming, however defective they may be. Even such accommodation as was designed for imbeciles has been diverted to other purposes and boards of guardians have to a large extent adopted the practice of sending to institutions primarily intended for imbeciles their old men and women suffering from senile decay. Indeed, as Sir John McDougall said in his evidence, "there is no line between a lunatic and an imbecile of later age except that a very tiresome imbecile is a lunatic, while a very quiet lunatic is an imbecile—that is the practical result." The general conclusion of the Commission on the subject is that there are in London a division of authority and a want of administrative accord which are fatal to any successful treatment of the problem.

It is unfortunately only too frequently the case that the public regard conditions of mental defect as irrecoverable. In this, yet more unfortunately, they are abetted by medical men. The methods of Séguin, Bourneville, and others have received but scant attention, and of what can be done for mentally defective children we are for the most part in lamentable ignorance. It is therefore well to lay stress upon the evidence on this point collected by the Royal Commission. Miss Turner, a medical witness, gave evidence to the effect that there might be total recoveries if proper treatment and education could be commenced at a sufficiently early age. "Five is really too old to start special training; three would be better." Miss Hargreaves, matron at Rochester House, showed how imbeciles could be educated into supervised forms of occupation, and the method by which this result was obtained is now adopted on a larger scale at Darenth Industrial Colony. Dr. A. Rotherham said: "The children could be very greatly improved; they could do anything mechanical so long as they were looked after." Parallel to this evidence that the condition of mentally defective children is capable of great improvement is evidence of the deterioration of such children as are withdrawn from supervision and instruction.

In the forefront of the Royal Commission's recommendations a problem is set out which appears to us to be of so great importance that we quote the paragraph *in extenso* :—

> Before coming to a conclusion on the alternative, whether the Poor-law system should be expanded so that it may make entire provision for mentally defective persons, or whether this task should be assigned to some other control and local authorities, the ultimate question, which both parties raise, and which we have to decide, is whether the mentally defective should be considered and dealt with as suffering primarily from mental disease, or primarily from poverty or destitution, however caused? In the former case they would be relieved—whether paupers, or prisoners, or inebriates, or "feeble-minded," or persons of "unsound mind," as having a claim on the community on the common ground that they are mentally afflicted; and assistance for them would be organised with a view to their treatment as patients. In the latter case they would be relieved as poor or destitute persons who happen to be mentally defective, and who on that account are paupers as being in need of relief, but incidentally patients, as being in special need of treatment. But the evidence shows that the division between pauper and non-pauper is quite unreal in the case of the mentally defective. The son of respectable parents, who is permanently supported wholly or in part by relatives or friends, requires, as mentally defective, the same treatment as another person whose relatives and friends cannot help him at all; and the greater or lesser possibility of obtaining payment for the treatment—the more or less poverty or destitution—is not the dividing line in these cases, but the existence or non-existence of mental disease. Further, the distinction, on which we insist, is especially applicable to a class of case for which it would be difficult for the great mass of people to make any provision. These cases, wherever they may be, or whatever public department or organisation may deal with them, involve continuous expenditure greater than can ordinarily be met by the people themselves, even when they are capable and industrious members of the middle and working classes. ...... All possible obligations which can reasonably be imposed should, indeed, in our opinion, be enforced on relatives, and the help of friends and voluntary agencies also should be used to the utmost. But in the development of any organisation for the care of the mentally defective the precedent of the Lunacy Acts should, we think, be followed, rather than the precedent of the Poor-law. Under the Lunacy Acts intervention is due to the existence of mental incapacity; under the Poor-law to the existence of poverty and destitution. It must also be remembered that the certification, detention, and segregation, in regard to which all our witnesses are agreed, are advocated in the interest of the community at large and not merely or chiefly, as relief is given under the Poor-law, in order to meet the personal needs of particular cases.

So far as segregation is concerned there is a general consensus that it is not good for the individual or for the community that a person who is mentally defective and has been convicted of crime should be set free, like an ordinary prisoner, to go where he may on discharge. Equally is this so in the case of inebriates, or paupers, or children of school age, who are mentally deficient. Dr. James Kerr, the medical officer of the London County Council, states of the kind of children handled in special classes: "Many who can contribute materially to their own livelihood would be better if under custodial treatment. ...... Compulsory powers for detention will be required for many cases. ...... The matter as a State provision for the improvement of social conditions will be almost futile, if provision is not also made for continuing the custodial treatment after school ages." To improve the condition and meet the needs of the mentally defective, whether in elementary schools, prisons, inebriate homes, or asylums, the Commission considers that it will be necessary that there should be established one central authority for the general supervision of such persons and to regulate the provisions made for their maintenance, care, treatment, and training. The local authority which is to carry out such regulations, it is suggested, should be the council of each county or county borough. The Commission finds nothing peculiar in the conditions which obtain in London which would suggest a scheme different from that recommended for England generally, and since it is of opinion that a Poor-law authority cannot suitably undertake the care of the mentally defective it is unable to recommend that the Metropolitan Asylums Board should be the local authority in London, but it is suggested that the duty should devolve upon the County Council acting through a statutory committee. As regards the education of mentally defective children it is recommended that where there are special classes they should be used for teaching those who would be able to look after themselves later in life and that such classes should pass under the Board of Control and should not remain under the Board of Education. To ascertain the number of mentally defective children and to provide for their education, supervision, and segregation it is recommended that the system of registration now in force with regard to school children should be turned to account and made the foundation of records which would be of use in caring for them throughout life. It is recommended that notification from public authorities and private homes should be required by statute, but that otherwise there should be no notification except in regard to patients received for profit. Where there are no special classes or schools it is recommended that the local authority may intervene and either make provision in connexion with the education authority or independent of it. The Commission is of opinion that the ordinary education authority should not be the authority in charge of mentally defective children. To the Commission it seems that a single and continuous control over the mentally defective person, both in childhood and subsequently in adult life, is indispensable and that the education authority as the educator of children and not as the supervisor of adults could not exercise this control, and just as the Poor-law, established for the care of the poor and destitute, is unsuitable for the care of the mentally defective, so the educational system of the country, established for the teaching of the normal child, is unsuitable for the child who can never reach the mental level of the normal.

OPENING OF THE LONDON MEDICAL SCHOOLS.

Winter Session 1908-09.

St. Bartholomew's Hospital.—The session will begin on Oct. 1st. The old students' dinner will be held on the same evening in the great hall of the hospital at 7 P.M., when Mr. H. Gilbert Barling will preside.

Charing Cross Hospital.—The session will commence on Oct. 1st by the delivery of the seventh biennial Huxley lecture on Recent Advances in Science and their Bearing on Medicine and Surgery, in the out-patients' hall at the hospital, at 4 P.M., by Sir Patrick Manson, K.C.M.G., F.R.S. The dinner of the past and present students will take place on the evening of the same day, at 7.30 P.M., at the Criterion Restaurant, when Mr. Edgar A. Browne of Liverpool will preside.

St. George's Hospital.—The session will open on Oct. 1st with an inaugural lecture which will be given by Dr. Charles Slater at 4 P.M. The annual dinner will be held on the same evening.

Guy's Hospital.—The annual dinner and first meeting of the Guy's Hospital Physical Society will be held on Oct. 8th.

helpful. No doubt this little work will prove useful to those who are unable to consult the larger text-books upon the subject. It is a pity that so many errors in the spelling of proper names should have been left uncorrected.

First-Aid to Medical Treatment of Tamils and Singhalese, for the Use of Tea and Rubber Planters and Estate Dispensers. By R. J. DRUMMOND, M.D. Edin. Lindula: Walker and Greig. 1908. Pp. 58.—The author of this book has undertaken what is always a difficult task, that of supplying a medical guide for the use of non-medical persons in places where professional aid is unattainable. He disclaims any desire to let his book "compete with, or be a substitute for, the medical service that the Government have inaugurated in Ceylon," and rests the sanction for it in irrefutable words: "Every experienced tea-planter knows that a neglected 'cold' often leads to pneumonia and death; that a neglected diarrhœa often ends in dysentery and death; and that a neglected sore often ends in blood-poisoning and death." Dr. Drummond has not always quite hit the happy mean between teaching too much and teaching too little. In the opening section on Malaria, for instance, he describes a course of treatment extending over six weeks, including prescriptions containing arsenic, iron, and strychnine. Surely such after-treatment appertains rather to the medical officer than to the lay minister of first-aid. Nor would the latter profit much by reading of bronchitis: "If a stethoscope be applied to the chest the noise in the lung will be like a bellows blowing or the crackling sound of a distant fire on grass patnas." However, the book contains a trustworthy and useful symptomatology and guide to treatment of the commoner diseases written in plain language, although it must be confessed in terribly slipshod grammar. The treatment of cholera and dysentery is very thoroughly described in what are perhaps the best sections in the book. There is a very brief account of surgical first-aid; and an interesting section, headed "Medico-Legal," on native poisoning practices and caste punishments, which includes a terrible account of infanticide, "a very common crime in Ceylon," affords a startling criticism on the protection afforded by the British Raj to the caste-ridden native. Dr. Drummond's little book should command a wide circulation in the Ceylon tea-gardens, and in intelligent hands will prove of considerable utility. The preface shows it to have been written in response to a request for such a work from those to whom it is addressed.

JOURNALS AND MAGAZINES.

Annals of Tropical Medicine and Parasitology, University of Liverpool. Vol. I., No. 4. Illustrated. London: Williams and Norgate. Pp. 71. Price 7*s* 6*d.* net.—The investigation and suggestions for preventing the so-called "Canary fever," by Mr. C. E. Walker, form the first paper in this number. We have already printed an abstract of it in THE LANCET of June 13th, p 1707. An interesting study of a somewhat rare disease caused by a parasitic worm, "porocephalus moniliformis," by Dr. A. Broden and Dr. J. Rodhain from the Leopoldville Laboratory in the Congo Free State, is contained in the second paper. The patient whose case is described showed extreme tenderness in the left hypochondriac region and parts of the epigastrium. The liver was not enlarged, but there was some slight engorgement of the base of the left lung. He was extremely constipated and vomited a certain amount of blood. After about four weeks' illness he died quite suddenly. The intestine and peritoneal cavity were full of some long bacilli which were anaerobic but which have not been identified. Only one larva of the worm was found, but many hæmorrhagic patches and pockets were found in the small intestine. A detailed description of the worm is given. Mr. Robert Newstead contributes a paper on the Habits, Life-Cycle, and Breeding Places of the Common House Fly. The results of the investigations described should prove very valuable, both from an economic and a scientific standpoint. The chief breeding places of the house fly apparently are—middensteads containing horse manure only; middensteads containing spent hops; and ashpits containing fermented material. Mr. Newstead found that in stable-yards where poultry were kept and allowed to wander about freely flies were kept under to a very great extent, and that while both open and closed ashpits were infested with the larvæ the flies gave preference to the closed receptacles. The non-breeding places were—middens containing excessively moist and non-fermented cow-dung; patent ash-bins; refuse in ashpits saturated with water; and human excreta lying in courts and passages. After dealing with the life-cycle of the common house fly the author summarises his observations as follows: That covered ashpits and middens were as badly infested as those which were open. That house flies breed in all temporary collections of fermenting matter. That house flies breed in relatively small numbers in ashpits where no fermentation takes place. That they do not breed in ashpits which are emptied at short intervals or in the patent bins. That the use of disinfectants in ashpits does not prevent the flies breeding in such receptacles. That very dry or excessively wet ashes or moist cow-dung does not harbour them. That the life-cycle of the fly in all kinds of fermenting materials is reduced to the minimum period of from 10 to 14 days, and that in the absence of such artificial heat the cycle may occupy a period of from three to five weeks or more, according to the temperature of the outside air. That house flies do not depend entirely upon excessively warm weather for breeding purposes, though in hot seasons they would breed much more rapidly in non-fermenting materials and their numbers under such conditions would be greatly increased. He makes various suggestions for reducing the house flies to a minimum. He lays great stress on the necessity of preventing children from defæcating in courts, passages, or stable middens. The danger lies in the overwhelming attraction which such fæcal matter has for house flies, which latter may afterwards come into direct contact with man or his foodstuffs. They may, as Vedeer puts it, "in a very few minutes ...... load themselves with dejections from a typhoid or dysenteric patient, not as yet sick enough to be in hospital or under observation, and carry the poison so taken up into the very midst of the food and water ready for use at the next meal. There is no long roundabout process involved." The use of sun-blinds in all shops containing food which attracts flies would largely reduce the number of flies in such places during hot weather. Small fruiterers' and confectioners' shops, as a rule, are not shaded by sun-blinds, and in their absence flies literally swarm on the articles exposed for sale. The final paper in the number is on Malaria and History, by W. H. S. Jones, M.A. It constitutes an interesting study of the history of malaria in ancient Greece and Rome. The author points out that disease has exercised considerable influence on the history of mankind and uses malaria as an illustration of this fact. The conclusion arrived at from the study of the history of both these races is that the decline was in both cases brought about to some extent, at any rate, by malaria. The paper is of great interest, and though some very large deductions are made from the premisses Mr. Jones argues quite fairly.

Proceedings of the Royal Society of Medicine, July, 1908.—The various sections in this number are chiefly occupied with reports of cases too numerous to be mentioned scope of the work which it is proposed to do. They will, in particular, require to be informed: (i.) what precautions the Local Education Authority will take to secure that only those children shall be treated in a School Clinic for whose treatment adequate provision cannot otherwise be made, whether by the parents or by voluntary associations or institutions, such as hospitals, or through the agency of the Poor Law; (ii.) what precise diseases and defects will be treated; (iii.) by whom and on what terms and conditions the treatment will be carried out and what will be its extent; (iv.) what is the estimated cost of the clinic in respect of buildings and equipment, maintenance and administration, and treatment, and how it is proposed to meet this cost, out of the rates or otherwise."

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 18th, 1830.

SEDATIVE QUALITIES OF THE WEB OF THE BLACK SPIDER.—The web of the black spider has received commendation from many respectable sources, as a sedative agent, capable of calming with peculiar ease and certainty, morbid excitability of the cerebral and nervous systems. On the credit of those qualities it has been employed in the various forms of temulence (exhaustion from intoxication), and not without a share of reputed success, sufficient to entitle it to consideration in that state of constitutional irritation. In the summer of 1827 we tried this article in many cases, and in full doses. To test its qualities, it was given, where the state of the patient admitted, uncombined with opiates. When thus used, its effects were generally partial or doubtful, and its powers inadequate to the production of tranquillity or sleep. In one case only have I found this substance to exert great or decided sedative attributes. This was the case of an intelligent young man, (in private practice,) who, after consuming, by his own report, three quarts of brandy, in thirty-six hours, fell into a state of temulent excitation so excessive, that he was incapable of keeping a recumbent, or even a sitting posture, for more than a moment, but paced his chamber with a ceaseless step for two days and nights. He was not delirious, on the contrary his conversation was rational, though hurried and vehement. But he was so far under the influence of spectral hallucination, that if he closed his eyes for a moment, day or night, he was instantly visited by a host of phantoms of frightful aspect; hence chiefly his aversion to lie down, or make any voluntary effort to sleep. This patient took opium, opium with camphor, and black drop at short intervals, and in full doses, until the quantum of opiate approached the utmost limit of probable safe administration, without even partial relief of constitutional irritation, or any apparent proneness to sleep. The temulent excitement kept unabated for twenty-four hours, the second night passed in constant vigilance, locomotion, and mental excitement; and it seemed probable that excitation so intense, protracted, and unremitting, must soon lapse into delirium or convulsions. At this time, the morning of the third day, (the second of my attendance,) he began the use of the fresh web in pills of five grains every hour. Its effect was prompt and unequivocal. He calmed, even sensibly to himself, with every dose, and watched with desire for the time of repeating the pills. The first effect of the web was to abate his restless movements about the room, he became disposed to sit down, and kept his chair, with short intervals of walking, for some hours. In the evening he consented to go to bed, got up once or twice, but returned to bed without difficulty, took an opiate at night, the first for eighteen hours, and slept continuously for eight hours. The cure was completed without difficulty, by repeating the web less frequently next day, with quiet, suitable nourishment, and another opiate at night. The patient spoke emphatically, both the first and second days, of the soothing influence produced by the pills.[1] He was not at the time informed of their composition.—*Dr. Wright, Amer. Journ.*

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Swansea.—Mr. Ebenezer Davies, the medical officer of health of Swansea, must be almost if not quite the father of the public health service, and in his current annual report he furnishes a "retrospect" of sanitary work in Swansea which carries us back far into the last century, to what is in effect, from the standpoint of time, the dawn of sanitation in this country. According to a report made in 1849 to the then General Board of Health by Mr. G. T. Clark, the superintending inspector, the deaths from consumption in the Swansea district, which included the Gower Peninsula, amounted to 1 in 4·8 of the total deaths; from "typhus," which probably included enteric fever and continued fever, 1 in 11; from "epidemics, including typhus," 1 in 3·5. The report referred to stated that "nothing deserving the name of a system of drainage can be said to exist," and the bulk of the population were dependent upon pumps and open watercourses for their water-supply. But at that time there was this redeeming feature that "single-family occupancy of houses was the rule," and Mr. Davies wishes that the same observation could be made now. Gradually a sort of public health conscience evolved and the desirability of carrying out the provision of the Public Health Act, 1848, was recognised. In September, 1853, Mr. M. H. Michael, an active member of the council, was appointed medical officer of health for 12 months at a salary of £150. Mr. Michael did some hard hitting and later the cholera arrived to emphasise his arguments. But the expense of carrying out Mr. Michael's recommendations was very great, violent opposition was encountered, and before the end of the year it was resolved that the appointment should not be renewed. Attempts to make another appointment were made but unsuccessfully, and it was not until 1865, when the historical outbreak of yellow fever occurred at Swansea, that, after a report by Dr. (afterwards Sir George) Buchanan, Mr. Davies was appointed medical officer of health in October, 1865, at £100 per annum. This appointment was therefore made before the Sanitary Act of 1866 rendered certain public health measures compulsory on sanitary authorities. It is of interest, having regard to the remarkable discoveries which have since been made, to recall the Swansea outbreak of yellow fever, since it is, we believe, the only occasion in which this disease has actually spread in England. The *Hecla*, the barque which was instrumental in introducing the disease, arrived off Swansea on Sept. 8th, 1865, there having been cases of illness on board the precise nature of which was not disclosed. Between Sept. 15th and Oct. 13th there were 22 cases, which were in all probability yellow fever, and seven others in which a strong suspicion of yellow fever attached to the illness. Of the 22 cases no fewer than 15 died. Of the 22 cases, 21 occurred in persons living or working in proximity to the infected ship or of that portion of the cargo which had been discharged, and there was no sufficient evidence to attribute the cases to personal infection. As Mr. Davies observes "persons lay sick of yellow fever in various parts of the town and no extension occurred from any of their centres, at least 12 in number." In the light of our present knowledge it would appear, therefore, that both the ship and the cargo retained living and infected stegomyia fasciata and that these insects did not wander far from ship or cargo, a view which receives support from recent researches as to the habits of stegomyia fasciata. In concluding his interesting retrospect in his fortieth annual report Mr. Davies compares the figures for the ten years 1866–75 with the ten years 1898–1907. In this interval the general death-rate was reduced from 23·6 to 17·7, the zymotic death-rate from 4·49 to 2·06, the "fever" death-rate from 0·75 to 0·09, and the phthisis death-rate from 2·18 to 1·45 per 1000 in each instance.

City of Newcastle.—Dr. Henry E. Armstrong's report contains a reference to nine cows which were found clinically affected with tuberculosis, four of them suffering from tuberculosis of the udder. Whilst these cows were in the cowsheds they were being milked twice daily and they were consequently "pouring tubercle bacilli into the milk pail." It would be interesting if Dr. Armstrong could watch the helpful. No doubt this little work will prove useful to those who are unable to consult the larger text-books upon the subject. It is a pity that so many errors in the spelling of proper names should have been left uncorrected.

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[1] An article on Spider Pills was published in THE LANCET of June 25th, 1904, p. 1815.

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JOURNALS AND MAGAZINES.

Annals of Tropical Medicine and Parasitology, University of Liverpool. Vol. I., No. 4. Illustrated. London: Williams and Norgate. Pp. 71. Price 7*s* 6*d.* net.—The investigation and suggestions for preventing the so-called "Canary fever," by Mr. C. E. Walker, form the first paper in this number. We have already printed an abstract of it in THE LANCET of June 13th, p 1707. An interesting study of a somewhat rare disease caused by a parasitic worm, "porocephalus moniliformis," by Dr. A. Broden and Dr. J. Rodhain from the Leopoldville Laboratory in the Congo Free State, is contained in the second paper. The patient whose case is described showed extreme tenderness in the left hypochondriac region and parts of the epigastrium. The liver was not enlarged, but there was some slight engorgement of the base of the left lung. He was extremely constipated and vomited a certain amount of blood. After about four weeks' illness he died quite suddenly. The intestine and peritoneal cavity were full of some long bacilli which were anaerobic but which have not been identified. Only one larva of the worm was found, but many hæmorrhagic patches and pockets were found in the small intestine. A detailed description of the worm is given. Mr. Robert Newstead contributes a paper on the Habits, Life-Cycle, and Breeding Places of the Common House Fly. The results of the investigations described should prove very valuable, both from an economic and a scientific standpoint. The chief breeding places of the house fly apparently are—middensteads containing horse manure only; middensteads containing spent hops; and ashpits containing fermented material. Mr. Newstead found that in stable-yards where poultry were kept and allowed to wander about freely flies were kept under to a very great extent, and that while both open and closed ashpits were infested with the larvæ the flies gave preference to the closed receptacles. The non-breeding places were—middens containing excessively moist and non-fermented cow-dung; patent ash-bins; refuse in ashpits saturated with water; and human excreta lying in courts and passages. After dealing with the life-cycle of the common house fly the author summarises his observations as follows: That covered ashpits and middens were as badly infested as those which were open. That house flies breed in all temporary collections of fermenting matter. That house flies breed in relatively small numbers in ashpits where no fermentation takes place. That they do not breed in ashpits which are emptied at short intervals or in the patent bins. That the use of disinfectants in ashpits does not prevent the flies breeding in such receptacles. That very dry or excessively wet ashes or moist cow-dung does not harbour them. That the life-cycle of the fly in all kinds of fermenting materials is reduced to the minimum period *of from 10 to 14 days, and that in the* absence of such artificial heat the cycle may occupy a period of from three to five weeks or more, according to the temperature of the outside air. That house flies do not depend entirely upon excessively warm weather for breeding purposes, though in hot seasons they would breed much more rapidly in non-fermenting materials and their numbers under such conditions would be greatly increased. He makes various suggestions for reducing the house flies to a minimum. He lays great stress on the necessity of preventing children from defæcating in courts, passages, or stable middens. The danger lies in the overwhelming attraction which such fæcal matter has for house flies, which latter may afterwards come into direct contact with man or his foodstuffs. They may, as Vedeer puts it, "in a very few minutes ...... load themselves with dejections from a typhoid or dysenteric patient, not as yet sick enough to be in hospital or under observation, and carry the poison so taken up into the very midst of the food and water ready for use at the next meal. There is no long roundabout process involved." The use of sun-blinds in all shops containing food which attracts flies would largely reduce the number of flies in such places during hot weather. Small fruiterers' and confectioners' shops, as a rule, are not shaded by sun-blinds, and in their absence flies literally swarm on the articles exposed for sale. The final paper in the number is on Malaria and History, by W. H. S. Jones, M.A. It constitutes an interesting study of the history of malaria in ancient Greece and Rome. The author points out that disease has exercised considerable influence on the history of mankind and uses malaria as an illustration of this fact. The conclusion arrived at from the study of the history of both these races is that the decline was in both cases brought about to some extent, at any rate, by malaria. The paper is of great interest, and though some very large deductions are made from the premisses Mr. Jones argues quite fairly.

Proceedings of the Royal Society of Medicine, July, 1908.—The various sections in this number are chiefly occupied with reports of cases too numerous to be mentioned been equal to 15·8, 15·6, and 14·6 in the three preceding weeks, further declined to 14·2 in the week under notice. During the first 11 weeks of the current quarter the annual death-rate in these towns averaged 13·3 per 1000, and in London the mean rate in the same period did not exceed 12·3. The lowest annual death-rates in these 76 towns during the week under notice were 6·4 in Ipswich, 6·7 in Barrow-in-Furness, and 7·3 in Hornsey and in Grimsby; the rates in the other towns ranged upwards, however, to 20·8 in Liverpool and in Tynemouth, 20·9 in Birkenhead, 22·4 in Stockport, and 27·3 in Burnley. In London the death-rate during the week did not exceed 13·3. The 4433 deaths from all causes in the 76 towns showed a further decline of 110 from the numbers returned in the three preceding weeks, and included 840 which were referred to the principal epidemic diseases, against 1343 and 1067 in the two preceding weeks; of these 840 deaths, 668 resulted from diarrhœa, 52 from whooping-cough, 39 from diphtheria, 34 from "fever" (principally enteric), 25 from measles, and 21 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week under notice were equal to an annual rate of 2·7 per 1000, against 4·3 and 3·4 in the two preceding weeks; in London the death-rate from these epidemic diseases last week did not exceed 2·4. No death from any of these epidemic diseases was registered last week in West Hartlepool, Newport, Wallasey, or Hastings, whereas the annual death-rates therefrom ranged upwards in the other large towns to 6·6 in Coventry, 7·0 in Oldham, 8·3 in Hull, and 11·4 in Burnley. The deaths attributed to diarrhœa in the 76 towns, which had been 1134, 1123, and 889 in the three preceding weeks, further declined to 668 in the week under notice; they caused, however, annual death-rates ranging upwards to 5·3 in Walsall and in Coventry, 7·7 in Hull, and 9·9 in Burnley. The 52 fatal cases of whooping-cough exceeded those in the previous week by two; they were proportionally most numerous in Coventry, Merthyr Tydfil, and Burnley. The 39 deaths from diphtheria also showed an increase, and caused death-rates equal to 1·5 in Bootle and 2·0 in Stockton-on-Tees. The 34 deaths referred to "fever" showed a further increase upon recent weekly numbers, and exceeded the number returned in any previous week of the year; the highest death-rates from this disease last week were 1·4 in Bolton and 1·6 in Rotherham. The 25 fatal cases of measles and the 21 of scarlet fever both showed a distinct decline, those of measles being considerably fewer than in any previous week of this year; measles caused, however, death-rates equal to 1·5 in Oldham and 1·8 in Rochdale, and scarlet fever caused six deaths in Liverpool and Birkenhead and three in Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2825 and 2855 in the two preceding weeks, had further risen to 3005 on Sept. 12th; the number of new cases of this disease admitted to these hospitals during the week under notice were 472, against 377 and 395 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 132 and 102 in the two preceding weeks, rose again last week to 124, but were three below the corrected average number in the corresponding week of the five years 1903–07. The causes of 49, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Bristol, West Ham, Bradford, Leicester, Newcastle-on-Tyne, Nottingham, and in 47 other smaller towns during the week under notice; nine uncertified causes of death were, however, registered during the week in Liverpool, six in Birmingham, four in Hull, and three both in Preston and in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4 and 14·8 per 1000 in the two preceding weeks, further declined to 13·7 in the week ending Sept. 12th. During the first 11 weeks of the current quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·5 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 8·8 and 10·4 in Aberdeen and Perth to 14·7 in Glasgow and in Edinburgh, and 15·3 in Greenock. The 484 deaths in the eight towns showed a further decline of 39 from the numbers in the two previous weeks, and included 87 which were referred to the principal epidemic diseases, against 107, 96, and 95 in the three preceding weeks; of these 87 deaths, 52 resulted from diarrhœa, 18 from whooping-cough, five from "fever," five from diphtheria, four from measles, and three from scarlet fever, but not one from small-pox. These 87 deaths were equal to an annual rate of 2·5 per 1000, which was 0·2 below the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 60 and 64 in the two preceding weeks, declined to 52 in the week under notice, and included 26 in Glasgow, six in Edinburgh and in Dundee, five in Greenock, and four both in Leith and in Aberdeen. The 18 fatal cases of whooping-cough were within one of the number in the previous week; 11 occurred in Glasgow and four in Dundee. The five deaths referred to "fever" exceeded the number in the previous week by one, all being certified as cases of cerebro-spinal meningitis; four were returned in Glasgow and one in Aberdeen. Three of the five fatal cases of diphtheria and all the four deaths from measles occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 75 and 57 in the two preceding weeks, further declined to 44 in the week under notice, and were 17 below the number returned in these towns in the corresponding week of last year. The causes of 16, or 3·3 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·1, 22·5, and 21·7 per 1000 in the three preceding weeks, further declined to 20·6 in the week ending Sept. 12th. During the first 11 weeks of the current quarter the death-rate in Dublin averaged 19·9 per 1000; the mean rate during the same period did not exceed 12·3 in London and 13·1 in Edinburgh. The 156 deaths of Dublin residents during the week under notice showed a further decline of eight from the high numbers returned in recent weeks, and included 28 which were referred to the principal epidemic diseases, against 44, 35, and 37 in the three preceding weeks. These 28 deaths were equal to an annual rate of 3·7 per 1000; the rate during the week from the same diseases did not exceed 2·4 in London and 1·0 in Edinburgh. Of the 28 deaths from these epidemic diseases in Dublin during the week under notice, 20 resulted from diarrhœa, six from measles, and one each from whooping-cough and "fever," but not one from scarlet fever, diphtheria, or small-pox. The deaths attributed to diarrhœa, which had been 39, 26, and 28 in the three preceding weeks, further declined to 20 in the week under notice. The six fatal cases of measles corresponded with the number in the previous week. The 156 deaths from all causes during the week included 47 of infants under one year of age and 27 of persons aged upwards of 60 years; both these numbers showed a considerable decline from the numbers returned in recent weeks. Four inquest cases and three deaths from violence were registered; and 58, or 37·4 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·5 per cent., of the deaths registered during the week were not certified; in London the causes of all but one of the 1221 registered deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was equal to 6·0 per cent.

VITAL STATISTICS OF LONDON DURING AUGUST, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 19, 1908.

The Sixty-Second Report of the Commissioners in Lunacy.

THE statistics contained in this report are not materially different from similar statistics of the last few years and there is a continued increase in the number of insane persons known to be under care. The number of such persons on Jan. 1st, 1907, was 123,988 and on Jan. 1st, 1908, was 126,084, being an increase of 2096. As, however, the annual average increase for the ten years ending with 1907 was 2411 the increase for 1907 was less by 315 than the annual average of the decennium. It was found that the ratio of notified insane persons to the estimated population was on Jan 1st, 1908, 1 to 280, or 35·67 per 10,000. This is an increase on the ratio of the year before of 0·53 per cent. and an actual numerical increase of nearly 1·7 per cent. At the beginning of 1898 the ratio of insane persons to the estimated population was 32·35, so that since then it has increased by as much as 10·2 per cent., the proportion of insane persons having risen from 1 in 309 to 1 in 280. The increase in the whole population has been 12·2 per cent., while in the number of the insane it has been 23·7 per cent. Examining the ratio for a larger number of years we find that while the estimated population increased by 57·2 per cent. between the years 1869 and 1907 the total number of the known insane increased by 137·1 per cent. The ratio of the insane to the population was at the beginning of 1869 23·93 per 10,000 and on Jan. 1st of this present year 35·67 per 10,000, being an increase of 49 per cent. The ratios for first admissions were 4 92 per 10,000 in 1898, 5·76 in 1902, 5·16 in 1906, and 5 18 in 1907. The number of patients at the beginning of 1907, not counting those in idiot establishments, in institutions, and in single private care, was 98,521, being an increase of 32 per cent. on the number under similar care at the beginning of 1897. During these ten years the numbers in county and borough asylums had increased by 36·6 per cent., in registered hospitals by 3·6 per cent., in the State asylums by 26·4 per cent., and in single care by 17·3 per cent.

It appears that nearly three-fourths of the number of patients annually certified are suffering from their first attack, while the remainder represent recurrent cases. The report points out that it is highly probable that, at any rate among certain classes, the too speedy return to old avocations and the environment under which the patient originally broke down contributes to the recurrence of the malady. It may be that at some future date it will be more widely recognised to be desirable that the patient should be subjected to a more careful supervision on his discharge from the asylum. To this end it may be found necessary to establish convalescent homes where the recovery of patients may be still further insured. The After-Care Association, unfortunately only in a very small way, undertakes at the present time to do what it can for discharged patients and deserves far more support from the public than it receives. It is quite possible that a considerable extension of this work might contribute in no small degree to a decrease in the amount of insanity in this country.

We are happy to note that the Commissioners are very decidedly of opinion that the asylums should be utilised to further the scientific study of insanity and higher medical education. Too often the asylum is regarded rather as a place of detention where persons who are a nuisance to the community are confined, instead of a place of refuge for the sufferer where he may obtain appropriate treatment for his disease. We cannot, however, but feel that there are indications that the public are beginning to regard insanity as a disease which is to be studied and treated in precisely the same way as are those diseases in which disordered function is more obviously the result of organic alteration of the tissues. A substantial part of this excellent change in public opinion must be attributed to the earnest scientific labours of those working in this branch of our science and art, their labours involving investigations in the phenomena of mind and in the structure and function of its delicate instrument and constant servant, the brain. But perhaps a yet larger factor in the production of this change has been the work of the Commission in Lunacy. From a disorderly and sometimes disgraceful chaos there has been evolved under its guidance a systematisation of philanthropic effort for the amelioration of the condition of the insane. The work of the Commission is now of such extent that it cannot be efficiently performed by the present number of the Commissioners. That the best that can be done is being done there can be no doubt from a perusal of the report now before us. But times have changed and the large increase of the insane population demands a larger Commission and one in which less prominence shall be given to what we may call its police functions and more to the more strictly medical aspects of the work. We trust that the adoption of some of the recommendations of the Royal Commission on the Feeble-Minded[1] may eventuate in such an improvement.

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Huntington's Chorea or Chronic Progressive Chorea.

THIRTY-SIX years ago Dr. GEORGE HUNTINGTON, then a recently qualified practitioner of but 22 years of age, at the end of a paper on the subject of chorea in childhood, gave a description in a few strikingly graphic sentences of that peculiar form of chorea which has since that time been generally called after him, a description so complete and so distinctive that from a clinical standpoint little or nothing has since been added. It is always interesting, stimulating, and instructive to study the history of any scientific advance and to trace the evolution of knowledge in regard to it. We have received an interesting pamphlet[2] which, though of modest dimensions and of unpretentious character, is a very equal to an annual rate of 6·3 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 6·2, 5·6, and 6·5 per 1000 respectively. The lowest rates last month were recorded in Chelsea, the City of Westminster, Hampstead, Stoke Newington, and Holborn; and the highest rates in Shoreditch, Bethnal Green, Stepney, Poplar, Battersea, and Deptford. Scarlet fever was less prevalent during August than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in Shoreditch; Bethnal Green, Stepney, Poplar, Battersea, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals was 2807 at the end of August, against 2707, 2514, and 2693 at the end of the three preceding months; the weekly admissions averaged 365, against 307 and 372 in the two preceding months. The prevalence of diphtheria showed a slight increase over that recorded in the two preceding months; this disease was proportionally most prevalent in Hammersmith, Fulham, Hackney, Stepney, Bermondsey, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 843 diphtheria patients at the end of last month, against 804, 768, and 738 at the end of the three preceding months; the weekly admissions averaged 110, against 105, 95, and 100 in the three preceding months. Enteric fever was slightly more prevalent than in other recent months; among the various metropolitan boroughs this disease showed the greatest proportional prevalence in Chelsea, Hampstead, St. Pancras, Finsbury, Shoreditch, Stepney, and Woolwich. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 45, 48, and 54 at the end of the three preceding months, had further risen to 69 at the end of last month; the weekly admissions averaged 12, against seven, eight, and nine in the three preceding months.. Erysipelas was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Stepney, Southwark, and Deptford. The 17 cases of puerperal fever notified during the month included two each in Kensington, Hammersmith, Fulham, Southwark, and Wandsworth. One case of cerebro-spinal meningitis was recorded in Fulham and one in Bermondsey.

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[1] See p 890 of our present issue.

[2] Neurographs, vol. I., No. 2. Huntington Number. Brooklyn, New York - Albert T. Huntington. 1908.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending August 29th the deaths of 4755 persons belonging to London were registered, equal to an annual rate of 12·9 per 1000; in the three preceding months the rates had been 12·2, 10·4, and 10·3 per 1000. The rates of mortality last month in the several boroughs ranged from 5·5 in Hampstead, 8·7 in the City of Westminster, 8·9 in Stoke Newington, 10·2 in St. Marylebone, 10·3 in Woolwich, and 10·4 in Lewisham, to 16·0 in Stepney, 16·5 in Southwark, 17·3 in Poplar, 18·0 in Shoreditch, 18·7 in Bethnal Green, 20·4 in Finsbury, and 21·7 in Bermondsey. The 4755 deaths from all causes included 1041 which were referred to the principal infectious diseases; of these, 97 resulted from measles, 37 from scarlet fever, 43 from diphtheria, 51 from whooping-cough, 11 from enteric fever, and 802 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. The lowest death-rates from these infectious diseases were recorded in the Cities of London and Westminster, and the boroughs of St. Marylebone, Hampstead, Stoke Newington, and Woolwich; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The 97 deaths from measles were slightly below the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Finsbury, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 37 fatal cases of scarlet fever were equal to the corrected average number; the greatest proportional mortality from this disease was recorded in Hammersmith, Chelsea, Shoreditch, Bethnal Green, Stepney, Bermondsey, and Battersea. The deaths from diphtheria numbered 43, against an average of 47 in the corresponding weeks of the five preceding years; this disease showed the greatest proportional mortality in Fulham, Stepney, Poplar, Greenwich, and Lewisham. The 51 fatal cases of whooping-cough were 27 fewer than the corrected average number; the highest death-rates from this disease were recorded in Hammersmith, St. Pancras, Islington, Hackney, Poplar, Southwark, Wandsworth, and Greenwich. The 11 deaths referred to enteric fever were equal to only one-half of the corrected average; of these 11 deaths, three belonged to Bethnal Green and one to each of eight other boroughs. The 802 fatal cases of diarrhœa showed a decline of 470 from the corrected average number; this disease was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality from these principal infectious diseases in London last month was 33 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 167 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, Lewisham, and Woolwich; and the highest rates in the City of London, Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, and Greenwich.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon David Hadden Vickery has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Sept. 12th, 1908).

The following appointment is notified: Staff-Surgeon C. J. E. Cock to the *President*, additional, for three months' course of study at West London Hospital.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. Kirkpatrick, C.M.G., has joined at Devonport for duty as medical officer in charge of the Military Hospital, in the place of Colonel H. G. Hathaway, who has been appointed administrative medical officer at Portsmouth. Lieutenant Harold Græme Gibson has been appointed for duty with the South Western Coast Defences. Lieutenant-Colonel W. M. James has been appointed to the medical charge at Guildford.

Lieutenant George B. F. Churchill to be Captain (dated July 31st, 1908).

Lieutenant-Colonel Henry L. Battersby is placed on retired pay (dated Sept. 7th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain George G. Oakley to be Surgeon-Major (dated Sept. 2nd, 1908).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain William V. Sinclair is granted the honorary rank of Major (dated August 14th, 1908).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Anglian Field Ambulance: Supernumerary Surgeon-Major John Herbert Stacy, from the 1st Volunteer Battalion, The Norfolk Regiment, to be Lieutenant-Colonel (dated 1st April, 1908). Surgeon-Major Samuel John James Kirby, from the 2nd Volunteer Battalion, The Norfolk Regiment, to be Major, with precedence as in the Volunteer Force (dated April 1st, 1908). Supernumerary Surgeon-Captain George Blake Masson, from the 3rd Volunteer Battalion, The Norfolk Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908); Supernumerary Surgeon-Captain James Morrison Gardiner Bremner from the 1st Volunteer Battalion, The Norfolk Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st 1908).

1st Home Counties Field Ambulance: Major Charles Pye Oliver from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers) to be Lieutenant-Colonel (dated April 1st, 1908).

The undermentioned officers from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers), are appointed to the Ambulance, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain John Monkhouse Rogers-Tilstone, Lieutenant John Aldington Gibb, Lieutenant Joseph Ward, and Lieutenant Arthur Thomas Falwasser. Supernumerary Surgeon-Captain William James Woodman,

THE LANCET.

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Surgeon-Lieutenant Andrew Edward Hodder, from the 1st Volunteer Battalion, The Manchester Regiment.

VOLUNTEER OFFICERS' DECORATION.

The Volunteer Officers' Decoration has been conferred upon the following:—

London District: (Infantry Volunteers): 2nd Bucks (Eton College) Volunteer Rifle Corps; Surgeon-Major Edward Stacy Norris.

Scottish Command: Infantry (Volunteers): The Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment): Surgeon-Major John Hugh Alexander Laing. 1st Dumbartonshire Volunteer Rifle Corps: Surgeon-Lieutenant-Colonel John Robert Fleming Cullen (retired).

DEATHS IN THE SERVICES.

Fleet-Surgeon Richard Eustace, R.N., at Bournemouth, on Sept. 10th, aged 75 years. He entered the service in 1854, was appointed staff-surgeon in 1862, fleet-surgeon in 1874, and retired in 1879. He served as assistant surgeon in the Baltic in 1854, and in the flagship of Rear-Admiral Bruce, Commander-in-Chief, Pacific Station, at Petropaulovski in 1855, during the Russian war of 1854–55 (Baltic medal). He also served as staff-surgeon in the *Himalaya* on the Gold Coast during the Ashantee war (Ashantee medal), and received the thanks of the Admiralty for the care of the sick in the troopship and was specially promoted to (staff) fleet-surgeon. He was awarded the Sir Gilbert Blane gold medal for "Medical and Surgical Journal of 1873," containing, among other matters, an account of the intermittent and remittent fevers and malarious forms of dysentery, which decimated the greater part of the Royal Marines landed on the Gold Coast in the summer of 1873.

THE ARMY AND NAVY MALE NURSES' COOPERATION.

The report of the executive committee of this coöperation, which was received at the first annual general meeting held on July 31st at 47B, Welbeck-street, under the presidency of Sir Frederick Treves, Bart., G.C.V.O., C.B., has now been published in the form of a pamphlet. It can be obtained from the secretary at the offices of the society. The report points out that the system of male nursing in England at this moment is inefficient and imperfectly organised but that the association is doing much to improve it by keeping together a class of men who have already been trained for a valuable calling.

TERRITORIAL FORCE AND CIVIL PRACTITIONERS.

Civil practitioners are not to be engaged for the medical charge of units of the Territorial Force at the annual training in camp at payment exceeding contract rates without previous authority.

Correspondence.

"Audi alteram partem."

TESTING THE VISION IN SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The letter in THE LANCET of Sept. 12th by Dr. J. S. C. Elkington on an Improved Method of Testing Distant Vision Acuity in Schools leads me to say that all inspectors of such a function as the eyesight should be fully conversant with the use of the retinoscopical mirror—preferably a large "flat" mirror. All tests carried out by the usual methods of expressing what is seen at a certain distance are fundamentally defective, for the very simple fact that the individual whose eyeball is axially of a perfect length is the very one who ought to be most carefully examined in that there is no material left to allow for extension of the tunics of the eyeball. In other words, the more correct in shape an eyeball is in a young subject the more liable is short sight to come on if at any time the natural elasticity of the tunics of the eyeball should be lost. By means of the shadow test any approach to exactness of axial length can be instantly gauged, and if a note of such be kept a future examination will at once reveal whether any stretching has taken place. Further, the general condition of the child if at all inclined to be weakly would under such circumstances lead one to warn parents and teachers to keep careful observation on the child's near work—in fact, lead them to anticipate myopic "habits" *before* their onset. Were such children tested by the reading chart at 6 metres no defect would be discovered until *myopia had set in*, whereas had the mirror test been employed a "*tendency* to myopia" could be discovered or suspected before mischief had occurred. This anticipatory attribute of retinoscopy is the chief, but not only, reason for its adoption. It is just as expeditious and far quicker in practice in discovering hypermetropia and astigmatism. Moreover, one need not be an expert refractionist to be able to carry out the test. All that one requires is the mirror and convex lenses of 1, 1·5, and 2. The child is seated at a full arm's length from the examiner and beneath any ordinary light in a darkened room or even under the shade of an umbrella. Now the observer notes the direction of the moving shadow which is made on the pupil of the child's eye by the beam of parallel rays thrown on it by the flat mirror. If the shadow move against the direction of the beam of light we know at once the eye under observation is myopic or nearly so and, at all events, requires attention of the specialist. If, however, the shadow "move with" the motion of the mirror all that is required is to find which lens of the three possessed by the observer reverses it. If + 1 reverses, the patient should be referred to a specialist, as the eye is probably so nearly correct that actual presence of, or any tendency to, myopia must be excluded before the child is allowed to continue its studies. If, however, + 1·5 or + 2 reverse, it is advisable to try the other eye to see if there be much difference between them. Should this be the case further examination is imperative. When these lens reverse the shadow in both eyes nothing further need be done unless symptoms, such as headaches, eye-strain, &c., are complained of. Should no reversal be obtained superimpose the + 1 and + 1·5 lens, or the + 2 with either of these, and if no reversal follows we can be sure that we have to deal with a case of hypermetropia which will require the use of atropine. Reversal obtained by lenses below or of 3 D. can be left untreated unless eye-strain symptoms are complained of. In a similar manner errors of astigmatism are rapidly discovered; in fact, in many cases one glance at the line of light which is so palpably evident in astigmatism gives the case away at once without any need of the confirmatory evidence of the plus lenses. All the above cases in the great majority of instances can easily pass the visual acuity reading test and in unlearned children afford the only reliable test possible. Regarding the time occupied in testing by the reading type *versus* the mirror test there is no question which is the more rapid, and for this reason alone it is worth cultivating. Finally, in that it exposes the real axial length of the eye at the time when the vision is best and *before the onset* of myopia its adoption should be compulsory. The compulsory examination of children in public schools is one of the greatest blessings for the coming generation which have evolved by the aid of law for many years, but its great failing is that we cannot apply it to our private schools where *it is so much more needed*, at least as regards vision; hence it is the duty of all medical men to instruct their better-class patients to see that their children are sent to schools where they will at least have the same treatment as is given to that of our working classes.

I am, Sir, yours faithfully,
A. ALISON BRADBURNE, F.R.C.S. Edin.
Ophthalmic Surgeon, Southport School Board, &c.

Sept. 14th, 1903.

EXHIBITION AT THE CLINICAL MUSEUM.

To the Editor of THE LANCET.

SIR,—May I be allowed to inform your readers that we are preparing in the Clinical Museum a third classified exhibition of drawings, &c., and shall much value any assistance which they may incline to give us. Great care will be taken of all exhibits which may be sent on loan. The exhibition will deal with syphilis and all that concerns it. It will be arranged under the heads of primary, secondary, and tertiary phenomena and will give especial attention, amongst others, to the following subjects: erratic chancres, the classification and diagnosing of non-indurated sores (the ulcus molle), malignant syphilis, framboesial syphilis, serpiginous or lupoid syphilis, syphilis of viscera, ophthalmoscopic conditions, the teeth, histology, and parasitism. The microscopic department itself has unfortunately been lost, or at any rate cannot be traced. The third account of the disease was given in an article by Dr. IRVING W. LYON published in the *American Medical Times* of Dec. 19th, 1863, with the title, "Chronic Hereditary Chorea." He did not indicate the locality in which his cases occurred but seems to have recognised all the general features of the disease. It is thus obvious that Dr. HUNTINGTON'S observations were not the earliest record of this disease, but his was the first account to refer to the locality of the cases described and his paper first drew general attention to the disease and for this he deserves the credit which he has received. Various alternative names have been suggested for the disease, of which perhaps the best is chronic progressive chorea, but popular usage, a very cogent factor in matters of nomenclature, has stereotyped Dr. HUNTINGTON'S name in connexion with the disease, and Huntington's chorea it will probably remain until a rational and universal system of nomenclature is evolved. Several other papers are devoted to the historical aspects of the disease and Dr. F. TILNEY refers to one family in which the chorea strain may be traced back to colonial Connecticut, giving a known line of descent of nearly 200 years. Dr. S. E. JELLIFFE gives a preliminary report of his investigation into the relationship of the various American groups of cases to one another. He describes three groups: the first, the Long Island, or Easthampton group; the second, the Bedford group in Bedford, Westchester County, New York; and the third, the Wyoming group. The "HUNTINGTON Number" contains also a paper by the editor, Dr. WILLIAM BROWNING, on the general distribution of the disease; he states that the disease has been described in every country in Europe (with the possible exceptions of Turkey, Norway, and Sweden), in the West Indies and South America, as well as Canada, and in all parts of the United States. There is no known colour or racial difference, since cases have been recorded in negro families. The pamphlet concludes with a very useful bibliography extending to more than 200 references. This is a very interesting and valuable work and the editor is to be congratulated upon its production.

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Medical Remuneration.

IF Wisdom be justified of her children it is not to be doubted that the "silly season" may in like manner be justified of hers, or that her presence with us this year has been adequately signalised by an exceptionally foolish correspondence, conducted not only in the columns of our esteemed contemporary the *Daily Telegraph*, but also in those of journalism of a less distinguished and responsible kind. The subject of discussion has been the right of medical practitioners to refuse their services to persons unable or unwilling to pay for them—a right which at first glance would appear to be not only unquestionable, but to rest upon the elementary principles of honesty expressed in that utterance of the highest authority which pronounced the labourer to be worthy of his hire. The text of the correspondence was furnished by the report of an inquest held last month by Mr. SCHRODER on the body of a man found bleeding by his landlord, who thereupon "hurried to a medical man" and was told by him that he would not attend unless his fee of 5*s.* were first paid. The witness refused to be responsible for the payment, the medical man did not go, and the patient, who had cut his own throat, was conveyed by the police to a hospital, where he ultimately died. The coroner sensibly observed that "of course" medical men are not bound to attend without payment, and added that he had recently been told of one who had attended 23 cases of supposed emergency without first demanding his fee, with the result that he had received it in respect of only two of the number. In the particular case before the coroner the emergency did not appear to have been very great, for the man lived to be taken to a hospital as described and ultimately died there from delirium tremens. A verdict was returned in accordance with the evidence, and so the matter would have rested had it not been for the gush of letter-writing which it called forth. Among the writers was Miss E. N. DAVIES, who drew a curious and quite imaginary parallel between a medical man summoned to a case of attempted suicide and a miner summoned to assist at the rescue of comrades from a pit. Miss DAVIES was unable to perceive that the miner goes to the aid of his comrades because he is liable to be himself in similar straits at any time, and thus to require from them help of the same kind as that which he is ready to render. She also misstates the case in saying that the appeal to the medical man was made by a "friend" of the patient instead of by his landlord. It appeared from the evidence that the "friendship" was at least not sufficient to bear the strain of a demand for 5*s.*, and it may fairly be assumed that if the messenger, whether friend or landlord, felt no assurance of being repaid to this extent, the medical man was fully justified in a similar degree of scepticism. Miss DAVIES, however, was not the only person impelled to write upon the subject; and a correspondence has ensued which, among other things, has borne striking testimony to the general benevolence and charity of the members of our profession.

The fact nevertheless remains that this benevolence and charity, which we should grieve to see curtailed in their application to proper objects, have for many years been so systematically abused that there would be considerable justification for a very resolute stand against the light in which the payment of medical men has come to be regarded by large sections of the public. Of the nature of this light there is abundant evidence in the correspondence to which we have referred. It is plain that medical men have so accustomed the public to regard illness as an "emergency," in which the sufferers are morally entitled to aid from *the first* person at hand who is competent to render it, that the correlative title of the helper to his remuneration has to a certain extent been suffered to pass out of sight or, at all events, to be regarded only as a secondary consideration. There are, no doubt, circumstances in which this view might be justified, as in serious accidents involving many people and in which the first thing to be thought of would be the rescue of the sufferers or the treatment of the injuries which they had sustained. The view, *nevertheless*, is quite inapplicable to the ordinary events of illness or to the ordinary calls which are made upon the time and attention of practitioners. Real emergencies, conditions

success can quickly be changed to failure. My experience of public boards in Dublin leads me to think that it is very easy for a medical man who happens to be a member of such a board to induce his colleagues to undertake considerable sanitary reforms if they are satisfied he is acting unselfishly. Thus, the South Dublin board of guardians has erected, on my motion, a well-equipped tuberculosis hospital under Dr. Dunne, and the Dublin corporation has also, on my initiative, determined to devote the product of 1*d.* in the pound out of the rates every year on a sanatorium, for which a site has already been selected. But members of such boards are prone to suspicion, and it is difficult to assure them that a practitioner is entirely unbiassed if he advocates a system of notification which will put half-crowns in his pocket, whilst it impales for life the person notified.

I am, Sir, yours faithfully,
J. C. McWalter, M.D. Brux., M.A.,
F.F.P.S. Glasg., D.P.H.,
Dublin, Sept. 13th, 1908. Alderman, *City of Dublin.*

IS COWPER FORGOTTEN?

To the Editor of The Lancet.

Sir,—A few weeks ago, by the courtesy of the press, I invited subscriptions to a fund to enable the committee of the Cowper and Newton Museum, Bucks, to place that memorial of the poet and his friend upon a substantial basis. We need about £2500, and the newspapers of the United Kingdom, of the Colonies, and the United States of America have been most kind in their hospitality. Up to the present time we have received £3 in subscriptions. One may well ask, Have we forgotten Cowper, the gentle poet, the author of "John Gilpin," "The Task," and of so many beautiful hymns, including "God moves in a mysterious way" and "Hark, my soul! it is the Lord"? We are not disheartened yet; we are waiting for the English-speaking people of the world to come forward and provide this modest sum of money.

The secretary is Mr. Thomas Wright, to whom subscriptions should be addressed. His address is The Cowper and Newton Museum, Olney, Bucks.

I am, Sir, yours faithfully,
John Collingridge.
Aldersgate-street, London, E C., Sept. 9th, 1908.

CONTROL OF DISINFECTANTS.

To the Editor of The Lancet.

Sir,—Our attention has recently been called to the fact that in several of the tender forms calling for supplies of disinfectants issued by medical officers of health, among them those of the City of London and the borough of Holborn, one of the conditions imposed requires that the disinfectant *shall not separate out on standing.* We wish to draw the attention of your readers to the indefiniteness of such a condition, although we agree that it is very important, in the interests of public health, that disinfectants should, when mixed with water, form a permanent emulsion, especially as in many cases the disinfectant solution is kept for some time before use.

In many of the disinfectant emulsions commonly used in this country the active ingredient will separate out on standing under certain conditions of time, temperature, and dilution. In our several laboratories we have endeavoured to ascertain the relative value of disinfectants from this point of view by taking the precaution of making the test, which is known under our names, on 1 per cent. solutions or emulsions of the disinfectant after such dilution has been allowed to stand for 24 hours prior to the test being made, and we therefore venture to suggest that in order to insure uniformity of result our practice should be followed by other workers—viz., that before applying the Rideal-Walker test to a disinfectant a 1 per cent. solution should be prepared at normal temperature in an ordinary one-mark stoppered litre flask, such as is used in volumetric analysis, the portion required for further dilutions in the test to be pipetted from the top of the flask after 24 hours' subsidence, avoiding the withdrawal of any insoluble matter which may be floating on the surface.

We are, Sir, yours faithfully,
Samuel Rideal.
J. T. Ainslie Walker.
Chemical Laboratory, Victoria street, Westminster, S.W.,
Sept. 9th, 1908.

A RECENT ALTERATION IN THE MEDICAL DIRECTORY.

To the Editor of The Lancet.

Sir,—The receipt of the usual slip sent out annually for correction by the editors of the Medical Directory prompts me to ask for a little of your space in order to protest against a recent alteration (made I think for the first time last year) which to my mind is far from being an improvement. I refer to the "Local List" for London which follows the alphabetical list of names. Formerly the names in this local list were given under the streets with, I fancy, the numbers of the houses. Now, I suppose with the idea of saving space, the names are given in many instances under districts—e.g., Camberwell—without any indication of the streets or numbers. With regard to the streets there does not seem always to be a very definite plan. It is surely absurd that the name of Dr. A who resides in Devonshire-*street* should be found under that street whilst if one seeks for Dr. B who lives in Devonshire-*place* it is practically impossible to find him, Devonshire-place being omitted. It is true that the name is entered *under Portland-place* but how can one possibly guess such a conundrum? Again the massing together of names under districts is most inconvenient—indeed, practically useless. I beg you, Sir, to use your influence to persuade the publishers of this otherwise most useful work to return to their former arrangement.

I am, Sir, yours faithfully,
Sept. 13th, 1908. Non Œdipus

A QUESTION OF SOBRIETY.

To the Editor of The Lancet.

Sir,—I am sorry to find myself at variance with so distinguished a physician as Dr. C. A. Mercier[1] as regards the different influences of drink on sober and drunkard.

Most people would, I suppose, call me sober—I hardly ever touch intoxicating liquor except with the definite intention to be sociable. I keep a good whisky and a tolerable port in case any friends drop in, but I do not suppose I have got through a bottle of whisky this year by myself. It was not ever thus. 15 or 20 years ago I drank as much as my neighbours and liked it—I found it increased sociability at the time but impaired work afterwards. I found that the more alcohol I drank the more I wanted to drink—one split or one cocktail was very little good, it only wetted the palate and whetted the thirst for another. Further, the expense I found considerable. So to my very great regret I concluded I had to give up drink almost altogether and I did do, swayed not by inclination but by prudence. I cannot assign myself to the class mentioned by Dr. Mercier who cannot get drunk if they try, and this although I have never tried. A cousin of mine might at one time have been almost described as a drunkard. His own self-control was not enough to keep him straight, but he married and his wife reinforcing his self-control he is now undoubtedly sober. I venture to think that Dr. Mercier's is one of those hypotheses which may do great harm and should not be sown broadcast till they are completely proved. It is much safer to preach to the drunkard that the fault is in his own weakness and that heaven helps those who help themselves. Somewhat naturally, I do not sign my name.

I am, Sir, yours faithfully,
M.D.
August 27th, 1908.

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[1] The Lancet, August 8th, 1908, p. 411.

The Devon County Council and the Medical Inspection of School Children.—At a meeting of the Devon county council held on Sept. 11th it was decided to adopt the resolution of the education committee and to appoint three medical inspectors of school children at a salary of £250 per annum each, with reasonable travelling and hotel expenses. The successful candidates will be required to devote the whole of their time to the duties and to work under the supervision of the county medical officer of health. An amendment was moved to the effect that the education committee should ascertain whether the medical officers of health in the county would undertake the work, but this was defeated by a large number of votes.

man and in a few mileage is considered. Richmond's offer of 1½ guineas for every case is perhaps the most satisfactory. The Bromley union, on the other hand, offers only 10*s.*, the fee which its district medical officers now receive. The circular prompted the Risbridge guardians to write to the Local Government Board urging that it would be better for both patients and medical men if an Order were to be issued making the guardians responsible for the payment of the fee fixed by Order, and giving them power to recover it from the husband or natural guardian of the woman in suitable cases. Taking the replies as a whole, they indicate that the boards of guardians of the country are at least leavened with the principles of equity in this matter, and we hope to see many more take the action which is legally open to them and thus obviate a grave injustice to medical practitioners and to indigent mothers. Medical men practising in unions the guardians of which refuse to accept the responsibility of paying them fees for arduous services are liable to be attacked for inhumanity if they refuse to attend a pauper on a midwife's summons, or to go entirely unrewarded if they spend the best part of a night in anxious and devoted attendance. We are in general agreement with the recommendations of the Midwives Committee of the London and Counties Medical Protection Society on the receipt of these replies. They run as follows :—

1. That it should be clearly understood that no doctor shall be expected to attend on the summons of a midwife unless he chooses to undertake such work at the fees guaranteed by the guardians, or others.

2. That the fees of doctors summoned by midwives should be paid to them in all cases without requiring from them any proof of the poverty of the patients, any necessary inquiry being made by the boards of guardians, or others, who should pay the fees of the medical practitioners without demur, and then take such steps as they might think fit to recover the fees when the patients are able to pay them.

3. That when a doctor is summoned by a midwife to operate or attend on a woman in a serious emergency he should be the judge as to whether or not he should visit the patient again, and, if so, how often, and that for these visits the doctor should be entitled to the usual fees in addition to the fee for the operation or attendance.

These resolutions were adopted by the council of the society on Sept. 2nd, together with other recommendations, the chief of which fixes the fee of 1 guinea as the lowest that should be received by a medical practitioner for attendance on a confinement case and suggests that not less than double this amount should be paid in cases of special difficulty.

THE EYESIGHT OF SCHOOL CHILDREN.

WE publish in another column some interesting statistics of the defects of vision found in the children attending certain army schools in India. If confirmation were needed they emphasise the importance of such investigations. Indeed, where education is compulsory a proper regard for the hygienic conditions under which it is carried out becomes a duty which can no longer be ignored. The trend of modern medicine is more and more in the direction of prophylaxis and it cannot be doubted that in the future the medical inspection of school children will be greatly extended in scope. The problem has already occupied much attention by the London County Council. The advice of their education sub-committee has not yet been confirmed nor have definite steps been taken to put it into practice. It is to be hoped that there will be no undue delay, for the ophthalmic hospitals and departments of London are again being flooded with refraction cases from the Council's schools. Special attention may be directed to the suggestion in the report which we publish that the eyes of all children should be examined by a medical officer for early signs of squint and other visual defects before school attendance is commenced. Though this may be a counsel of perfection where large masses of the poorer classes are concerned, general practitioners might with advantage take note of it. The amount of pain and discomfort which might be spared by a periodic examination of children's eyes, teeth, and general health is patent to every medical man, but is far too little appreciated by the public at large.

SPASTIC CONSTIPATION.

THE condition of spastic constipation, or spastic obstipation as it is often called by German writers, is one which has not received the attention in this country which its frequency warrants, the more so that its treatment is entirely different from that of the ordinary or atonic form of constipation. We have received a paper from Dr. Gustav Singer, a translation of his article in the *Wiener Klinische Wochenschrift*, giving an interesting account of this condition. He states that its recognition has only been comparatively a recent matter and he refers to a paper by Cherchevsky, published in 1883, as giving an account of six cases. Cherchevsky recognised that aperients tended to aggravate the condition and that relief could be afforded by opiates and belladonna. Fleiner, Hackel, Kraus, and Westphal all made observations on cases of this type. Dr. Singer, in recording his own observations, differentiates two forms of spastic constipation, a symptomatic variety occurring in association with diseases of the intestines or other abdominal organs, and an idiopathic or nervous form occurring in association with neurasthenia, hysteria, and other conditions of the nervous system and in some persons independently. The symptomatic form occurs not only in connexion with local lesions of the intestine but also with chronic disease of the internal genital organs of women, with chronic disease of the prostate in men, and with local disease of the rectum, such as fissure, hæmorrhoids, and proctitis, in both sexes. A similar condition is said to be a constant association of nephritic colic and to be not infrequent in cases of hyperchlorhydria. The symptoms of spastic constipation differ widely in different cases, and many of them are the result of the coincident dyspepsia and neurasthenia. In regard to defæcation the patients complain of the defective action of the bowels and usually notice that the amount evacuated is very small. The act of defæcation is associated with great straining and exertion. There is frequently a false desire, causing ineffective attempts to effect the emptying of the bowels. The patients often complain that they can feel the fæcal matter in the intestine but are unable to void it, or they sometimes have frequent small evacuations at short intervals—a condition which is termed "fragmentary evacuations" by Boas. This is compared to frequency of micturition by Dr. Singer. On examination the abdomen is often found to be in a scaphoid condition, and on palpation sections of the large intestine may be found to be contracted to form cord-like masses. Sometimes the descending colon may be felt as a firm, sausage-shaped, cylindrical body, sensitive to pressure. More rarely the same condition may be felt in the right iliac fossa, but as a rule the cæcum is felt as an inflated, pear-shaped, elastic body. These areas of contraction may be felt to alter in position and may be noticed in one part of the large intestine at one time and at another part on a subsequent examination. Dr. Singer states that the obstruction to the passage of the fæces may be so marked as to simulate intestinal obstruction—a condition which has been called by Leube "ileus spasticus." It is always important to examine the rectum in these cases; in purely nervous cases no local condition is found sufficient to account for the symptoms. On using a bougie, after overcoming the resistance of the external sphincter and passing on the bougie a ring-shaped obstruction is encountered, the contracted internal sphincter, which Dr. Singer regards as the site of the chief contraction

success can quickly be changed to failure. My experience of public boards in Dublin leads me to think that it is very easy for a medical man who happens to be a member of such a board to induce his colleagues to undertake considerable sanitary reforms if they are satisfied he is acting unselfishly. Thus, the South Dublin board of guardians has erected, on my motion, a well-equipped tuberculosis hospital under Dr. Dunne, and the Dublin corporation has also, on my initiative, determined to devote the product of 1*d.* in the pound out of the rates every year on a sanatorium, for which a site has already been selected. But members of such boards are prone to suspicion, and it is difficult to assure them that a practitioner is entirely unbiassed if he advocates a system of notification which will put half-crowns in his pocket, whilst it impales for life the person notified.

I am, Sir, yours faithfully,
J. C. MCWALTER, M.D. *Brux.*, M.A.,
F.F.P.S. *Glasg.*, D.P.H.,
Dublin, Sept. 13th, 1908. Alderman, City of Dublin.

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The secretary is Mr. Thomas Wright, to whom subscriptions should be addressed. His address is The Cowper and Newton Museum, Olney, Bucks.

I am, Sir, yours faithfully,
JOHN COLLINGRIDGE.
Aldersgate-street, London, E.C., Sept. 9th, 1908.

CONTROL OF DISINFECTANTS.

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We are, Sir, yours faithfully,
SAMUEL RIDEAL.
J. T. AINSLIE WALKER.
Chemical Laboratory, Victoria street, Westminster, S.W.,
Sept. 9th, 1908.

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To the Editor of THE LANCET.

SIR,—I am sorry to find myself at variance with so distinguished a physician as Dr. C. A. Mercier[1] as regards the different influences of drink on sober and drunkard.

Most people would, I suppose, call me sober—I hardly ever touch intoxicating liquor except with the definite intention to be sociable. I keep a good whisky and a tolerable port in case any friends drop in, but I do not suppose I have got through a bottle of whisky this year by myself. It was not ever thus. 15 or 20 years ago I drank as much as my neighbours and liked it—I found it increased sociability at the time but impaired work afterwards. I found that the more alcohol I drank the more I wanted to drink—one split or one cocktail was very little good, it only wetted the palate and whetted the thirst for another. Further, the expense I found considerable. So to my very great regret I concluded I had to give up drink almost altogether and I did do, swayed not by inclination but by prudence. I cannot assign myself to the class mentioned by Dr. Mercier who cannot get drunk if they try, and this although I have never tried. A cousin of mine might at one time have been almost described as a drunkard. His own self-control was not enough to keep him straight, but he married and his wife reinforcing his self-control he is now undoubtedly sober. I venture to think that Dr. Mercier's is one of those hypotheses which may do great harm and should not be sown broadcast till they are completely proved. It is much safer to preach to the drunkard that the fault is in his own weakness and that heaven helps those who help themselves. Somewhat naturally, I do not sign my name.

I am, Sir, yours faithfully,
M.D.
August 27th, 1908.

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[1] THE LANCET, August 8th, 1908, p. 411.

THE DEVON COUNTY COUNCIL AND THE MEDICAL INSPECTION OF SCHOOL CHILDREN.—At a meeting of the Devon county council held on Sept. 11th it was decided to adopt the resolution of the education committee and to appoint three medical inspectors of school children at a salary of £250 per annum each, with reasonable travelling and hotel expenses. The successful candidates will be required to devote the whole of their time to the duties and to work under the supervision of the county medical officer of health. An amendment was moved to the effect that the education committee should ascertain whether the medical officers of health in the county would undertake the work, but this was defeated by a large number of votes.

similar congress at Middlesbrough some six years ago. Since that time further expert evidence against the offender has been brought from various bacteriological laboratories and sanitary authorities. "And with this evidence available," said Sir James Crichton-Browne, "I do not believe that any scientific jury will hesitate to find the fly guilty as a carrier of disease," an assertion in which we thoroughly agree with him as those who have followed our columns of recent years will remember. Other outstanding matters dealt with in his address, which was entitled "Liverpool Sanitation, Disease Carriers," were the splendid health work carried out of recent years in Liverpool by Dr. E. W. Hope and his colleagues—work which Sir James Crichton-Browne described as "colossal"—tuberculous disease, alcoholism, the housing problem, human typhoid carriers, and books as spreaders of disease. A natural transition led him from the consideration of the danger to the body of library books exposed to infection, to the even greater and more insidious danger to the mind of a certain limited class of pornographical printed matter which unfortunately commands a ready sale in this country. With this disquieting problem of mental hygiene Sir James Crichton-Browne concluded his very comprehensive address, which we trust has been read and pondered in many thousands of households. Other papers read at the Congress were on "Sanitation in Ancient Greece," by Dr. R. Caton, Lord Mayor of Liverpool; "The Sanitary Administration of Liverpool," by Mr. W. Muirhead, chairman of the Liverpool sanitary sub-committee; "Organised Endeavour against Diseases, or Lessons to be Learnt from the Health Campaign in Ireland," by Sir Rubert W. Boyce, F.R.S., Liverpool University; "Housing and Town Planning," by Dr. A. A. Mussen, assistant medical officer of health of the city of Liverpool; and "Health and the Home," by Mr. A. G. Duck, chief sanitary inspector, Woolwich. The business of the Incorporated Sanitary Association of Scotland, which assembled in Congress on Sept. 3rd at Peebles, under the presidency of Dr. Charles Templeman, medical officer of Dundee, included an address from the chair on "The State and the Individual in Eugenics," and papers on "The Mental Hygiene of Childhood," by Dr. J. R. Watson and Mr. M. Ritchie, B.Sc.; on "The Cleansing and Disinfecting of Schools," by Dr. T. F. Dewar; on "Housing and Town Planning," by Mr. F. G. Holmes; on "Waterworks Administration," by Mr. W. A. Tait; on "A Proposed Territorial System of Fighting Consumption," by Dr. T. F. S. Caverhill; and on "The Dangers in the Milk-supply," by Dr. G. M. Cullen, Dr. A. Campbell Munro, and Mr. John Findlay. A discussion on "The Problem of the Unemployable," opened by Mr. Andrew M'Crachen of Glasgow, also formed part of a busy two days' programme, which attracted a fair share of attention in the Scottish press.

RHUS TOXICODENDRON.

Sir E. Ray Lankester, in directing attention to the poisonous effects of rhus toxicodendron or "poison ivy," has caused widespread and unnecessary alarm among uninstructed folk. As a result many suspected specimens of various garden plants have been sent to botanical authorities for identification. In one case the harmless ampelopsis, a favourite suburban climber, was mistaken for "poison ivy" by a medical man who advised the owner and others having similar plants to have them destroyed. In view of the possibility of mistakes of this kind recurring Mr. E. M. Holmes, curator of the museums of the Pharmaceutical Society, has published[1] a description of the plants. There are three forms of ampelopsis, one of which is the ordinary virginian creeper. They are distinguishable from rhus toxicodendron in that the latter never has tendrils and the terminal leaflet always has a longer stalk than the two side leaflets. The creeper on the walls of gardens having three leaflets with stalks of equal length and provided with tendrils may therefore be regarded as perfectly harmless. The typical rhus toxicodendron is an erect shrub, but there exists a climbing variety in cultivation. Like many other plants of the same family, it contains an acrid juice which blackens on exposure to air. It has a most irritating effect on persons of an erysipelatous tendency or whose skin is particularly sensitive to the bites of gnats and fleas. To such persons the plant is really dangerous, causing a painful dermatitis that in some cases recurs annually. The irritating action has been variously ascribed to acetic acid, a volatile acid substance, a volatile alkaloid, and a non-volatile oily body named toxicodendrol. The fact that some people are affected by proximity to the plant without actually coming in contact with it points to the probability that a volatile constituent is the cause of the poisonous action. Several remedies have been employed with varying success, including the tinctures of lobelia and serpentary and the fluid extract of grindelia. Most relief is probably to be obtained by using an alcoholic solution of lead acetate as a lotion, with the addition of tincture of opium to allay the pain. Rhus toxicodendron is not described in Bentham and Hooker's "British Flora," and there is but a remote chance of trouble arising in the British Isles from contact with the plant. In the United States, on the other hand, where it flourishes, children are cautioned against the plant, especially when rambling in the woods. In cases of poisoning by the "poison ivy" vomiting, drowsiness, stupor, dilated pupils, convulsive movements, delirium, and fever have been observed. Homœopathists have largely employed a tincture of the plant in subacute and chronic rheumatism, but Dr. H. C. Wood some years ago gave it an extended trial in the Philadelphia Hospital and was unable to perceive that the patients progressed more rapidly when taking the drug than when they were simply nursed.

THE NORTHERN INFIRMARY, INVERNESS.

WE have received a somewhat belated account of the position of affairs existing at the Northern Infirmary, Inverness, a position brought about by the action of the committee of managers. The meeting was held on August 28th and resulted in an alteration being made in Rule 17 of the constitution of the infirmary. The rule used to read as follows:—

> The medical staff shall consist of consulting members and not more than four acting and two assistant members, to be appointed by the managers at the annual general meeting in May, or at a special general meeting to be called for the purpose. The consulting members shall be appointed out of those who are or who have been members of the acting staff, during the pleasure of the managers. The appointment of the acting members shall be for a period of five years, and thereafter during the pleasure of the managers until each shall have served 15 years. On a vacancy occurring among the acting members the vacancy shall be filled up by the appointment of one of the assistant members. No member of the acting staff shall continue to hold office after attaining the age of 60 years, unless the managers shall see cause to continue his appointment.

As amended, the number of acting members is increased to five and power is given to the managers, in the event of a vacancy occurring among the acting members of the medical staff, of passing over the assistant members and of appointing any qualified medical man. As a result of the amendment of the rule the following curious position was arrived at. Dr. A. W. Mackay, who had served for 15 years on the acting staff, was for that reason compulsorily retired, and in the natural course of events would have been elected a member of the consulting staff. The senior assistant medical officer, Dr. Gordon A. Lang, was appointed to fill the vacancy caused by Dr. Mackay's retirement,

success can quickly be changed to failure. My experience of public boards in Dublin leads me to think that it is very easy for a medical man who happens to be a member of such a board to induce his colleagues to undertake considerable sanitary reforms if they are satisfied he is acting unselfishly. Thus, the South Dublin board of guardians has erected, on my motion, a well-equipped tuberculosis hospital under Dr. Dunne, and the Dublin corporation has also, on my initiative, determined to devote the product of 1*d.* in the pound out of the rates every year on a sanatorium, for which a site has already been selected. But members of such boards are prone to suspicion, and it is difficult to assure them that a practitioner is entirely unbiassed if he advocates a system of notification which will put half-crowns in his pocket, whilst it impales for life the person notified.

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[1] Pharmaceutical Journal, August 22nd, 1908, p. 231.

I am, Sir, yours faithfully,
J. C. MCWALTER, M.D. Brux., M.A.,
F.F.P.S. Glasg., D.P.H.,
Alderman, City of Dublin.

Dublin, Sept. 13th, 1908.

IS COWPER FORGOTTEN?

To the Editor of THE LANCET.

SIR,—A few weeks ago, by the courtesy of the press, I invited subscriptions to a fund to enable the committee of the Cowper and Newton Museum, Bucks, to place that memorial of the poet and his friend upon a substantial basis. We need about £2500, and the newspapers of the United Kingdom, of the Colonies, and the United States of America have been most kind in their hospitality. Up to the present time we have received £3 in subscriptions. One may well ask, Have we forgotten Cowper, the gentle poet, the author of "John Gilpin," "The Task," and of so many beautiful hymns, including "God moves in a mysterious way" and "Hark, my soul! it is the Lord"? We are not disheartened yet; we are waiting for the English-speaking people of the world to come forward and provide this modest sum of money.

The secretary is Mr. Thomas Wright, to whom subscriptions should be addressed. His address is The Cowper and Newton Museum, Olney, Bucks.

I am, Sir, yours faithfully,
JOHN COLLINGRIDGE.

Aldersgate-street, London, E.C., Sept. 9th, 1908.

CONTROL OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—Our attention has recently been called to the fact that in several of the tender forms calling for supplies of disinfectants issued by medical officers of health, among them those of the City of London and the borough of Holborn, one of the conditions imposed requires that the disinfectant *shall not separate out on standing*. We wish to draw the attention of your readers to the indefiniteness of such a condition, although we agree that it is very important, in the interests of public health, that disinfectants should, when mixed with water, form a permanent emulsion, especially as in many cases the disinfectant solution is kept for some time before use.

In many of the disinfectant emulsions commonly used in this country the active ingredient will separate out on standing under certain conditions of time, temperature, and dilution. In our several laboratories we have endeavoured to ascertain the relative value of disinfectants from this point of view by taking the precaution of making the test, which is known under our names, on 1 per cent. solutions or emulsions of the disinfectant after such dilution has been allowed to stand for 24 hours prior to the test being made, and we therefore venture to suggest that in order to insure uniformity of result our practice should be followed by other workers—viz., that before applying the Rideal-Walker test to a disinfectant a 1 per cent. solution should be prepared at normal temperature in an ordinary one-mark stoppered litre flask, such as is used in volumetric analysis, the portion required for further dilutions in the test to be pipetted from the top of the flask after 24 hours' subsidence, avoiding the withdrawal of any insoluble matter which may be floating on the surface.

We are, Sir, yours faithfully,
SAMUEL RIDEAL.
J. T. AINSLIE WALKER.

Chemical Laboratory, Victoria-street, Westminster, S.W.,
Sept. 9th, 1908.

A RECENT ALTERATION IN THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—The receipt of the usual slip sent out annually for correction by the editors of the Medical Directory prompts me to ask for a little of your space in order to protest against a recent alteration (made I think for the first time last year) which to my mind is far from being an improvement. I refer to the "Local List" for London which follows the alphabetical list of names. Formerly the names in this local list were given under the streets with, I fancy, the numbers of the houses. Now, I suppose with the idea of saving space, the names are given in many instances under districts—e.g., Camberwell—without any indication of the streets or numbers. With regard to the streets there does not seem always to be a very definite plan. It is surely absurd that the name of Dr. A who resides in Devonshire-*street* should be found under that street whilst if one seeks for Dr. B who lives in Devonshire-*place* it is practically impossible to find him, Devonshire-place being omitted. It is true that the name is entered under *Portland-place* but how can one possibly guess such a conundrum? Again the massing together of names under districts is most inconvenient—indeed, practically useless. I beg you, Sir, to use your influence to persuade the publishers of this otherwise most useful work to return to their former arrangement.

I am, Sir, yours faithfully,
NON ŒDIPUS

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had been floating about among theoretic physicians for some centuries before Galen, but it was he who put it into dogmatic shape, and it pretty well held the field down to the seventeenth century." The theory of Alkhendi is chiefly interesting in showing the way in which the early physicians sought to set prescribing on a scientific basis. His formula appears ludicrous when viewed in the light of modern knowledge, but the use of formulæ may again be adopted when *the study of pharmacology has shed more light* on the quantitative action of drugs. The power of calcium chloride to increase the coagulability of the blood affords an illustration of a drug that is capable of yielding very definite results and the researches of Wright and others are showing clearly its possibilities and its limitations. It is possible to determine the necessary dose of this salt by ascertaining the amount of calcium already present in the blood, and this clearly shows the way to a mathematical method of prescribing.

CICATRICIAL STENOSIS OF THE COMMON BILE-DUCT: IMPLANTATION AT ANOTHER POINT IN THE DUODENUM.

IN the *Boston Medical and Surgical Journal* of July 23rd Dr. Horace Packard has reported the following case which *illustrates* a new operation in plastic surgery. In February, 1907, he saw a man suffering from profound jaundice. Three years previously he had an attack of jaundice from which he recovered. A month previously he again became jaundiced with an attack of influenza. The stools were clayey and the urine very dark. Later the stools became very black and were still so. There had been pain in the epigastrium and right hypochondrium. In the right *hypochondrium* an elongated oval tumour, extending from the eighth costal cartilage to below the level of the umbilicus, was felt. It was evidently the gall-bladder. Plugging of the common bile-duct by a calculus was diagnosed. The gall-bladder was exposed. It was enormously distended and thinned to the point of rupture and showed degenerative spots suggesting impending perforation. Cholecystectomy was deemed imperative and performed. No calculi were found in the gall-bladder. The cystic duct was doubly ligatured close to the common duct. The common duct was palpated and found greatly distended, but no stone could be *detected*. It was slit open and a small drainage-tube was inserted and fastened in with catgut. As the condition of the patient was precarious it was deemed unwise to prolong the operation, although the cause of the obstruction had not been removed. In the next four weeks the jaundice gradually disappeared. The stools became white. Bile poured from the wound day and night. At the same time the patient developed a ravenous appetite. Under these favourable conditions it was hoped that the common duct would become opened, but after eight weeks there was still no bile in the stools. On April 11th the wound was reopened and the biliary sinus was traced down to the common duct. The duodenum was exposed by incising the peritoneum at its reflexion on to the posterior abdominal wall and opened to admit the finger to explore the ampulla of Vater, where a deep ulcer surrounded by inflammatory tissue was found. The *difficult* problem arose of restoring communication between the common duct and the duodenum. Dr. Packard knew of no precedent, but he further isolated the common duct from its surrounding attachments and cut off its duodenal end. He had a little over an inch of duct free. He punctured the duodenum at a point favourable *for implantation*, and with the aid of two Pagenstecher threads passed through the duct and serving as leaders, pulled it through the opening until it could be seen well inside the mucous membrane. The threads were used to fasten the duct to the mucous membrane. With a continuous Pagenstecher thread the muscular wall of the gut was folded over the duct. The incision in the duodenum was then closed. In view of the pathological condition in the duodenum it was deemed wise to perform posterior gastro-enterostomy. Drainage was provided for at the point of implantation and the wound was *closed*. *The* leakage of bile ceased and the fæces resumed their normal colour *in a few days*. The wound suppurated but healed rapidly by granulation. For the first few days the patient was fed per rectum. Convalescence was rapid and he completely recovered his health, though he had some pain in the right hypochondrium after a full meal. Dr. Packard thinks that the presence of the black stools (melæna) should have led him to the diagnosis of ulcer of the ampulla of Vater causing obstruction of the common bile by cicatricial contraction. A curious fact, difficult of explanation, is that the cicatricial contraction of the ulcer of the ampulla did not cause obstruction of the pancreatic duct. Only two similar operations appear to have been recorded in the United States. Dr. W. J. Mayo *successfully implanted* the hepatic duct in the duodenum. Dr. F. B. White and Dr. F. B. Lund have reported a case of excision of the pylorus and first portion of the duodenum in which the common duct was cut and successfully implanted in the second portion of the duodenum.

PROTRUSION OF THE SMALL INTESTINE PER ANUM: A RARE CASE.

WOUNDS or ruptures of the rectum are, apart from obstetric cases, by no means common, and those which permit the passage of portions of small intestine to enter the rectum and even to protrude from the anus are of extreme rarity. Dr. Enrique Zarate has just published in *La Semana Médica* a case of this kind which he treated successfully in the Fernandez Hospital, Buenos Ayres. A woman, aged 29 years, while *going upstairs* slipped and fell backwards. She felt an acute pain in the abdomen and almost immediately *afterwards* lost consciousness. When taken to the hospital she was in a state of semi-collapse. About two metres of small intestine with the corresponding mesentery were seen to be *emerging* from the anus and there was complete prolapsus uteri. This latter condition was due to a perineal rupture *during* instrumental delivery seven years previously. The patient had always been able to replace the uterus without assistance, so no difficulty was found in that part of the operation. The fan-shaped bunch *of small* intestine it was found impossible *to* reduce, and so laparotomy was performed, Trendelenburg's position being employed. The bladder was greatly hypertrophied. There were some coagula in the pelvis and on raising the uterus a rupture was found in the anterior wall of the rectum extending from opposite the fundus *of the pouch* of Douglas upwards for 10 or 12 centimetres, though the whole of the coats of the rectum were only torn through for some 7 or 8 centimetres. The patient made a good, though slow, recovery. She, however, utterly refused to allow the prolapsus uteri to be treated. M. Quénu of the Hôtel Dieu, Paris, *published* two cases of rupture of the rectum with hernia of the small intestine, both the result of excessive *straining* at stool, one occurring in a woman aged 70 years, the other in a man aged 45 years. Sir Benjamin Brodie *performed* laparotomy in St. George's Hospital in 1827 on a young woman who had experienced a sudden pain at night which she fancied betokened an abortion but which was followed by a protrusion of two yards of small intestine from the anus. A transverse tear was found in the anterior wall of the rectum. Professor Adelmann of Dorpat operated in 1845 without anæsthetics on an old woman who after seats. They are quite unsuitable for children. ...... Children of the age attending sit with their feet resting on the foot rails of the desk, their elbows spread out, and the head bent over the desk, the child's face when writing being about six inches from the desk. The seats are too high and have no back-rests.

To reduce the height a number of adults' desks have been cut down, but by this means they are not rendered suitable in many respects for children and are too low for the men. In all infants' schools, too, either adults' desks have been cut down or forms are used as desks should the present standard plan of infants' desk not have been supplied. Even if the standard plan desks have been supplied they are so broad as to render it very difficult for a child to reach the ink, and they are unsuitable in some other respects. Kindergarten work cannot be carried out on a sloping desk, hence the use of forms as desks. The seats are moveable and those which have back-rests slope at too great an angle. The whole arrangement is most unsatisfactory and favours the development of squint, myopia, spinal curvature, and other deformities. In India the provision of suitable desks for children and the improvement of the lighting of schools is, if possible, a matter of greater importance than in England, on account of the fact that in India there are so many causes of enfeeblement of health, with consequent weakening of the muscles and tunics of the eye.

The urgent necessity for the provision of a new type of infants' desks and of some form of adjustable desks for adults and elder children, both of whom of necessity have to use the same desks (on account of want of accommodation), has been pointed out. A plan of a suitable infants' desk has been prepared and a specimen of an experimental adjustable desk for adults and elder children has been made and is being reported on.

BOOKS AND TYPE.

Another important subsidiary cause in the deterioration of eyesight of school children was inquired into—namely, the use of small, ill-defined, closely-set type which, even in a well-lighted room, necessitates holding the book at a shorter distance than 12 inches from the eyes. With two very notable exceptions, the type has been found large, distinct, and well spaced. The exceptions are the Bible and Prayer Book. According to Appendix 7 of the "Standing Orders for Inspectors of Army Schools, 1906, Course of Religious Instruction," "...... In every lesson a portion of Scripture will be read, in part by the teacher and in part by the children of Standards VI. and VII." The type of the Bible and Prayer Book at present in use is much too small; the necessity for at once changing these books for ones with larger type has been represented.

GENERAL REMARKS.

The urgent necessity for improving the lighting of our army schools in India and of supplying suitable desks for children has been clearly shown by the reports submitted by the specialists in ophthalmology. The connexion between shortsightedness and schools is intimate; statistics show that the amount of myopia is in direct proportion to the amount of education. "Acquired" myopia is frequently due to the insufficient lighting of schools or to the stooping of children over their books. The present condition of our army schools in India, as regards lighting and desks, undoubtedly favours the development of myopia and deformities. If the lighting of the school room is defective the child to see clearly has to stoop over the desk and to approximate the eyes unduly near the book. It must be remembered that shortsightedness, when once established, is liable to become progressive and to handicap a child seriously in after life. The inspections now reported on have not only resulted in the correction of errors of refraction by the supply of glasses to 80 children, but it is hoped will also result in the remedying of serious defects (summarised below) in the schools. The attendance at school being compulsory, there can be no question as to the moral obligation to light the buildings properly and to supply suitable desks and seats for children.

SUMMARY OF RECOMMENDATIONS.

(*a*) That the lighting of schools be improved.

(*b*) That a new standard plan of infants' desk be adopted for infants' schools.

(*c*) That a certain number of adjustable desks of the pattern used in England be supplied for adults' and elder children's schools. Should the cost of supplying such desks be prohibitive, adjustable desks to be made locally.

(*d*) That all children should have their eyes examined for commencing squint and other defects before beginning school attendance.

(*e*) That the attention of schoolmasters be drawn to their responsibilities in preventing the deterioration of vision in children.

(*f*) That an order be issued and embodied in regulations to the effect that the walls of schoolrooms be colour-washed pale green once a year.

(*g*) That sunshades from clerestory windows on the north side of all schools be removed and that sunshades over other clerestory windows be hinged, so that they may be raised during the winter months.

(*h*) That the Bibles and Prayer Books at present issued to schools be replaced by others with larger type.

THE FRANCO-BRITISH EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

TUBERCULOSIS AND THE FRENCH TOURING CLUB.—PEACE AND SCIENCE.—FRENCH DRUGS AND FRENCH GASTRONOMIC DELICACIES.

IN view of the International Congress on Tuberculosis which will meet this month at Washington the exhibit of the French Touring Club commends itself to notice. Unfortunately, this is in no wise so good an exhibit as that made at the Grand Palais of the Champs Elysées when three years ago the same congress met at Paris. On that occasion two rooms were shown. First, there was the old traditional hotel bedroom, with the wooden bed, heavy curtains above, and no free passage of air underneath. Then close up to the head of the bed stood the evil-smelling bed table. On all sides were carpets, heavy window curtains, and stuffed upholstery; in fact, everything seemed combined to facilitate the harbouring of dust and the multiplication of germs. By the side of this stood the sort of room which some 4000 hotels have now installed in response to the pressure brought to bear upon them by the Touring Club. The model room alone is shown at the present Franco-British Exhibition. By itself it fails as an object lesson, for it affords no contrast, nor are there sufficient explanations given; therefore, most persons pass by without understanding. Yet this is a very useful and practical exhibition. The Touring Club recommends its members to frequent such hotels (and affixes its name over the entrance door) as furnish their bedrooms in the manner here shown and instal a sanitary system of drainage. Thus there are painted and washable walls and therefore no wall paper. There are no curtains to the beds, no wooden beds, and the bed table or night commode is done away with. One or two moveable rugs on the polished bees-waxed floor replace carpets and there is no upholstered furniture or heavy window drapery. Thus have the principles of sanitation been taught by the Touring Club and they have greatly contributed to render travelling and the sleeping in strange places much less dangerous than formerly. This is truly an excellent means of waging war against tuberculosis and also many other diseases.

Not far from the Touring Club room the French Minister of Foreign Affairs has an exhibit which covers a large space on the wall and summarises in a most graphic manner the upshot, the genuine practical result, of this and other international congresses, international exhibitions, and international manifestations of the *entente cordiale* that should prevail between all nations. As lovers of science we must of necessity be ardent advocates of peace and no one can contemplate the magnificent exhibit of the French Minister of Foreign Affairs without feeling a glow of satisfaction and hope, for here we have clearly demonstrated that in spite of cynics and pessimists the cause of peace has made gigantic strides. The exhibit consists of a huge map of Europe with lines drawn from capital to capital showing how the nations have established bonds of amity by concluding treaties pledging themselves in case of dispute to resort to arbitration instead of war. Of such treaties there only existed two in 1903. In 1908 no less than 60 treaties of obligatory arbitration had been signed, showing the immense progress of the peace cause in only five years. First on the list stands Great Britain which has concluded 12 such treaties. Next come Portugal and Switzerland with ten parents; those who are admitted during adolescence in consequence of their inability to earn a living; those who are admitted later in life owing to the death of friends who have hitherto looked after them; those who are loafers and vagrants and are driven in by destitution and stress of weather; and lastly, women who have entered to be confined of illegitimate children. It is noticeable that while in the maternity wards only a small number of the women are feeble-minded, yet that the women who are feeble-minded in very many cases have illegitimate children and that at present they are not and cannot be well protected. The evidence of Mr. Bagenal, speaking on this subject, is striking. "Feeble-minded women are particularly open to the seductions of men. They seem to be deficient in will-power and the power of resistance to attacks upon their virtue. In some the moral sense is altogether absent. The consequences we see in the frequency of this class in the lying-in wards of the workhouse. In one workhouse I found five young women all of whom were feeble-minded. Number one was going to be confined and had had two children before; number two had had two children; number three had had two children; number four had had one child; and number five had been confined in the summer and had had three children previously. All these were illegitimate. The cost of these cases is a very great burden on the rate-payers, especially as the children will probably turn out to be feeble-minded also." So also another witness, Miss Skinner, the superintendent nurse of a union infirmary, gave evidence to the effect that a great many girls admitted to lying-in wards were more or less feeble-minded and unfit to look after themselves, but after their recovery they were discharged and went to the bad because no one had the power to protect them against their will.

With respect to the mentally defective in workhouses, the general impression derived from the evidence is that, while they are kindly treated, they are rather being maintained than being thoughtfully considered, and that but little attention is given to their training. For example, there is the evidence of Dr. Pearse in regard to a southern county. The feeble-minded "do a certain amount of routine work in the institution—wood-chopping, gardening, laundry work; many work well, others only under supervision. There is, however, absolutely no recognition of the fact that they need special training. After treatment suited to their requirements they would be able to provide for themselves much better than they do." But, beside the commonly defective nature of the training, the classification in the workhouses is frequently of an undesirable nature. In a workhouse visited by one of the witnesses there were "imbeciles, idiots, and slightly feeble-minded living in wards together, all ages from 14 to 90. Hardly any attempt was made to teach or occupy the children. On the men's side the boys were partially separated from the men, but the accommodation was cheerless and the life of the boys idle and dreary. Slightly feeble-minded children were associated with the saddest, most hopeless idiots. . . . The medical officer was of opinion that the boys were improvable, but would deteriorate under workhouse conditions. A girl of 14, who had made considerable progress at the special school, was associating with a room full of low type imbecile women." The feeble-minded are frequently housed with the aged and infirm, and the latter wishing for quiet and rest find it impossible in a room full of jabbering idiots.

Evidence pours in on all sides of the immense desirability of keeping some further control over higher grade mentally defective. The vagrant class is largely recruited from the ranks of the feeble-minded. The boys are practically unemployable and rapidly pass into the ranks of the nomad population. The feeble-minded men in the workhouses are frequently such as go into the house for the winter and go out for the summer, picking up a precarious and often unlawful livelihood. The same is true for the women. Over and over again women whom it would be most inadvisable to allow out are detained in the workhouse by some form of persuasion. Take as an instance a woman who had had five children, all by different fathers. Of the five, three most degenerate offspring were dead, while the two surviving were in the custody of the guardians. In the workhouse of a large north country town, when the evidence was taken, there were 60 so-called able-bodied women. Of these, according to the views of the medical officers, 39 were of varying degrees of feeble-mindedness, 16 had children, and none of them were able to take care of themselves. There were 60 able-bodied men, and of these the medical officers thought that 23 should be kept under permanent care. Of the women some were persuaded to stay by means of preferential treatment, but it appeared to be a common experience that the younger and more innocent were very apt to be influenced by a depraved woman and then nothing could keep them in. Others, seized with a restless fit, took their discharge and made their next appearance in the maternity wards. As a result of a consideration of the enormous amount of practically unanimous evidence that came before the Commission the opinion is formulated that the accommodation provided for the feeble-minded is insufficient, unsatisfactory, and unsuitable, and that "of late years, with an increased sympathy for those who are suffering from mental weakness and defect, with a closer study of mental science, and with the general application of the principle of educational equality to all classes of children, including the feeble-minded, there has sprung up a demand for a more discriminative and individual treatment of mentally defective persons which cannot but entail a reorganisation of the public provision hitherto furnished for the afflicted."

With regard to the metropolis a very similar tale is told. To begin with the children. Notes of 100 cases of boys and 28 cases of girls, juvenile offenders under 16 years of age, who were placed in the remand home of the Metropolitan Asylums Board, supply illustrative statistics. Out of the boys 37 were graded as between "backward" and "mentally deficient," of the girls 16 out of 28 were so graded. If these proportions are applied to the numbers of children treated as juvenile offenders the question becomes plainly a very serious one. In three years there were 32 girls at the remand home under seven years of age and of these 15 were living with prostitutes. Of girls 13 years of age there were 93, of whom 15 were charged with stealing and larceny, 10 with living with prostitutes, and 36 with wandering. As mentally defective after 16 or later, more than half of these would be likely to come upon the public authorities or on voluntary charity for support. A similar state of affairs obtains among the boys. The home circumstances of 40 such cases were investigated and their vicious and unhygienic character demonstrated. In the 40 cases 35 per cent. of the fathers and 25 per cent. of the mothers were known to have been heavy drinkers. Phthisis was found in 11 fathers and seven mothers. Of the total cases 60 per cent. of the parents were drinkers and 30 per cent. were phthisical. Flagrant immorality was charged against 15 per cent. of the fathers and 47·5 per cent. of the mothers. Of the children 14·9 per cent. were illegitimate, while others had been deserted and might reasonably be supposed also to be illegitimate. Out of 4551 cases submitted to the medical officer to the London County Council with a view to his selecting those children who should be admitted to the special schools for mentally defective children, 1728 were entered as mentally defective and 187 were rejected as imbecile. *For these cases when they reach the age of 16 there is no suitable provision*, yet many of them are at that age incapable of even partial self-support. Evidence that this want of protection in later life is *frequently fatal* is considerable. Many mentally defective persons pass through the prisons. At the Holloway prison *out of* 893 women there on a certain date 83 were of that type, 41 were chronic inebriates, 39 were feeble-minded, and three were insane. It appears then that in the metropolis, as elsewhere, there is a comparatively large class of feeble-minded persons who are not regarded as insane but who certainly cannot be held to be entirely responsible, and who are a cause of great trouble and anxiety to those who have to deal with them. Often these have had no education and their mental defect prevents their being employed even as unskilled labourers, while their moral sense is often very defective. Neither has our present administrative organisation made provision for the education of such as these, nor has it devised any method by which they may, in later life, be adequately looked after. At the present the Metropolitan Asylums Board may not take charge of mentally defective children under five years of age, nor keep them after 21, unless they are certified as idiots or lunatics. Similarly, the education committee of the London County Council, which has opened residential homes for the same time it is seen that much may be brought forward concerning the economic aspects of tuberculosis, adverse industrial conditions, the social control of tuberculosis, early recognition and prevention of the disease, after-care of arrested cases, educational methods and agencies, promotion of immunity, and responsibility of society for tuberculosis. Under this last heading we see there is to be a symposium of representative citizens, social workers, employers, employees, physicians, nurses, educators, and others. The provisional programme for Section VI., though set forth in comparatively few lines, promises to provide as much material for discussion as will any of the others, as here the Congress is invited to discuss "laws and ordinances relating to tuberculosis, especially with reference to infection"; "governmental care of tuberculosis patients in the home, dispensary, sanatoria, tuberculosis farms, camps, &c."; "educational propaganda and scientific research under governmental auspices"; "sanitary measures in the home including disinfection, better housing, ventilation, &c."; "sanitary surveillance over travellers and those engaged in trades and occupations in public buildings, factories, workshops, &c."; "prevention of tuberculosis amongst children and adolescents, including the subjects of heredity, environment, schools, factories, playgrounds, &c."; and "collection of statistics."

To Section VII. some 34 authors have already promised to contribute papers which will deal with the prevalence of tuberculosis among domestic animals, the roads of infection, diagnosis, and the question of resistance to tuberculosis, the methods for the control of tuberculosis in animals applicable in heavily infected herds and districts, and giving if possible the results of operations in different countries and in various states of the United States, the comparative bacteriology and pathology of tuberculosis in animals, the relation of tuberculosis in animals to the public health, including the evidence for and against the transmission of tuberculosis from animals to man, infection of man from animals by association, inoculation, feeding on meat and milk; milk hygiene and meat hygiene, in connexion with the latter the guiding principles and rules by which the meat inspector should be governed in adjudging the carcasses of animals infected with tuberculosis.

We have here food for many and interesting debates and from the distinguished men from various countries whose names appear on the list of those who have promised to attend and to take part in the discussions the outcome of this congress should be at least as suggestive as that of any previous congress, and those who are attending as delegates from this country should have a profitable, though probably strenuous, three weeks of congress work.

The following names should be added to the list already announced of British delegates attending the International Congress on Tuberculosis at Washington, U.S.A.: Professor S. Delépine, Victoria University of Manchester; Mr. J. Patten Macdougall, C.B., Local Government Board of Scotland; Dr. A. Newsholme, Local Government Board of England; Professor William Osler, the University of Oxford, the Lister Institute of Preventive Medicine, and the King Edward VII. Sanatorium; Mr. T. J. Stafford, F.R.C.S. Irel., Local Government Board of Ireland; and Dr. H. E. Symes-Thompson, the Royal Hospital for Diseases of the Chest, City-road, London, E.C.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Asylum Accommodation.

BOTH the Prestwich and the Chorlton unions are much inconvenienced by the crowded state of the Lancashire asylums. The former have charge just now of five certified lunatics for whom no accommodation can be found, and they have been obliged from time to time to send cases to Middlesbrough, where the charges are much higher than in Lancashire. Provision for increased accommodation is being made, but it seems to take a very long time, and one of the board expressed the opinion that if so disposed the asylum authorities could move much more quickly than they were doing. The Lancashire Asylums Board has decided to charge contributing Poor-law guardians 7*d.* a week more per head than hitherto for the maintenance of their lunatics, and at a meeting of the Chorlton board it was stated that this will mean an addition of £1400 a year to the rates. Although this inconvenience is very real, it is, however, rather alarming to think of the very great extension of costly buildings that is being made for lunatics. At Whalley an asylum is being built to accommodate 2000 patients and an extension is proposed at Whittingham for 700 patients.

Seizure of Damaged Food.

To show the valuable part played by the Manchester port sanitary authority in protecting the people from food unfit for use, it is only necessary to refer to the meeting that took place on Sept. 7th. The report stated that the amount of "foodstuffs" (not an agreeable term and one smacking of foreign origin) seized and condemned at the Foreign Animals' Wharf and the Docks during the last month amounted to nearly 270 tons. It must be said, however, that 264 tons consisted of damaged barley taken from a ship that had gone ashore. This barley was afterwards converted into food for cattle instead of malt for brewing. What effect it has had on the cattle has not been stated.

Overlying: Four in a Bed.

An inquest was held at Colne yesterday touching the death of an infant three months old which shows some unusual features and undesirable overcrowding. The mother said that she was 19, and had had three children, the two still alive being aged three years and 18 months. The eldest child and its grandfather slept in the attic, the father and the second child at the bottom of a bed in another room, while the mother and the baby slept at the top of the same bed. She fed the child at 12.30, then slept till 7.45, when she was roused by the elder baby kissing the younger and noticed that the latter was cold, indeed dead. Dr. A. B. Ritchie, the police surgeon, who had made a post-mortem examination, said that the child had died from suffocation through being surrounded by blankets. The youth of the mother is noticeable. The father seems to have been in work as a fork finisher, so that there was no extreme poverty. The mother said that she was a teetotaller and that her husband was a steady man and had had no drink on the Saturday night. The coroner said it was to be hoped that the Government "would find time to get passed into law the Bill now before Parliament which made it an offence for a child to be found dead in bed with its parents." This hope will be echoed by those who know much of the large infant mortality due to the practice of parents having infants in bed with them.

Medical Bequests.

Mrs. Jane Churton of Chester has left £2000 to the Royal Albert Asylum, Lancaster, and the same amount to the Chester General Infirmary, together with an additional sum of £2400 to the latter institution to endow two beds. She also left £1000 to the Children's Convalescent Home, West Kirby, and £500 to the Convalescent Home, Parkgate. Her medical attendant receives a legacy of £1000. There were many other bequests to charities, religious purposes, and legatees.

Sovereigns for Ashton Babies.

Since Mr. Broadbent set the example at Huddersfield the rewarding (or the bribing) of mothers if they keep their babies alive over the first twelve months has been followed in some few cases In Ashton-under-Lyne the mayor, Colonel J. W. Pollitt, offered to give £100 for distribution among the parents of children born after a certain date on such children attaining the age of one year, and the offer was accepted by the council. A conference has been held between the sanitary committee of the corporation and the Ladies' Health Society and it was decided to appoint another health visitor in order that the work might be properly carried out. The visitors are to report to, and to be under the control of, the medical officer of health, Dr. J. W. Talent, and he is to be required to attend the meetings of the Health Society. It is probable that these doles, coupled with the increase of sanitary effort on the part of the local authorities and supplemented by the self-denying help given by societies of benevolent ladies, will lead to the spread of knowledge among the mothers and, let us hope, to an increased sense of parental responsibility. It is, however, an uncomfortable reflection that a dole of £1 should in some cases be required to call forth the sense of responsibility and the affection which ought to be a natural instinct with human mothers.

The dinner will be held in the dining hall of the Students' Club at 7 P.M., with Mr. Cosmo Bonsor, treasurer of the hospital, in the chair. At the meeting following the dinner Sir Richard Douglas Powell, Bart., K.C.V.O., will deliver an address on the "Just Procedure of Medicine." Dr. J. F. Goodhart will preside at the meeting.

King's College Hospital.—The winter session will be opened on Oct. 1st, when Professor A. Macalister, LL.D., F.R.S., will distribute the prizes and deliver an address. The annual old students' dinner will be held on the same day, at 7 P.M., at the Waldorf Hotel, Aldwych, Professor M. M. McHardy presiding. Tickets, one guinea each, may be obtained from Dr. StClair Thomson, 28, Queen Anne-street, London, W.

London Hospital.—The session will be opened on Oct. 1st. The old students' dinner will be held on Oct. 1st at the Savoy Restaurant, at 7.30 P.M. Dr. A. J. Rice Oxley will occupy the chair.

St. Mary's Hospital.—The session will commence on Oct. 1st, when Sir John F. H. Broadbent, Bart., will deliver the introductory address at 3.30 P.M. The annual dinner of past and present students will be held in the Whitehall Rooms of the Hotel Métropole on Oct. 2nd, at 7 P.M., with Dr. A. P. Luff in the chair.

Middlesex Hospital.—The session will open on Oct. 1st at 3 P.M., when Dr. A. M. Kellas, Ph.D., will give an introductory address, after which the prizes gained during the previous year will be distributed by Mr. Rudyard Kipling. The annual dinner of the past and present students and their friends will take place at the Trocadéro on the same evening at 7 o'clock precisely, Dr. A. F. Voelcker being in the chair.

St. Thomas's Hospital.—The session will open on Oct. 2nd with the old students' dinner, which will take place at the Savoy Hotel, Strand, W.C., at 7.30 P.M. Mr. Thomas Wakley will preside.

University College Hospital.—The session will open on Oct. 2nd, when the medals and prizes will be distributed in the library of the hospital at 3 P.M., and Sir Edward Fry will deliver an introductory address. The annual old students' dinner will be held on the same day in the library of the school, at 7.30 P.M. Dr. A. H. Carter of Birmingham will preside.

Westminster Hospital.—The session will begin on Oct. 1st and the annual dinner will take place on Oct. 2nd at the Great Central Hotel.

Royal Free Hospital (London School of Medicine for Women).—The session will open on Oct. 1st, when an introductory address will be delivered by Dr. Harrington Sainsbury, physician to the Royal Free Hospital.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE recent circular of the Board of Education[1] to local authorities has already been dealt with in a leading article, but its provisions require further notice. It was issued under Part III. of the Education Act, 1902, on certain questions arising under recent legislation concerning (*a*) the Functions of the "School Medical Officer"; (*b*) Provision for Medical Inspection of School Children under the Code of 1908; (*c*) the Local Education Authority's Annual Report to the Board of Education on Medical Inspection; and (*d*) Arrangements for Attending to the Health and Physical Condition of School Children. As stated in former circulars, the policy of the Board is to countenance a certain amount of latitude in the administration of the Act providing for the medical inspection of school children until such time as its difficulties and necessary limitations shall have been made clear.

Under the first heading (*a*) the functions of a "school medical officer" are defined. This title has been substituted for the vague expression "medical authority" which was used in the Code of 1907, and implies an official who shall be responsible to the local education authority from which he holds office for supervising and controlling the general work of medical inspection of school children, who shall report on the working and effect of any arrangements made for educating children at an open-air school or school camp, and shall have power to advise the closure of a school or the exclusion of certain children from it on "reasonable grounds." In this last duty the importance of coöperation with the sanitary authority is urged and the Board expects that "the school medical officer will naturally consider the matter from the point of view of education as well as from that of sanitation, and, while keeping in close touch with the medical officer of health will be in a position to advise the local education authority on such difficult matters." The section goes on to say that the Board does not expect that all the work detailed above can be carried out by a single officer in a large area, but that in most cases he will be assisted by subordinates. (*b*) As regards the provision by local education authorities of an adequate staff for the medical inspection of their school children, a blank schedule is appended to be filled up and returned to the Board by each authority stating the estimated number of children for whose inspection provision is to be made; the arrangements made for such inspection; the working instructions given to the staff engaged thereon, and the scope of the work contemplated. The schedule further requires the following information concerning the medical officers and nurses thus engaged:—Name; professional qualification; salary; date of commencement of duties; extent to which these occupy the officer's time (e.g., whole time, one-half, one-third); the nature of duties, distinguishing inspection from treatment; and general remarks. The Board will consider the information returned on these schedules for each area on its own merits with due regard to local circumstances and does not expect uniformity of procedure so long as it is satisfied that the inspection is adequate.

Uniformity is not expected (Section (*c*)) regarding the annual reports to the Board to be returned by local education authorities. These are to deal with the whole subject of school hygiene, including the sanitary, lighting, ventilating, and warming arrangements in each school building as well as with the detailed results of the inspection of the children. A page of the circular is devoted to a long syllabus of matters to be dealt with in the report, and under section (*d*), where their applications are rehearsed under the heading "Arrangements for attending to the health and physical condition of school children," the manifold duties of the school medical officers are described as forming a "formidable catalogue." The circular proceeds to express this opinion: "The mere fact that the services of a specially skilled officer and staff are devoted by the local education authority to the oversight of all matters affecting the health of the children in their public elementary schools gives to the whole question of school hygiene a dignity and importance which cannot but produce a considerable effect on the minds of teachers, parents, and children alike. From this point of view the school medical officer should be not merely a functionary charged with specific duties, but a pervading influence making, in the long run, for better hygienic conditions in the school and at home." The remaining sections under heading (*d*) deal with the exercise of powers under special Acts relating to school children, the methods of coöperation with the sanitary authority, advice or direction to parents, the school nurse and her functions, the provision of spectacles in cases where the parents or some voluntary association are quite unable to procure them; and contributions to hospitals, infirmaries, dispensaries, and "Children's Care Associations" for the treatment of children on terms of adequate advantage, a section which permits the inclusion among conditions of contribution of a reasonable remuneration to the medical men working for such institutions.

The last section deals with school clinics and authorises their establishment at some place more convenient than the school premises for the more thorough *examination* of cases such as ophthalmic cases, where special appliances are required. The Board forbids the use of such clinics for the regular inspection of all the children of any school. The paragraph relating to the *treatment* of children by this means, which brings the circular to a close, is sufficiently important to be quoted in full: "The establishment of School Clinics for purposes of *treatment* of defects revealed by inspection gives rise on the other hand to questions of considerable difficulty, and, before sanctioning the establishment of a School Clinic as an 'arrangement' under Section 13 (1)(*b*) of the Act, the Board will require to be furnished with detailed information as to the methods and

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[1] No. 596, dated August 17th, 1908, supplementary to Circulars 576 and 582.

and Mr. John Findlay, farmer, Baillieston, dealt with the dairy farmers' interest in the subject. At the close of the discussion a resolution was passed to the effect that the association desired respectfully to bring to the notice of the Secretary for Scotland the urgent necessity for the introduction of a measure dealing with the question of milk-supplies and dairies. Another important discussion, introduced by Dr. T. F. S. Caverhill, medical officer of Haddingtonshire, dealt with the problem of how to isolate and treat cases of pulmonary phthisis so as to limit its spread, and how to do this in the most economical manner. Dr. J. C. McVail, medical officer of Stirlingshire, also gave an instructive lecture on Some Episodes in the History of Preventive Medicine.

Ventilation of Schoolrooms.

It is a curious fact that there are Board of Trade regulations anent the ventilation of factories and workshops, and yet there are no definite regulations, beyond fixing the number of cubic feet per scholar in a room, about ventilation of schoolrooms. The only way in which a check can be administered where the air is bad is by an adverse report from the official inspector, who, of course, cannot know all that is wrong, as he visits a school only about twice a year. Glasgow school board has now turned its attention seriously to the question of ventilation and the older schools are being thoroughly tested and altered, if necessary, on the lines of the Board of Trade's regulations for factories and workshops. A test-sheet is filled up for every schoolroom giving information regarding air-tests, temperature, &c. On these details are based the arrangements for any alterations necessary.

Nairn Town and County Hospital: Handsome Donation.

The annual general meeting of the supporters of the Nairn Town and County Hospital was held on Sept. 3rd when the chairman intimated the receipt by the directors of £500 from an anonymous donor. The donor wished it stated that he had specially in his mind the desirability of increasing the endowment fund of the hospital, and while the income of the investment now made would be at the disposal of the governing body for the general purposes of the hospital, he wished it to be understood that the capital would be held unbroken as a perpetual addition to the endowment fund, and that it would be agreeable to the donor if a minute was passed to the effect that the gift was accepted under that condition. On the motion of the chairman it was unanimously resolved to accept the gift on the condition laid down by the donor and to record the gratitude of the directors and subscribers for the very handsome gift.

Beaufort Castle Bazaar.

The two days' bazaar which was held at Beaufort in the end of last month in aid of the funds for the endowment of the Inverness-shire Sanatorium for Phthisis proved a great success, the total amount realised being close on £4000. The Hon. Margaret Fraser, who promoted the bazaar, received a donation from the Prince of Wales.

Sept. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The British Association.

THE British Association has left behind it in Dublin pleasant impressions and recollections of its visit. The inherited *mens medica* of the President was very patent to all medical members of the audience who listened to the opening address and who applauded the reference in his last speech to Irish genius "in their own noble profession, to Graves and Stokes, men who by the brilliancy of their intellectual activity and their innate genius had carved out for themselves an imperishable reputation, and to-day their memories were as warm and as green in the bosom of the nation as at any time in their history—loved, cherished, and respected over the wide world." It is interesting to note that the literary, scientific, and professional distinction of these great physicians still marks the staff of their hospital, the Meath Hospital, for Sir John William Moore and Sir Lambert Hepenstal Ormsby were both contributors to the proceedings of the Association, the former reading an enlightening paper on the ever present subject of our troublesome Irish climate, while the latter in a luminous and happily phrased speech threw a passing light on some abstruse questions of psychology.

The Deportation of Lunatics.

The medical superintendent of the Richmond District Asylum, Mr. John O'Conor Donelan, has stated that among the patients recently admitted were three who had been deported from Scotland under the Poor-law (Scotland) Act, 1898, Section 6. Of these cases one had been no less than 14 years in Scotland prior to being returned here. He wished to draw the special attention of the board to this case as an instance of the hardship to the ratepayers of that district in having patients such as these sent back, while they in Ireland were obliged to retain all patients committed regardless of their nationality. The chairman said the report referred to a most scandalous state of things, and that an effort should be made to have it remedied in the Bill which is to be brought before Parliament in January next. The inquiry of a member elicited the fact that there were many patients at present in the institution who had been received in similar circumstances. The comment might almost be expected that: "England and Scotland get the profit of the Irish labourer's work, and as soon as he becomes mentally or physically incapable he is forthwith deported to a workhouse or a lunatic asylum in Ireland, the country having nothing of the fruits of his toil." The quotation is from a Nationalist source, but medical administrators, whatever their politics, will probably endorse it.

The Forster Green Hospital, Belfast.

This hospital, after the completion of building operations consequent on its enlargement, will be reopened on Oct. 1st for the reception of patients. The number of beds has been increased from 38 to 73 and the medical staff has also been increased. The scope of the out-patient department is also to be enlarged, a medical officer and nurse having been appointed whose duties it will be to keep in touch with the patients after they have been discharged from the hospital and to render them such advice and assistance as may be necessary to insure that the benefits derived from the course of sanatorium treatment may not be lost.

Cold Baths for Tramps.

At the weekly meeting of the Ballymoney board of guardians held on Sept. 10th a letter was read from the Local Government Board with reference to the use of the cold-jet water bath in the probationary ward, which was successfully adopted to deter tramps from applying for admission. It appears that since the introduction of this sanitary appliance the number of tramps coming to the Ballymoney workhouse has fallen from 80 per week to 10. The Local Government Board point out that tepid or warm water should be used for the proper cleansing of persons admitted to the workhouse but that before a cold bath was given to any person in the casual or probationary ward of the workhouse a certificate in writing that the recipient was a suitable case for such treatment should be obtained from the medical officer of the workhouse. It would be the duty of the master to obtain this certificate in every case. A guardian said this would mean an increase of the medical officer's salary, but that he would rather give him £30 per year more than allow the tramps the use of the workhouse. It was decided to call a special meeting of the guardians to discuss the matter.

The Babies' Club, Belfast.

At an inquest held in Belfast on Sept. 9th in reference to the death of an infant, aged five months, from convulsions, it appeared that the child, who had been very delicate, had been kept alive by the gift of a pint of good milk every day from the Ballymacarrett branch of the Babies' Club since July. The coroner referred to this practical form of charity and said that the Babies' Club had shown them how much could be done to save life amongst infants. There were 71 children on the books of this branch and this was the first death. The jury in their verdict added a rider expressive of their high appreciation of the service rendered to the community by the institution known as the Babies' Club. It may be added that the various babies' clubs in Belfast are being worked voluntarily by the infantile committee of the Belfast branch of the Women's National Health Association of Ireland.

history of persons who were known habitually to have consumed this tuberculous milk. There is only one dairy to every 500 persons in Newcastle and consequently Dr. Armstrong infers that most of the milk supplying the population comes from outside the city limits, where there is practically no veterinary inspection of the cattle. It is instructive with reference to this question of tuberculosis to learn that the number of carcasses condemned for this disease was greater during the last nine months of 1907 than for any similar period previously, and that the local butchers' cattle insurance society paid to its members as compensation during 1907 the sum of £438. Dr. Armstrong thinks that a large part of compensation for tuberculous cattle should be paid for out of the public purse. Much boneless meat from America reaches Newcastle and also, of course, many other large towns. Such meat defies inspection and it is not improbable, seeing that the glands and fat are removed, that some of it may be derived from tuberculous carcasses. In Dr. Armstrong's view only whole carcasses, together with their viscera, should be allowed to be imported and everything should be subjected to inspection on arrival. It may be mentioned that in Newcastle the fat of carcasses condemned for tuberculosis has now to be thoroughly sterilised and is used in the manufacture of soap.

County Borough of Salford.—Mr. C. H. Tattersall, who is medical officer of health of this town of 236,670 inhabitants, reports that in 1901 he took into consideration the cost of dealing with pulmonary tuberculosis by the isolation of advanced cases and the treatment of early cases in a sanatorium together with the usual procedure as regards inspection and disinfection. The cost was estimated at £20,000 per annum and the sanitary committee did not feel justified in advising the council to incur such a large expenditure. The subject has again been considered by the committee but on a less comprehensive scale. It has been proposed *inter alia* to convert one of the empty large houses in the borough for the accommodation of eight patients and it is thought that this might be done for £1000 per annum. This sum, together with the expense of bacteriological work, notification fees, medical inspection, salary and provision for disinfection, would, it is estimated, bring the total annual expenditure up to £1550. Voluntary notification has already been introduced and blue and red cards are used for the purpose; the blue card indicating that the sanitary authority is not to interfere, the red cards that the visits of the inspectors are desired, but in no case is this visiting to be allowed to interfere with the opportunity for the patient to earn a livelihood so long as proper precautions are carried out. From July 14th to the end of the year 356 notifications were received, 143 cases to be visited, 213 not to be visited. Although the proposal to form a small hospital has not yet been acted upon the council has retained five beds at the Crossley Sanatorium at a cost of £260 per year. This is a good move as it will educate the council as to the value of these institutions.

County Borough of Huddersfield.—Dr. S. G. Moore, in discussing the behaviour of pulmonary tuberculosis in Huddersfield, gives a chart which, he thinks, demonstrates that the decline in the death-rate from this disease which had taken place up to recent years has now ceased and he concludes that if this arrest persists the only admissible inference is that the general sanitation of the borough is unsatisfactory. We gather that there is a disposition to allow of the erection of back-to-back houses in Huddersfield, a fact which Dr. Moore deplores, and he points out that such houses cannot have as much ventilation and light as through houses. The importance of securing plenty of direct sunlight and through ventilation as an aid to the destruction of the tubercle bacillus is obvious, as shown by numerous bacteriological experiments. Dr. Moore thinks that if every human case of tuberculosis were so dealt with as to render the escape of living tubercle bacilli impracticable there would be no guarantee that the disease itself would be arrested, and the same statement would, he says, hold true were all bovine and other domestic animal tuberculosis prevented. We have, in his view, no proof that the germs of tuberculosis do not normally exist outside of living organisms and that the bacillus may not persist among vegetable surroundings. In his opinion the soundest line of attack is to render the human "soil" unsuitable for the growth of the bacillus.

County Borough of Sunderland.—Dr. H. Renney furnishes in his current annual report some figures relative to the after-history of the cases of pulmonary tuberculosis sent by the corporation to the Stanhope sanatorium. Since June, 1901, 63 persons have been discharged from the institution; of these 35 are dead, 15 well, 6 fairly well, and 7 cannot be traced. Of those who died the average duration of life after discharge from the sanatorium was about two years. There will be considerable differences of opinion as to these figures: 15 well out of 63 treated. But it is difficult to discuss the figures as they are here presented. How many of the 15 who are well have been recently discharged? The fact is this method of presenting the after-results is not satisfactory. What the unprejudiced observer wishes to know is how many of the cases discharged in any given year are alive some four to five years afterwards and to demonstrate this the figures must be kept in the German fashion—i.e., those for each year kept quite separate throughout the successive years of observation. If Dr. Renney will adopt this practice he will be making a useful contribution to our knowledge as regards the after-results of sanatorium treatment.

County Borough of Grimsby.—Dr. W. B. Simpson draws attention to the increasing proportion of the total deaths which takes place in public institutions. The statistics are only available since 1896, when the proportion of deaths in public institutions to total deaths was 3·55 per cent., the percentage in 1906 being 10·45 and in 1907 10·60. It appears, however, that in 1896 the percentage of persons dying in public institutions was an exceptionally low one, as in 1897 it had increased to 6·32 per cent. Nevertheless, the actual increase has been very marked. Dr. Simpson attributes this increase to the growing popularity of public institutions rather than to poverty and in this he is probably correct. As regards the spread of tuberculosis by the milk of tuberculous cows, he furnishes a good instance of the manner in which apparently healthy cows may be spreading the disease by their milk. On examining the carcass of a cow recently killed he found nearly every internal organ studded with miliary tuberculosis and yet the animal had until a short time before death been supplying milk to Grimsby. There was no actual disease of the udder, but, as is now known, the milk may nevertheless contain tubercle bacilli, or if not the milk the excretions which may foul the udder. Dr. Simpson thinks that if only sterilised milk was used for human consumption there would be a very appreciable diminution of tuberculous disease in childhood.

Metropolitan Borough of Hampstead.—The vital statistics of this borough are always of interest owing to the fact that it is inhabited, for the most part, by a well-to-do class where the social conditions conduce to a low marriage-rate, birth-rate, infantile mortality-rate, and death-rate; and to some extent the figures show how intimately health is bound up with good social conditions. Taking the rates in the order mentioned above we find that the marriage-rate for 1907 was 14·2 per 1000 as against a rate for the previous ten years of 13·9 per 1000, the greatest number of marriages having taken place in the third quarter of the year. The birth-rate for 1907 (14·7 per 1000) shows a considerable decrease on the rate for previous years, an interesting circumstance in view of the increased marriage-rate. The birth-rate for London as a whole was 25·6. In Hampstead the greatest number of births was in the second quarter of the year, a fact which gives rise to interesting reflections. The death-rate was only 9·0 per 1000—the lowest on record for Hampstead. With reference to infantile mortality the remarkably low figure of 73 per 1000 births was registered, as against a rate for the whole of London of 116 and for the 76 great towns of 127 per 1000 births. This low infantile mortality Dr. G. F. McCleary attributes mainly to favourable weather conditions. But it has to be mentioned that important steps are taken by way of directly influencing this drain upon our supply of babies, there having been appointed a lady inspector to visit the children whose births are notified under the Notification of Births Act, and there being also a body of health visitors who carry on work in the same direction. The council has also obtained by-laws providing for the paving of back yards.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8336 births and 4433 deaths were registered during the week ending Sept. 12th. The annual rate of mortality in these towns, which had "dog-days." This year the admissions to the "Istituti Antirabbici," where the Pasteur treatment is practised, have been markedly in excess of those of previous years—Milan alone, for the week ending August 1st, having had as many as 40 cases subjected to the cure; in other words, nearly six a day! Farther afield, at Tagliuno, in the province of Bergamo, a hydrophobic dog bit another which, on the development of the malady, succeeded in biting as many as 15 little village children in a few hours. It is strenuously denied by some pathologists that the human subject, affected by hydrophobia, has the "biting impulse" strong upon him. Yet from such a quarter bites have been received; indeed, quite lately in the province of Brescia Dr. Filingardi was bitten by a hydrophobic girl of 15 and hastened to undergo the treatment at the Milanese Institute, from which he came out "cured," as also did Dr. Giuseppe Merlo who had been bitten in the province of Pavia. Rabies is the most communicable of maladies and no Italian physician believes in its developing "spontaneously" in the dog—by the want of water or by privation of sexual coitus, for instance. There can be no case of "infezione rabbica" without an antecedent "lesione infettante" (infecting lesion), such as the bite of another "animale rabbioso" or the contact of a wound or abraded surface with the virus in question. To ask for a "primary case" of rabies seems as absurd as to ask for a primary case of small-pox or measles! As to the virus itself, Negri, in 1903, after a study of its specific agent or special micro-organism, found this in the family of the protozoa. The poison, conveyed in the saliva of the biting animal and through the victim's central nervous system, settles (according to the same pathologist) in the "bulbus rachideus" and ultimately explodes in symptoms having a family resemblance to tetanus. The notion that a hydrophobic animal shows at once as a first sign of its malady a repugnance to water is no longer tenable, but there is something pathognomonic in its demeanour and behaviour which ought, in the case of the domestic dog in particular, to put its owner on his guard. The first days of its illness are, indeed, the most dangerous, for seeing it dejected and suffering its friends are prone to fondle and caress it, and in return to get a bite or even a lick of its tongue over a scratch on the face or finger and so contract the disease. Perroncito of Turin remarks that dogs affected with "rabbia muta"—that is, presenting no sign of "rabbia furiosa"—can impart the poison to the human subject, and cites the case of a carabineer who died from hydrophobia from the dog's licking a wound on his hand. The same expert confirms the finding of Viana that the virus of rabies may be transmitted by a particular insect—a finding arrived at in the case of a dog, and rendered, he thinks, the more certain if, as Negri, Volpino, and Bertarelli maintain, the determinant of the virus is a protozoon, the very minute spores of which may well be transported by an insect. It is not to be supposed that every bite of a hydrophobic animal must necessarily produce hydrophobia. The saliva may no longer contain, after a series of bites, the fatal micro-organism. Of the 15 village children bitten at Tagliuno, perhaps not more than three were actually infected with the virus; but all were sent for treatment to the Pasteur Institute and all came out certified as "cured." This is a source of fallacy in "antirabic" statistics which has often been pointed out by Italian physicians. Nevertheless, the person bitten, old or young, by a hydrophobic animal cannot, if only for precaution, repair too soon to the Pasteur Institute. A treatment which, in Italy alone, has reduced the mortality from 80 per cent. to not more than 3 or even 2 per cent. has a record in its favour much too sound to justify the neglect of it in cases which are even hypothetical only.

The "Feste Torricelliane."

Those of the profession who can take their holiday in October and on the Italian side of the "Watershed" might do worse than spend a few days of it in Florence at the sittings of the Second Meeting of the Italian Association for the Promotion of Science and immediately thereafter accompany the members to Faenza where, on the 24th and 25th of the month, the third centenary of the birth of the inventor of the barometer and founder of the science of hydraulics will be celebrated with special honour. A programme of the proceedings lies before me in which every precaution has been taken to minimise the chances of disappointment or failure seemingly inseparable from celebrations so wide in their reference and so complex in their details. Evangelista Torricelli, indeed, appeals to so many interests, mathematical, physical, hygienic, and even medical, that an "Esposizione" of his "armamentarium scientificum" has had to be brought together, classified, and put conveniently in evidence, to illustrate or supplement the exposition of his life-work which will tax the resources of the orators intrusted with that duty. Trained, while yet the "dew of his youth" was upon him, by the Jesuits of Faenza, many of them masters in the higher literature and in the purer of the sciences, he next came under the spell of Galileo, whose treatise "De Motu" he read to such purpose that he extended its principles to special agents, and in his tractate on the parabolic motion of projectiles he won the esteem and affection of the teacher and so impressed the contemporary world with his genius as to evoke the exclamation: "En revirescit Galilaeus alter." Ferdinand II. dei Medici on Galileo's death made the brilliant young Faventine professor of mathematics in Florence where his grandest achievements were henceforth to see the light. Martini, in his monograph on Torricelli, written expressly for the commemoration, has set these forth in luminous order, dwelling on his "perfezionamento" of the field-glass, his "microscopio rudimentale" made of pellucid "perline di vetro" (tiny pearls of glass), by means of which, primitive as it was, he studied crystallised bodies and laid the foundations of crystallography. In hydraulics he is, *consensu omnium*, the pioneer, the practical result of his operations in those days being the reclamation to fertility of the Val di Chiana (Valley of the Clanis). The barometer, the hygrometer, the aerometer—all these he initiated for posterity to use and to carry to perfection; while in meteorology his theory of the wind, first given to the world before an audience of the Accademia della Crusca, was adopted and developed by Benjamin Franklin. His quadrature of the cycloid, worked out on the lines laid down by Roberval, his quadrature of the parabola, and his essays on the properties of the spiral curve and on centres of gravity, give him rank among the "Dii Majorum Gentium" of mathematics. Martini claims for him an anticipation of the clinical thermometer, effected at the instance of the Grand Duke Ferdinand and utilised to determine fever temperatures in the human subject. All these contributions to science and to the welfare of humanity will be in evidence at the "Esposizione" after previous exposition by orators selected *ad hoc*, and cannot but attract to the commemoration many others besides the compatriots who are so justifiably proud of the man and of his work.

Death of Professor Paolo Emilio Cappello.

This able and accomplished Roman surgeon died on Sept. 2nd after 48 hours of acute suffering from diphtheritic throat, the disease having been contracted when on clinical duty. Professor Cappello was director of the great Hospital of the Consolazione and of the "Ospedale del Bambin Gesù." A brilliant and singularly successful operator, he was called in consultation far beyond the immediate scene of his practice, and leaves many friends, professional and lay, to mourn a loss as heavy as it was unexpected and premature.

Sept. 5th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

An Accident Hospital Ward.

SINCE the death of Professor von Mosetig just over a year ago the 100 beds which were under his charge at the hospital have been vacant, as it could not be decided what to do with them. The suggestion that the ward should be converted into an accident hospital, a suggestion supported by the clinical teachers, has been fought by "red tape" with success up to now, but as the affair stands at present all points to the fact that on Oct. 1st the 100 beds will actually become a source of very useful instruction for the students of surgery. The Ministry of Education has arranged with the chiefs of the two surgical clinics (Professor von Eiselsberg and Professor Hochenegg) for the teaching of the surgery of accidents, to be given in combination with the military medical staff, which will also send its accident cases into this ward, whilst every officer of the medical corps will have to

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING AUGUST, 1908.

(Specially compiled for THE LANCET.*)*

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,795,757	—	1459	485	—	83	—	17	261	2	2307	6·3	—	97	37	43	51	—	11	—	802	1041	2·8	4755	12·9	167
West Districts.																										
Paddington	150,923	—	40	6	—	—	—	1	8	—	55	4·8	—	—	2	2	—	—	—	—	13	17	1·5	127	11·0	126
Kensington	182,752	—	36	17	—	3	—	2	5	—	63	4·5	—	—	1	1	1	—	1	—	33	37	2·6	164	11·7	222
Hammersmith	124,012	—	40	16	—	—	—	2	5	—	63	6·6	—	—	2	—	3	—	1	—	16	22	2·3	114	12·0	136
Fulham	171,562	—	23	27	—	4	—	2	6	1	63	4·8	—	2	—	4	2	—	1	—	33	42	3·2	174	13·2	211
Chelsea	75,049	—	8	5	—	2	—	—	2	—	17	3·0	—	—	2	—	—	—	—	—	14	16	2·8	71	12·3	200
City of Westminster	170,545	—	17	13	—	1	—	—	2	—	33	2·5	—	—	2	2	2	—	—	—	6	12	0·9	114	8·7	106
North Districts.																										
St. Marylebone	126,867	—	21	1	—	2	—	1	5	—	30	3·1	—	—	—	1	—	—	1	—	8	10	1·0	99	10·2	55
Hampstead	92,654	—	11	5	—	3	—	—	1	—	20	2·8	—	—	—	1	—	—	—	—	4	5	0·7	39	5·5	68
St. Pancras	237,075	—	77	19	—	7	—	1	18	—	122	6·7	—	1	2	1	4	—	—	—	37	45	2·5	230	12·6	156
Islington	349,091	—	104	31	—	6	—	—	13	—	154	5·8	—	4	2	2	7	—	—	—	24	39	1·5	313	11·7	134
Stoke Newington	64,015	—	3	3	—	—	—	—	3	—	9	2·2	—	—	—	—	—	—	—	—	5	5	1·2	37	8·9	62
Hackney	235,253	—	73	30	—	2	—	—	19	—	124	6·9	—	—	—	2	5	—	—	—	56	63	3·5	217	12·0	175
Central Districts.																										
Holborn	54,466	—	2	1	—	1	—	—	2	—	6	1·4	—	—	1	—	—	—	—	—	8	9	2·2	47	11·2	97
Finsbury	96,007	—	21	7	—	3	—	1	5	—	37	5·0	—	5	1	—	1	—	1	—	24	32	4·3	150	20·4	162
City of London	19,252	—	6	2	—	—	—	—	1	—	9	6·1	—	1	—	—	—	—	—	—	1	2	1·4	18	12·2	250
East Districts.																										
Shoreditch	115,227	—	52	13	—	18	—	—	5	—	88	10·0	—	1	3	—	1	—	1	—	45	51	5·8	159	18·0	293
Bethnal Green	131,066	—	99	26	—	3	—	1	23	—	162	15·1	—	9	4	1	1	—	3	—	34	52	5·2	188	18·7	249
Stepney	310,706	—	203	66	—	9	—	—	25	—	303	12·7	—	10	5	5	2	—	—	—	84	106	4·4	381	16·0	210
Poplar	171,516	—	91	18	—	2	—	—	10	—	121	9·2	—	6	1	3	3	—	1	—	59	73	5·5	228	17·3	224
South Districts.																										
Southwark	210,442	—	50	11	—	3	—	2	20	—	86	5·3	—	12	2	—	4	—	—	—	68	86	5·3	266	16·5	246
Bermondsey	127,910	—	43	20	—	1	—	—	9	1	74	7·5	—	22	2	1	—	—	—	—	39	64	6·5	213	21·7	265
Lambeth	321,344	—	69	29	—	1	—	1	19	—	119	4·8	—	6	—	4	4	—	—	—	41	55	2·2	291	11·8	119
Battersea	183,873	—	127	21	—	—	—	—	8	—	156	11·1	—	1	4	2	1	—	—	—	20	28	2·0	150	10·6	109
Wandsworth	289,606	—	69	18	—	4	—	2	10	—	103	4·6	—	2	—	1	3	—	—	—	28	34	1·5	236	10·6	133
Camberwell	280,022	—	46	20	—	—	—	—	15	—	81	3·8	—	2	—	2	2	—	—	—	49	55	2·6	265	12·3	157
Deptford	117,539	—	62	5	—	1	—	—	13	—	81	9·0	—	8	—	1	1	—	—	—	15	25	2·8	127	14·1	162
Greenwich	109,110	—	21	16	—	2	—	—	3	—	41	4·9	—	—	—	3	3	—	—	—	20	26	3·1	108	12·9	251
Lewisham	156,627	—	15	20	—	1	—	—	1	—	37	3·1	—	5	—	4	1	—	—	—	8	18	1·5	125	10·4	106
Woolwich...	131,346	—	30	19	—	4	—	1	4	—	58	5·8	—	—	1	—	—	—	1	—	10	12	1·2	104	10·3	96
Port of London	—	—	—	1	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

treatment of disease, lupus, &c., with the Finsen light and ultra-violet rays, and had workshops attached for major repairs and renewals for x ray equipment generally. In 1905 sanction was accorded by the Government of India to the provision of 15 complete sets of portable x ray equipment, one complete set of each being located at the headquarter stations of each of the ten divisions of the army (including Burma), and five spare sets were allotted to the headquarters x ray institute, Dehra Dun, to meet emergencies, to replace damaged sets, and to meet additional requirements of divisions and needs of independent brigades. The divisional sets are now in charge of specially qualified medical officers of the army (Royal Army Medical Corps or Indian Medical Service), each of whom receives an extra pay allowance (Rs. 60 = £4 per mensem). These officers are assisted by a medical subordinate in subcharge of the outfit who draws Rs. 30 = £2, or Rs. 15 = £1, per mensem staff pay, according to their grade status, assistant surgeon or hospital assistant, as the case may be. These subordinates are required to hold specialist's certificates awarded after a theoretical and practical course of instructions at the x ray institute, Dehra Dun. The divisional x ray section staff and portable equipment would proceed on active service with the division to which it belonged in the event of mobilisation. As regards war requirements it was also proposed that in addition to the x ray specialist with each general hospital, irrespective of size, there should be one specialist officer for each hospital ship and also one for each x ray section (its officer commanding), instead of one per field hospital as was originally intended. The outfit of each x ray section is packed for travelling purposes in rattan cane panniers covered with waterproof canvas suitable for mule transport. Owing to its fragility and costliness these panniers when employed on field service are carried by specially steady mules each with *one* muleteer. These mules (unlike other medical transport in the army) remain entirely under the control of the officer commanding the field x ray section. The divisional x ray equipment has now been in full working order at the headquarter station hospital of each of the ten divisional areas for some time and has proved an invaluable boon. At Peshawar Station Hospital it has been freely used during the recent frontier expeditions and has done very valuable work connected with such gunshot injuries as occurred amongst both British and native troops of the field force employed.

Medical Registration.

In emphasising the resolution upon the need for a Medical Registration Act in India passed at the last meeting of the Medical Section of the Asiatic Society the Indian medical press remarks upon the supineness of the Indian public in regard to this matter. Yet it is a matter of the greatest importance, as affecting both public and private interests. The general public, however, can hardly be censured for indifference, for it is only recently that any serious or united action has been taken by the profession, the point which then attracted attention being the continued multiplication of self-constituted bodies granting diplomas and licences to practise medicine. These diplomas being colourable imitations of those bestowed by English and Indian Universities had become a serious danger, not only to the profession but also to the public, who have no means of gauging the value of the imposing parchments in the possession of the pupils of these so-called medical schools. There are stated to be no fewer than five such institutions in Calcutta itself. With one exception none of these have adequate hospital or laboratory accommodation and there is no system of outside inspection. Each school grants its own diplomas and men are turned out without either the practical or the clinical experience which the public have a right to demand from those who profess to be fully qualified practitioners according to European standards. Some organising Act such as is now proposed would be a lasting benefit both to the profession and the public, and it is probable that the present agitation will speedily lead to a definite result.

Proposed Waterworks at Puri.

The Bengal Government has recently accorded administrative approval to a detailed scheme for the installation of waterworks at Puri. The scheme is estimated to cost Rs. 3,00,000 in round figures, and towards this the local government has made a grant of Rs. 1,00,000 from provincial revenues. It is understood that the municipality will take a loan of Rs. 50,000 and that another Rs. 25,000 will be contributed from the Lodging House Fund. There will still be a large balance to provide and it is hoped that Indian gentlemen will come forward with subscriptions in aid of the project, more especially in consideration of the reverent regard which every Hindu has for the place as the site of the great Jagannath pilgrimage. Numerous outbreaks of disease at this place, due to a foul water-supply, will be recalled to memory, and many a pious Hindu will, it may be expected, be only too glad to be allowed to assist in establishing a pure water-supply.

Cholera in Madras.

Madras is suffering from a severe outbreak of cholera. On August 3rd there were 22 attacks and 13 deaths; on the 4th there were 20 attacks and 19 deaths.

August 20th.

Obituary.

ROBERT TWENTYMAN LIGHTFOOT, L.R.C.S. EDIN., L.S.A.

Mr. Robert Lightfoot, the well-known and veteran surgeon of Newcastle, became a Licentiate of the Society of Apothecaries of London in the year of Queen Victoria's accession to the throne, having been already entitled to practise four years before that date upon his Scottish diploma. He was born in Waterloo year, and although when he died at Brighton on August 27th last he had reached the great age of 93 he had been in practice in Newcastle until three years ago. He was a native of Carlisle and was educated at Edinburgh, Vienna, Berlin, and Paris. His life snaps a link with a very grim period in the history of medical education, to wit, that of the Burke and Hare murders in Edinburgh. For Mr. Lightfoot was a pupil of John Knox who gained such a pitiable notoriety by buying the bodies of the murderers' victims. Mr. Lightfoot always declared that his famous teacher was ignorant of the source of these "subjects" for dissection. The deceased gentleman was a pupil of whose abilities Knox used to speak very highly and he made him a demonstrator in his school. Mr. Lightfoot started in general practice in Newcastle 70 years ago, and for 67 of them he remained as a practitioner in that town, where he enjoyed widespread popularity and respect, for he was a skilful surgeon and a conscientious medical attendant. He was, moreover, a man of general culture and of wide reading. He was formerly surgeon to the old Asylum for the Blind, now the Victoria School for the Blind. During the last two years he had been in failing health and was resident at Hove. He is survived by his widow who was a daughter of the late Alderman Thomas Bell, and by a son and two daughters. The funeral took place at Newcastle on August 31st, the first portion of the burial service being held in the cathedral; it was attended by the Lord Mayor of Newcastle and the town clerk of the city, representing the city officials; Sir George Hare Philipson, Professor F. Page, and Professor George Murray, representing the medical profession; and a number of personal and professional friends and patients.

We have received from Sir George Hare Philipson the following additional tribute to Dr. Lightfoot's memory:—

"After qualifying as a surgeon, Lightfoot spent some time at the continental schools of medicine at Paris, Berlin, and Vienna. He became familiar with modern languages and throughout his life interested himself with German medical literature. When a student at Edinburgh he was on intimate terms with Liston and was associated with Dr. Knox, the professor of anatomy, in the position of demonstrator. In Mr. Lightfoot has passed away the last man who had a living connexion with those who figure in the history of the great crime that brought about a change of the law that forbade the unclaimed dead to be carried to the dissecting-room. He was an able anatomist and in Lonsdale's 'Life of Dr. Knox' it is stated that the latter used words to this effect: 'There is nothing in the way of anatomical dissection that eyes can see which Lightfoot cannot see, nothing to be done which Lightfoot cannot do.' Mr. Lightfoot soon acquired a large and high-class practice. He was an able and successful operator and gained a reputation as from the 4th Volunteer Battalion, The Queen's Own (Royal West Kent Regiment), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant James Stratton Warrack, from the Eastern Command, Woolwich Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd Home Counties Field Ambulance: The undermentioned officers, from the East Surrey Bearer Company, Royal Army Medical Corps (Volunteers), are appointed to the ambulance, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain George Alfred Edsell and Lieutenant John Alexander Preston.

3rd Lowland Field Ambulance: Major Alexander Macdonald (since deceased), from the 1st Lothian Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain Alexander Aitken Ross, from the 1st Lothian Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908).

The undermentioned officers, from the 1st Edinburgh (City) Royal Garrison Artillery (Volunteers), are appointed to the ambulance, with precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Alexander Morrison McIntosh, and Surgeon-Lieutenant James Hunter Harvey Pirie.

The undermentioned officers, from the Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment), to be Lieutenants, with precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant John Dixon Comrie, Surgeon-Lieutenant Harry Alfred Leebody, and Surgeon-Lieutenant John William Keay. Surgeon-Lieutenant John D. Comrie to be Captain (dated June 3rd, 1908).

1st North Midland Field Ambulance: Thomas Ashby Barron to be Lieutenant (dated July 10th, 1908).

3rd North Midland Field Ambulance: Charles Henry Bullen to be Lieutenant (dated July 24th, 1908).

2nd West Riding Field Ambulance: Charles William Eames to be Lieutenant (dated July 1st, 1908).

2nd Wessex Field Ambulance: Lieutenant Alfred Bertram Soltau, from the Devon Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant (dated April 1st), to be Captain (dated April 8th), and to be Major (dated June 25th, 1908). Edward Revely Clarke, to be Lieutenant (dated June 25th, 1908). Charles Rowland Crowther, to be Lieutenant (dated June 25th, 1908). George Hope Warren, to be Lieutenant (dated June 25th, 1908). Fielding Charles Whitmore, to be Lieutenant (dated June 25th, 1908). *William Blackwood*, to be Lieutenant (dated June 25th, 1908).

2nd Eastern General Hospital: Major Charles John Jacomb-Hood, from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain James Augustus Rooth, from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

The undermentioned to be officers whose services will be available on mobilisation (dated April 27th, 1908):—To be Lieutenant-Colonels: Henry Seymour Branfoot, Thomas Jenner Verrall, Edmund Hobhouse, and Reginald Francis Jowers.

To be Majors: Edward Forster Maynard, Frederick John Paley, Walter Broadbent, William Watson Griffin, Donald George Hall, Arthur Herbert Buck, Charles Frederick Bailey, and Theodore Henry Ionides.

To be Captains: Frank George Bushnell, Walter Andrew Bowring, Richard Whittington, William Herbert Brailey, William Dobree Calvert, Henry Herbert Taylor, Henry Gervis, George Morgan, Charles Henry Benham, Leonard Arthur Parry, Arthur Maurice Colcutt, Robert Sanderson, Joseph Shardlow, Arthur Jaffray Hutchison, Charles Nugent Chadborn, Arthur Geoffrey Bate, Morris Notley John Rigby, Arthur Mantell Daldy, Ryder Percival Nash, and Walter Robert Wood.

1st Scottish General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated June 27th, 1908):—To be Lieutenant-Colonels: John Gordon, James Mackenzie Booth, James John Young Dalgarno, and John Marnoch.

To be Majors: Robert Gordon McKerron, Henry McIlree Williamson Gray, George Gibb, George *Rose*, Alexander Rudolf Galloway, Charles Howard Usher, William Rattray Pirie, and David Watson Geddie.

To be Captains: John Reid Levack, Henry Peterkin, and James Melville Paterson Crombie.

2nd Scottish General Hospital: Lieutenant-Colonel Frank Wyville Thomson (late Indian Medical Service), to be Lieutenant-Colonel (dated July 21st, 1908).

1st Western General Hospital, Royal Army Medical Corps: Nathan Raw, to be Lieutenant-Colonel (dated July 7th, 1908). Archibald Burns Gemmel to be Major (dated July 7th, 1908).

Sanitary Service: Frederick Mann Williams, late Lieutenant 2nd (Prince of Wales) Volunteer Battalion, The Devonshire Regiment, to be Lieutenant-Colonel (dated July 28th, 1908).

The undermentioned officers, from the Volunteer Force, are appointed to the Corps, with precedence as in the Volunteer Force (dated April 1st, 1908):—To be Lieutenant-Colonels: Supernumerary Surgeon-Lieutenant-Colonel (Honorary Lieutenant-Colonel in the Army) James Duncan, from the 3rd Volunteer Battalion, The Manchester Regiment; Supernumerary Surgeon-Lieutenant-Colonel Frederic Joseph Knowles, from the 2nd Volunteer Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment); Surgeon-Lieutenant-Colonel *Thomas Moore* Dawson, from the 1st Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant-Colonel George Hollies, from the 2nd Volunteer Battalion, The King's (Shropshire Light Infantry); Surgeon-Lieutenant-Colonel (Honorary Major in the Army) Andrew Alexander Watson, from the 2nd Volunteer Battalion, The East Lancashire Regiment.

To be Majors: Surgeon-Major Charles Averill, from the 5th Volunteer Battalion, The Cheshire Regiment; Surgeon-Major John Tatham Thompson, from the 3rd Volunteer Battalion, The Welsh Regiment; Surgeon-Major John William Ellis, from the 6th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Major Ernest Wykeham Barnes, from the 6th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Major Henry Christopher Lamport, from the 5th Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Major James Arthur Rigby, from the 5th Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Major William Fitzwilliam O'Grady, from the 1st Volunteer Battalion, The Manchester Regiment; Surgeon-Major Stephen Nesfield, from the 5th (Ardwick) Volunteer Battalion, The Manchester Regiment; Surgeon-Major Robert Jackson, from the 2nd Lancashire Royal Engineers (Volunteers); Surgeon-Major Thomas Stevenson, from the 2nd Lancashire Royal Garrison Artillery (Volunteers).

To be Captains: Surgeon-Captain John Howard-Jones, from the 4th Volunteer Battalion, The South Wales Borderers; Surgeon-Captain Charles Evan Humphreys, from the 5th Volunteer Battalion, The South Wales *Borderers*; Surgeon-Captain Albert Hilton, from the 3rd Volunteer Battalion, The Manchester Regiment; Surgeon-Captain Henry D'Arnim Blumberg, from the 3rd Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Captain *Elisha* Hodkinson Monks, from the 2nd Lancashire Royal Engineers (Volunteers); Surgeon-Captain Charles William Crawshaw, from the 2nd Volunteer Battalion, The East Lancashire Regiment; Surgeon-Captain Arthur Price, from the 4th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Captain Alan Young Greenwood, from the 3rd Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Captain (Honorary Lieutenant in the Army) Michael Joseph Mahoney, from the 6th Volunteer Battalion, The King's (Liverpool Regiment).

To be Lieutenants: Surgeon-Lieutenant Harry Armitage Robinson, from the 2nd Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant Arthur Henry Falkner, from the 2nd Volunteer Battalion The King's Own (Royal Lancaster Regiment); Surgeon-Lieutenant Frederick James Green, from the Duke of Lancaster's Own Imperial Yeomanry; Surgeon-Lieutenant Howard Henry, from the 1st Volunteer Battalion The East Lancashire Regiment; Surgeon-Lieutenant Douglas Catterall Leyland Orton, from the 2nd Volunteer Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment); Surgeon-Lieutenant Samuel English, from the 3rd Lancashire Royal Engineers (Volunteers); Surgeon-Lieutenant Samuel Edward Rigg, from the 1st Cumberland Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant Charles Botterill Baxter, from the 2nd Volunteer Battalion, The King's (Shropshire Light Infantry);

wreath from the Lincoln Medical Society, of which he had long been a member.

JOHN TAYLOR, M.R.C.S. Eng., L.S.A.

By the death of Mr. John Taylor at Earls Colne on Sept. 4th East Anglia loses one of the oldest members of the medical profession in the district. Mr. Taylor was in his ninetieth year, having been born in 1819. His father, Mr. John Polley Taylor, commenced to practise in Earls Colne in 1812. Mr. John Taylor the younger entered as a student at St. George's Hospital and subsequently became a pupil of Mr. Isaac Baker Brown. He qualified M.R.C.S. in 1842, L.S.A. in 1845, and joined his father in practice at Earls Colne, and on the decease of his father succeeded to the entire practice in 1856. He was medical officer and public vaccinator of the third district of the Halstead union for 50 years and also many years medical officer and public vaccinator of the tenth district of the Lexden and Winstree union. For some years he was President of the Colchester Medical Society, of which he was a member for 62 years, and only last month he again had the honour offered him. He was greatly interested in the Essex and Herts Medical Benevolent Society, being a trustee for Essex for many years. He was of a most hospitable and genial nature and was a keen sportsman, being preatly interested in fox hunting and cricket. He took a geen interest in all matters appertaining to his profession knd to the last kept himself as far abreast as possible of advancements in medicine. The funeral took place on Sept. 8th at Earls Colne and the respect in which he was held was shown by the large number of medical men and friends of all classes who attended from the whole country side.

WALTER BROWN, M.B. Aberd., L.R.C.P. Lond., M.R.C.S. Eng.,

PHYSICIAN TO THE GLOUCESTER GENERAL INFIRMARY.

The death occurred on Sept. 12th, at his residence, Carlton House, Gloucester, of Dr. Walter Brown. The deceased gentleman graduated M.B. of the University of Aberdeen in 1879, having taken the qualifications of M.R.C.S. Eng. and L.R.C.P. Lond. in 1874 and 1875 respectively. After holding resident appointments at the Victoria Hospital for Children, Chelsea, and the Royal United Hospital, Bath, Dr. Brown was appointed house surgeon at the Gloucester General Infirmary. On resigning the latter post he commenced practice at Gloucester and was subseqently elected assistant physician, and later physician to the General Infirmary. Dr. Brown was a prominent Freemason, he was extremely popular in Gloucester, and much sympathy is felt there for his widow and young family.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Professor J. G. Hjalmar Kinberg of Stockholm, well known both as a medical practitioner and as a zoologist. He was 89 years of age.—Prince Ivan R. Tarkhanoff, who was for many years professor of physiology in the Military Medical Academy, St. Petersburg. Since 1895, when he resigned the chair, he has been actively engaged lecturing as *privat-docent* on biology and physiology and in publishing papers and periodicals dealing with medicine and science in a popular way. Prince Tarkhanoff was born at Tiflis in 1846 and studied medicine in St. Petersburg, Strasburg, and Paris.

Medical News.

Foreign University Intelligence.—*Berlin:* Dr. Ulrich Friedemann has been recognised as *privat-docent* of Bacteriology.—*Bologna:* Dr. Casimiro Doniselli has been recognised as *privat-docent* of Experimental Physiology, and Dr. Arturo Beretta as *privat-docent* of Odontology.—*Chicago (North-Western Medical School):* Dr. William A. Evans, of the Chicago College of Physicians and Surgeons, has been appointed to the Chair of Hygiene; Dr. Prentiss has been appointed Assistant Professor of Anatomy; Dr. W. H. Buhlig, Assistant Professor of Medicine; Dr. R. T. Gilmore, Assistant Professor of Gynæcology; and Dr. Joseph Brennemann, Assistant Professor of Children's Diseases.—*Florence:* Dr. G. Greco, Professor of Surgery, has resigned his chair.—*New Orleans:* Dr. G. Mann has been appointed Professor of Physiology.—*New York (Cornell University):* Dr. S. Simpson of Edinburgh has been appointed to the chair of Physiology.—*Pisa:* Dr. Francesco Niosi has been recognised as *privat-docent* of External Pathology.—*Rio de Janeiro:* Dr. Miguel da Silva Pereira has been promoted to the chair of Internal Pathology.—*Rome:* Dr. Marco Almagià has been recognised as *privat-docent* of General Pathology; Dr. Giambatista Mariotti Bianchi as *privat-docent* of Pathological Anatomy; Dr. Nicola Leota as *privat-docent* of External Pathology; and Dr. Attilio Ascarelli as *privat-docent* of Forensic Medicine.—*Turin:* Dr. Eugenio Delfino has been recognised as *privat-docent* of External Pathology and Dr. Vittorio Marzocchi as *privat-docent* of Parasitology.

St. George's Hospital: a Proposed Hospital Club.—On Oct. 1st next, at 2.30 p.m., a meeting of past and present St. George's Hospital students will be held in the Medical School with the object of promoting a St George's Hospital Club. The club will include the present Amalgamation Club, the Graphic Society, and the Hunterian Society; whilst the *St. George's Hospital Gazette* will become the official organ of the new club and will in future be forwarded to members. The objects of the St. George's Club will be to extend and cement the associations between all St. George's men, past and present, and to keep them informed of news concerning the hospital and school. Dr. T. T. Whipham, consulting physician to the hospital, who will preside at the annual dinner of the Medical School at the Hotel Métropole in the evening, has kindly consented to become the first president of the club. It is hoped that all St. George's men will do their best to be present at the inaugural meeting. Those who may not have received an invitation by post are requested to send their present address to the honorary secretaries of the club, St. George's Hospital, London, S.W. All life members of the Amalgamation Club will become, *ipso facto*, life members of the new club.

Brighton and Sussex Medico-Chirurgical Society.—A meeting of this society was held on Sept. 3rd, Mr. R. F. Jowers, the new President, being in the chair. The President showed a case of Fracture of the Neck of the Humerus in which the lower fragment was pulled upwards and forwards so as to overlap the upper fragment. The fracture was exposed between the deltoid and pectoralis and the bones secured in position by two staples, one on each side of the biceps tendon. The result was excellent Dr. Walter Broadbent showed a man with Aneurysm of the Third Part of the Arch of the Aorta. He had a paralysed left vocal cord, unequal pupils, smaller left pulse, tracheal tugging, pulsation, dulness, and loud second sound in the first and second left spaces, also a harsh systolic murmur loudest over this area and less air entry in the upper lobe of the left lung. He had been under his care for 18 months. Mr. A. J. Martineau showed a man, 50 years of age, with a Perforating Ulcer of the Palate, said to have been started by an injury from a pipe stem. There was no history of syphilis, but improvement had taken place under iodide and inunctions of mercury. He also showed a woman, aged 32 years, who had suffered from Aphonia for several months which appeared to be functional. As she had a goitre the right lobe was removed under chloroform and the voice returned the same evening. The goitre appeared to exert no pressure on the trachea. Mr. G. Morgan showed a large Sarcomatous Gland removed from the groin of a boy aged two years. Dr. C. H. Benham showed an Ovary of the size of a bantam's egg, black from effused blood and gangrene, due to a twisted pedicle, removed for him from a child, aged nine years, by Mr. Jowers. The child had had six attacks of acute pain in the right lower abdomen with vomiting in the last two years, and when seen by Dr. Benham had tenderness at McBurney's point and the blood showed a leucocytosis of 12,500, mainly polynuclear. Dr. Benham also read a paper on the Treatment of a Common Cold. He first dealt with prophylaxis, recommending isolation of the first case in a house; then with treatment of acute colds in the early stages with quinine or salicylates, and of chronic colds with tonics and nasal douches. He went fully into the opsonic and vaccine treatment of will be under the charge of Captain Pinch, to whom all communications should be addressed. It is not intended to keep the exhibition open longer than one month, beginning Oct. 1st. Exhibitors are invited to be responsible for the removal of their drawings, but false-backed frames will be provided for their secure exhibition under glass whilst displayed. The exhibition is open to all members of the profession on presentation of card, but those who desire to consult it more than once or to attend any lectures that may be given are invited to subscribe to the Polyclinic funds the sum of 1 guinea.

I am, Sir, yours faithfully,
JONATHAN HUTCHINSON.
The Polyclinic, Chenies-street, Sept. 14th, 1908.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

To the Editor of THE LANCET.

SIR,—The statement in your annotation under the above heading in THE LANCET of Sept. 12th, p. 825, that rupture of the ligamentum patellæ has seldom been recorded has prompted me to send you the notes of the following case.

A man, aged 29 years, on Nov. 11th, 1902, slipped and fractured his right patella. No operation was performed and he recovered with very fair movement in the knee, being able to carry on his ordinary employment quite well. On August 13th, 1907, he slipped and fractured the same patella again. I saw him with Mr. A. J. D. Riddett and advised operation. This was performed a week later, when it was found that the second fracture was through the middle of the upper fragment, the original fracture being firmly united with fibrous tissue with half an inch interval between the fragments. The edges of the recent fracture were sawn off and then wired firmly together; the fibrous union of the original fracture was not interfered with. The result was quite good and the man returned to his work after three months, which he carried on till August 29th, 1908, when he slipped once more and felt his knee go again.

I again saw him with Mr. Riddett and found a lot of effusion in and round the joint with total inability to lift the leg. We decided to operate again, especially as the patient wished it, saying that his leg had felt much stronger since the last operation. On opening up the old scar we found that the patellar ligament was torn right through just below the attachment to the patella. The second fracture was found to have united with firm bony union. The old silver wire was removed and the ligamentum patellæ fixed firmly to the lower border of the patella with silver wire and some silk sutures. The original fracture was in the same condition as at the previous operation. The wound has now healed and it will be interesting to see what the functional result will be and also whether it will be the quadriceps tendon's turn to go the next time he falls.

I am, Sir, yours faithfully,
F. BOLTON CARTER.
Leicester, Sept. 12th, 1908.

THE VARIATIONS IN THE PHAGOCYTIC POWER OF LEUCOCYTES FROM DIFFERENT INDIVIDUALS AND ITS BEARING UPON THE OPSONIC INDEX.

To the Editor of THE LANCET.

SIR,—Sir A. E. Wright has stated that "we may take the opsonic index of any blood as an index of the patient's power of phagocytic response."[1] According to this one person is less resistent to a staphylococcic infection than another, partly because his blood is deficient in opsonin, certainly not because there is an inherent deficiency in the phagocytic capacity of the leucocytes themselves.

In a paper read by two of us (E. E. G. and W. Y.) before the Pathological Society of Great Britain and Ireland in January, 1908, we stated that the phagocytic power of the leucocytes of one individual may constantly differ from that of another individual. This was tested according to the technique of Wright with an emulsion of staphylococcus albus.

We have recently made further observations upon the blood of two individuals, "A" and "G," estimating the degree of phagocytosis to staphylococcus obtained with (1) "A's" and "G's" serum respectively with the *same* leucocytes—i.e., comparing the opsonising influence of the serum upon phagocytosis; (2) "A's" and "G's" leucocytes respectively with the *same* serum—i.e., comparing the influence of the leucocytes upon phagocytosis; and (3) "A's" serum with "A's" leucocytes and "G's" serum with "G's" leucocytes—i.e., comparing the total phagocytic power of the blood. Three indices were calculated in this way, using "G" as control at intervals of three days for one month. On July 20th, for example, "A's" indices were the following: (1) 1·15 (mean of three separate observations), (2) 0·83 (mean of three separate observations), and (3) 0·98 (mean of two separate observations). Therefore, though "A's" opsonic index was definitely above that of the control the total "power of phagocytic response" was practically equal, because "A's" leucocytes were deficient in inherent phagocytic power. "A's" and "G's" red corpuscles were not agglutinated by any of the sera used; systematic examination of their blood revealed no leucocytosis.

We intend at an early date to publish a detailed account of the observations we have in hand and the conclusions we have arrived at.

We are, Sir, yours faithfully,
ERNEST E. GLYNN, M.A., M.B. Cantab., M.R.C.P. Lond.,
Lecturer in Clinical Pathology and Morbid Anatomy, University of Liverpool; Pathologist to the Liverpool Royal Infirmary;
WARRINGTON YORKE, M.B., Ch.B. Liverp.,
Late Holt Fellow in Physiology, University of Liverpool;
G. L. COX, M.A., M.B. Cantab.,
Holt Fellow in Pathology, University of Liverpool.
August 24th, 1908.

A PERSONAL MATTER.

To the Editor of THE LANCET.

SIR,—My attention has been directed to the recent distribution, for advertising purposes, of a pamphlet bearing my name. The facts are as follows:—

In 1906, when acting as foreign editor of a medical journal, the editor asked me to make an abstract of an article in the *Berliner Medizinische Klinik* by Professor Gumpert. The abstract was published as an article under my name, although I had given no authority therefor; it is the only time my name has appeared in this journal. Copies of my abstract were bought, I believe in good faith, from the journal in which the abstract appeared, the sale being without my consent or knowledge. The heading "A Contribution, &c. By T. P. Beddoes," has led many to conclude that I claim the credit of the original work described, which is entirely due to Professor Gumpert and his collaborators.

Yours faithfully,
T. P. BEDDOES.
Sept. 14th, 1908.

⁂ We should be interested to learn the name of the medical journal.—ED L.

THE PREVENTION OF TUBERCULOSIS (IRELAND) BILL.

To the Editor of THE LANCET.

SIR,—May I say that I believe your attitude with regard to the Compulsory Notification Clauses of the Irish Tuberculosis Bill is entirely wise? Unlike Sir John Byers, I am not a professor of midwifery, but, after all, a medical man who is a member of a sanitary authority is perhaps in closer touch with the prejudices of people who will be affected by the Bill.

Knowing what I do of the Irish people, I believe that the Compulsory Notification Clauses will excite so much suspicion and dread as effectually to undo any good result heretofore obtained from the tuberculosis campaign. People simply will not go to a medical man if they think that by so doing they may be listed as tuberculous. I fully recognise that the anti-tuberculosis movement in Ireland has done much good, but it has a source of weakness in not being largely controlled by those in close touch with the popular party—and thus its mental and nervous diseases in Lower Austria, "am Steinhof," which is reputed to be the largest public establishment of its sort in Europe, to the Mauer-Öhling asylum, and to the Moravian establishments. During the Congress a bust of Krafft-Ebing will be unveiled in the university. The full programme of proceedings will be published shortly. The President of the Congress is Hofrat Professor Dr. Obersteiner, 1, Billrothstrasse, 69, Wien XIX/1, and the general secretary is Professor Dr. Pilcz, Wien XIII/12.

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[1] THE LANCET, August 17th, 1907, p. 427.

BOOKS, ETC., RECEIVED.

Ash and Co., Limited, 2, Exchange Parade, Southwark-street, and Henry-street, Tooley-street, London, S.E.

A Handbook of Sanitary Law. For the Use of Candidates for Public Health Qualifications. By B. Burnett Ham, D.P.H. Camb., M.D., M.R.C.S., L.R.C.P., Commissioner of Public Health for Queensland. Fifth edition. Price 2s. 6d. net.

Laurie, T. Werner, Clifford's Inn, Fleet-street, London, E.C.

The Cathedrals and Churches of Norway, Sweden, and Denmark. By T. Francis Bumpus, Author of "The Cathedrals of England and Wales," &c. Price 16s. net.

Livingstone, E. and S., 15, Teviot-place, Edinburgh.

Husband's Practice of Medicine. Designed for the Use of Students and Practitioners. Sixth edition, rewritten and enlarged. By Robert F. C. Leith, M.A., M.Sc., M.B., C.M., F.R.C.P. Ed., Professor of Pathology and Bacteriology, Birmingham, and Robert A. Fleming, M.A., M.D., F.R.C.P. Ed., Lecturer on the Principles and Practice of Medicine, School of Medicine of the Royal Colleges, Edinburgh; Assistant Physician, Royal Infirmary, Edinburgh. Price 12s. net.

Murray, John, 50a, Albemarle-street, London, W.

Insectivorous Plants. By Charles Darwin, M.A., F.R.S. Revised by Francis Darwin. Price 2s. 6d. net.

Putnam's Sons (G. P.), New York and London.

The Muscles of the Eye. By Lucien Howe, M.A., M.D., Professor [illegible] rsity of Buffalo, Member of the Royal [illegible] ngland. In Two Volumes. Vol. II., Price 16s. net.

Reid, Andrew, and Company, Limited, Newcastle-upon-Tyne.

University of Durham College of Medicine, Newcastle-upon-Tyne. Calendar for the Year 1908-1909. Price not stated.

Thacker, Spink, and Co., Government-place, Calcutta. (Thacker, W., and Co., 2, Creed-lane, London, E.C.)

Insanity in India. Its Symptoms and Diagnosis, with Reference to the Relation of Crime and Insanity. By G. F. W. Ewens, M.D., Dip. Pub. Health, Major, Indian Medical Service; Superintendent, Punjab Lunatic Asylum, Lahore. Price 12s. net.

Wright, John, and Sons, Limited, Bristol. (Simpkin, Marshall, Hamilton, Kent, and Co., Limited, London.)

A Synopsis of Surgery. By Ernest W. Hey Groves, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at the University College, Bristol. Price 7s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Benson, C. T. V., M.R.C.S., L.R C.P. Lond., has been appointed to the Throat Department and to the Children's Surgical Department at St. Thomas's Hospital.

Corbett, C. D. H., B.A. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed to the Throat Department and to the Children's Medical Department at St. Thomas's Hospital.

Hancock, George Charles, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. (Eng. Conj.), has been appointed Assistant Inspector of Foods on the Medical Staff of the Local Government Board.

Hodgson, Stanley, M.D., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed District Medical Officer to the Salford Union and Divisional Police Surgeon to the Salford Police.

Huggins, G. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Block 8 at St. Thomas's Hospital.

Leigh, John Dickinson, M.D. Edin., F.R.C.S. Edin., D.P.H., has been appointed Medical Inspector of Schools by the Durham County Council.

McSheehy, O. W., M.R.C.S., L.R.C.P. Lond., has been appointed to the Skin Department at St. Thomas's Hospital.

Montesole, M. H. E. R., M.R.C.S., L R.C.P. Lond., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

Morton, Edwin, M.D. Edin., has been appointed Medical Superintendent and Adviser to the Education Committee of the Oxfordshire County Council.

Neild, F. M., M.B., B.S. Lond., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

Pridham, G. H., M.R.C.S., L.R.C.P. Lond., has been appointed to the Children's Medical Department at St. Thomas's Hospital.

Shorland, Walter Edmund, L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer and Public Vaccinator for the Llandilo (Carmarthenshire) District by the Llandovery Board of Guardians.

Wheeler, J. N., M.R.C.S., L R.C.P. Lond., has been appointed Ophthalmic House Surgeon at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birkenhead Borough Hospital.—Junior Resident House Surgeon. Salary £80 and notification fees.

Birmingham and Midland Free Hospital for Sick Children.—Resident Medical Officer and Resident Surgical Officer for six months. Salary at rate of £80 per annum each, with board, washing, and attendance.

Birmingham, Queen's Hospital.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Bolton, County Borough of.—Assistant Medical Officer of Health and School Medical Officer. Salary £250 per annum, rising to £300.

Bradford, Poor-law Union Hospital and Workhouse.—Assistant Resident Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

Brighton, Sussex County Hospital.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing.

Bristol Royal Infirmary.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also House Surgeon. Salary £130 per annum, with apartments, board, and laundry.

British Lying-in Hospital, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 a year, including board, lodging, and washing.

Camberwell House Asylum, 33, Peckham-road, S.E.—Second Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, and laundry.

Cancer Hospital, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

Chester County Asylum.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and washing.

Denbigh, Denbighshire Infirmary.—House Surgeon. Salary £100, with board, residence, and washing.

[illegible] Greenwich.—Two House Physicians and [illegible] six months. Salary £50 per annum, with [illegible] ishing.

Dudley, The Guest Hospital.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

Evelina Hospital for Sick Children, Southwark Bridge-road, London, S.E.—House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing. Also Clinical Assistants.

Exeter, County Education Office.—Medical Officers for Inspection of Children.

Farningham and Swanley, Kent, Homes for Little Boys.—Medical Officer, unmarried. Salary £100 a year, with board, residence, and laundry.

Gartcosh, Glasgow District Asylum.—Assistant Medical Officer. Salary commencing at £125, with board and lodging.

Gordon Hospital for Fistula, &c., Vauxhall Bridge-road, S.W.—Anæsthetist.

Grimsby and District Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, attendance, and washing.

Hampstead General Hospital.—House Physician and House Surgeon, both for six months. Salary at rate of £70 per annum, with board and residence.

Hereford, Herefordshire General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton —Resident House Physicians for six months. Salary £25. Also Resident Medical Officer. Salary £200 per annum, with board and residence. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence. Also Clinical Assistants for six months. Salary at rate of £100 per annum.

Huddersfield Infirmary.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

Jersey General Dispensary and Infirmary.—Resident Medical Officer. Salary £120 per annum.

Lancaster, Royal Lancaster Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

Leamington, Warneford, Leamington, and South Warwickshire General Hospital.—Two Resident Medical Officers. Salary for Senior £100, and for Junior £65 per annum, with board, washing, and apartments.

Leicester Infirmary.—Assistant House Surgeon; also Assistant House Physician, both for six months. Salaries at rate of £60 per annum, with board, lodging, and washing.

Leysin, Switzerland, English Sanatorium.—Assistant Medical Officer, unmarried. Salary at rate of £72 per annum for first six months, afterwards at £96, with board and lodging.

London Hospital, Whitechapel, E.—Assistant Surgeon.

Mandalay Municipality.—Health Officer. Salary Rs.600 (£40) per mensem.

Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

Newcastle-upon-Tyne Education Committee.—Assistant Medical Officer. Salary £250 per annum.

THE EYESIGHT OF CHILDREN ATTENDING ARMY SCHOOLS IN INDIA.

(FROM AN INDIAN CORRESPONDENT.)

THE hygienic condition of army schools in India, particularly with regard to the question of vision, has recently been the subject of an inquiry. Specialists in ophthalmology were sent to the following stations to examine the vision of the children of British soldiers over seven years of age, and to give the parents concerned necessary information regarding the spectacles required where such were considered necessary:—Rawal Pindi, Peshawar, Nowshera, Ambala, Sialkot, Calcutta, Bareilly, Fyzabad, Lucknow, Meerut, Karachi, Mhow, Ahmednagar, Poona, Kirkee, and Bombay. The inspecting officers were also directed to report on the lighting of schools and the structural alterations necessary to improve it, together with the type of desks and seats used, with special reference to their adaptability for proper vision, and other subsidiary factors connected with the vision of school children. The result of these inspections is briefly as follows.

VISION.

This was tested by means of Snellen's test types, every child being required to read with each eye separately D–6 at 20 feet and D–0·6 at 10 inches. Any child who could not read the types was subsequently seen at hospital, where the refraction was ascertained under a mydriatic. The parents were then informed of the nature of the visual defect and advised as to what spectacles to procure. With few exceptions the parents provided the glasses at their own expense. The result of the examinations is shown in the following table:—

—	Actual numbers.	Percentages.
Total number examined	612	—
Number with defective vision	99	16
Hypermetropia	*55	11
Hypermetropic astigmatism	12	
Myopia	7	2
Myopic astigmatism	7	
Mixed astigmatism	7	1
Leucoma	2	—
Aphakia	1	—
Convergent squint...	†18	3
Divergent squint	‡1	
Trachoma	13	—
Nystagmus	1	—
Dislocation of lens	1	—

* Includes 16 cases of squint.
† Hypermetropic, 15; leucoma, 2; aphakia, 1. ‡ Hypermetropic.

Slight cases of hypermetropia with 6/6 vision, in which muscular equilibrium was perfect and which did not require correction by glasses, are not shown amongst those with defective vision. In one case, a child with myopic astigmatism was found to be wearing + 1 spheres. In another class a child was found with 1/60th vision (each eye) due to partial dislocation of the lenses. In several cases it is remarked that children who were considered wanting in intelligence became quite bright and intelligent after the supply of glasses. The percentage of cases of myopia is much the same as is usually found in school children of the age examined. The large majority of children seen were below 12 years of age, whereas myopia attains its greatest frequency between 12 and 18 years.

It will be noticed that 19 cases of squint were found. According to Worth, 75 per cent. of cases of unilateral squint appear before the end of the fourth year, and in 53 per cent. of alternating cases the deviation is seen before the end of the second year. This being so, it appears desirable that the eyes of all children should be examined by a medical officer for early signs of squint and other visual defects before school attendance is commenced.

LIGHTING.

With the exception of the schoolrooms at Karachi and Colaba, the lighting in all cases was found to be defective and in some instances very bad, notably the schools for adults and elder children at Calcutta, Fyzabad, Ahmednagar, Rawal Pindi (cavalry) and Mhow (cavalry), and the infants' school at Meerut. The rooms referred to at Ahmednagar and Mhow are described as very dark and ill-ventilated. In some schools the lighting was so defective that the inspectors found that lamps had to be used on dull mornings. The defective lighting was found to be due chiefly to the fact that most schools were not built as such, but are old barrack-rooms re-appropriated and so constructed that to improve the lighting is a difficult matter. The defects in lighting have been brought to notice and representations made indicating the structural alterations necessary to improve it so as to render the building suitable for school purposes. In the majority of cases this can be done at small expense by enlarging and increasing the number of clerestory windows, reducing the woodwork in windows, and increasing the glass area generally. The necessity for so arranging matters as to insure a larger glass area on the side (left side of the pupils) from which the major portion of the light enters has been pointed out. It has been recommended that sunshades should be removed from all clerestory windows on the north side and that those over other windows should be hinged so that they may be raised during the winter months. Attention has been drawn to the desirability of colour-washing the walls of schools pale green and a recommendation has been made that an order should be issued and embodied in regulations to this effect. Softer light would be obtained and glare from the walls would be prevented. In nearly all schools the walls are at present whitewashed.

DUTIES OF TEACHERS IN CONNEXION WITH EYESIGHT.

In addition to the defective lighting the report states that in many cases the light is not properly directed on to the desks. In some cases children are to be seen sitting facing the glare from windows, while in others they have their backs to the light, or the light comes from the right. This incorrect placing of desks is due in some cases to ignorance on the part of teachers of the fact that the preponderance of light should always come from the "left" of the scholars; in other cases it is due to inability on the part of schoolmasters so to arrange the desks as to obtain the above effect, as a result of narrowness of the rooms, length of desks, or difficulty in arranging classes and blackboards so that a side light from the left is obtained. Considering this, and the fact that 19 cases of squint were found, of which some had not been sent to hospital for treatment, it would appear that army schoolmasters fail to realise their responsibilities in preventing the deterioration of vision of the children who are constantly under their observation. With a view to rectifying this a short list of instructions detailing "the duties of schoolmasters in connexion with eyesight" has been drawn up.

DESKS AND SEATS.

In all schools (with the exception of five desks at Rawal Pindi and a few at one or two other stations) the desks and seats are very unsuitable for children. Those supplied for elder children are in nearly all cases too high, being intended for men. The result is that children seated at such desks assume faulty positions; the feet hang some distance from the ground or rest in an awkward position on foot-rails, and the weight is supported partly on the left arm and partly on the chest which is pressed against the desk. In all cases the seats are too broad; in very few instances have back-rests been provided, and even when present they slope at too great an angle. The seats are forms and are placed at varying distances from the desks, the result being that to reach the desk the body is bent forward and the head falls towards the desk as the muscles of the neck become tired. The eyes being too near the book accommodation and convergence are strained, the eyeball is compressed by the recti muscles, and myopia or strabismus is liable to result. The following extracts from one of the reports will serve to illustrate this:—

(a) It was noticed that three children, about eight years of age, were sitting at a desk; the form was 20 inches in height, the front edge of the desk was six inches from a perpendicular let-fall from the scholar's edge of the desk, so to reach the desk, which was 29 inches in height (scholar's edge), they had to bend over. These children were stooping over their books writing, their eyes two and a half inches or so from the books. One of these children I found to be suffering from a high degree of myopia; the other two children were, probably unconsciously, copying the example of the elder myopic child.

(b) The desks are those usually supplied for adults with forms as

A little earlier in the scene we find reference to the treatment of syphilis in Shakespeare's time.

> *Timon*: Give them diseases . . . .
> . . . . season the slaves
> For tubs and baths; bring down rose-cheeked youth
> To the tub-fast, and the diet.

The baths referred to were probably sweating baths, which were greatly used in the treatment of this disease. Jasper Torella, an eminent physician and Bishop of Justinia, who flourished in the early part of the sixteenth century, says that the cure of this disease, which he calls pudendagra, "depends, in the first place, upon diet and potions, in the second, upon bathing and local applications, and especially upon the use of the stove or sudatory; the hot-air or sweating bath; and, in the third place, on liniments containing a small proportion of quicksilver." The secretions of the skin were also systematically stimulated by sweating decoctions or sweating drinks, composed chiefly of sassafras and guaiacum—hence Pandarus says:

> "Till then I'll sweat, and seek about for eases."

The surgeons of those times adopted a particular diet in the treatment of the "lues," which was known and distinguished *par excellence* as *the* diet; and it is this diet, no doubt, which is referred to by Timon with the affix of the definite article. It seems to have been of a very moderate nature; in fact, its adoption might have been called, by those with a previously healthy appetite, fasting. This may explain the expression "tub-fast." Ambrose Paré orders: "Yet if the patient shall be weak, you may some hours before the unction, give him some gelley, the yolke of an egge or some broath made of meate boiled to pieces, but very sparingly, lest nature, intent upon the concoction of solid meats, or in great quantity, should bee drawn away from that which we intend."

Timon says to Apemantus farther on in the same scene: "I'll beat thee—but I would infect my hands," reminding us that in Shakespeare's time the secondary forms of the disease were erroneously thought to be contagious in the highest degree.

If Shakespeare disgusts the delicacy of the present age by the undisguised manner in which he treats this subject, it must be admitted that he presents it in a form little calculated to delude or mislead. On the contrary, he paints the morbid features of libertinism in all their truthful hideousness, from which a young man might derive the same kind of lesson as that of temperance which the Spartan Fathers endeavoured to teach their children, by presenting to their observation the repulsiveness of drunkenness in the person of their slaves. There is not among the many references to disease in Shakespeare's plays one that gives a better proof of the accurate medical knowledge of that wonderful dramatist.

I am, Sir, yours faithfully,
J. HENRY THOMPSON, M.B., B.Ch.R.U.I.

Croydon, Sept. 14th, 1908.

AN ANCIENT PICTURE.

To the Editor of THE LANCET.

SIR,—The engraving to which your correspondent refers is, I think, from the original picture in possession of the Royal College of Physicians of London. "It is painted by Robert Hannah, and was exhibited by him at the Royal Academy in 1848, and purchased by the College in 1869. [illegible] in the picture was copied by permission of the [illegible] Cornelius Jansen.

This picture was engraved by E[illegible] I believe, are now scarce, owing [illegible] which were many copies purchased by American visitors to the International Medical Congress in 1881.

I am, Sir, yours faithfully,
W. FLEMING.

London, S.W., Sept. 8th, 1908.

THE ALSAGER URBAN DISTRICT COUNCIL AND ITS MEDICAL OFFICER.

Dr. Henry Crutchley, medical officer of health of the Alsager District, is having a difference of opinion with his authority. It appears that he has been medical officer of health for 13 years at a salary of £20 per annum, one half of which is paid by the Local Government Board, and that during that time it had never been suggested that he was [illegible] other than an able and efficient [illegible] passed by the council requiring [illegible] reports, which hitherto had bee[illegible] Crutchley explained that he did not consider that personal attendance was necessary for the mere purposes of reading the report, but that he would be pleased to attend any meeting of the council when his advice was desired. Matters seem to have been left upon this reasonable basis until July 13th when a quarterly report was submitted through the clerk to the meeting of the council. On this occasion a resolution was passed that the council would not accept the report unless the medical officer attended "to give it personally." The resolution was forwarded by post to Dr. Crutchley by the clerk to the council, together with instructions that he must personally attend to present the quarterly report, and as the terms of the letter did not, in Dr. Crutchley's view, err on the side of civility it was not answered. On Sept. 8th, as Dr. Crutchley had not replied to the clerk's letter, and as his last report had not been accepted because it had not been verbally delivered, it was decided to advertise the post as vacant. The estimated population of the Alsager district is 2641, and it is perfectly clear to everybody that the quarterly report of the medical officer of such a district could be written in ordinary circumstances on half a sheet of notepaper, and that to require the medical officer to attend to read such a document to the authority, which already had it in its hands, is a ridiculous formality. Dr. Crutchley rightly considered that it would be necessary for him to attend whenever his advice was desired, and we cannot conceive why the Alsager urban district council should demand his presence on other occasions.

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of THE LANCET.

SIR,—A medical work in English, a few years earlier than Boorde's "Breuvary of Health" (1552) mentioned by Mr. W. Kelly, was "The Englishman's Treasure with the True Anatomie of Man's Bodie," by Thomas Vicary. This was first published in 1548, but according to Mr. Sidney Young's "Annals of the Barber Surgeons" no copy of the first edition is now known to be extant. The earliest edition in the library of the British Museum bears date 1577. The popularity of this treatise may be judged from its attaining a ninth edition in 1641. A copy of this edition is in the library of St. Bartholomew's Hospital. Dr. F. J. Furnivall edited a reprint of this book (from the 1577 edition) for the Early English Text Society in 1888 (E. E. T. S., Extra Series, LIII.). Thomas Vicary was Serjeant Surgeon to King Henry VIII. and was five times Master of the Barber Surgeons Company. In the celebrated Holbein picture at Barbers' Hall he is represented receiving the charter from the King. He was also "Resident Surgical Governor" of St. Bartholomew's Hospital. Still earlier than the date of the first edition of Vicary's "Anatomie of the Bodie of Man"—namely, in 1528—there was published by T. Berthelet, at London, an edition of the famous "Regimen Sanitatis Salerni," with commentaries by Arnaldus de Villa Nova. "This boke techyng al people to governe them in helthe, is translated out of the Latyne tonge in to Englishe by T. Paynell." The commentaries only are in English. Further editions of this book were published in 1530, 1535, 1541, 1557, and 1575.

I am, Sir, yours faithfully,
A. L. MORETON.

St. Bartholomew's Hospital, Sept. 9th, 1908.

PS.—With reference to the questions concerning an ancient picture I have in my possession an engraving of the picture to which your correspondent [illegible] y Henry Lemon after Robert Hannah) was [illegible] by Lloyd Bros. of 22, Ludgate-hill, and dedic[illegible] of Hanover-terrace, Regent's Park, who presented the original picture to his friend, Joseph Hodgson, F.R.S., of Westbourne-terrace. Hodgson (1788–1869), it will be remembered, was a well-known Birmingham surgeon, and was P.R.C.S. in 1864.

PUBLIC HEALTH AND THE F.R.C.S. EDIN. EXAMINATION.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me as to the scope of public health as an optional subject for the F.R.C.S. Edin., also books recommended?

I am, Sir, yours *faithfully*,
DIPLOMA.

Sept. 14th, 1908.

*** Our correspondent will find the information which he requires at p. 688 of THE LANCET of August 29th, 1908.—ED. L.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions were received between Sept. 3rd and 16th:—British Guiana Branch of the British Medical Association, per K. S. Wise, £5; Llandilo and District Medical Society, per R. Jones, £2 2s.; R. E. Roberts, Cwmfelinfach, Newport, Mon., £1 1s.; and E. O. B. Carbery, Staff-Surgeon R.N., 5s.

◆

A. D.—We have received the verses twice previously and have not felt moved to publish them.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 17th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall	Solar Radio in Vacuo	Maximum Temp. Shade.	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
Sept. 11	29·79	W.	...	94	58	47	48	50	Cloudy
" 12	29·95	N.E.	0·02	106	58	46	46	52	Fine
" 13	30·23	WSW	...	98	61	43	47	51	Fine
" 14	30·24	S.W.	...	117	67	50	52	57	Cloudy
" 15	30·00	S.	...	79	63	51	54	58	Overcast
" 16	30·18	WSW	0·08	97	64	48	50	52	Fine
" 17	30·11	W.	...	80	70	52	57	61	Cloudy

During the week marked copies of the following newspapers have been received:—*Whitby Gazette, Oxford Times, Perthshire Advertiser, Daily News, Yorkshire Herald, Irish Independent, Eastern Morning News, Shields Daily Gazette, Reading Mercury, Liverpool Courier, Surrey Advertiser, Liverpool Daily Post, Birmingham Post, Westminster Gazette, Army and Navy Gazette, Wimbledon Gazette, Daily Telegraph, Pall Mall Gazette, &c.*

THE EYESIGHT OF CHILDREN ATTENDING ARMY SCHOOLS IN INDIA.

(FROM AN INDIAN CORRESPONDENT.)

THE hygienic condition of army schools in India, particularly with regard to the question of vision, has recently been the subject of an inquiry. Specialists in ophthalmology were sent to the following stations to examine the vision of the children of British soldiers over seven years of age, and to give the parents concerned necessary information regarding the spectacles required where such were considered necessary:—Rawal Pindi, Peshawar, Nowshera, Ambala, Sialkot, Calcutta, Bareilly, Fyzabad, Lucknow, Meerut, Karachi, Mhow, Ahmednagar, Poona, Kirkee, and Bombay. The inspecting officers were also directed to report on the lighting of schools and the structural alterations necessary to improve it, together with the type of desks and seats used, with special reference to their adaptability for proper vision, and other subsidiary factors connected with the vision of school children. The result of these inspections is briefly as follows.

VISION.

This was tested by means of Snellen's test types, every child being required to read with each eye separately D—6 at 20 feet and D—0·6 at 10 inches. Any child who could not read the types was subsequently seen at hospital, where the refraction was ascertained under a mydriatic. The parents were then informed of the nature of the visual defect and advised as to what spectacles to procure. With few exceptions the parents provided the glasses at their own expense. The result of the examinations is shown in the following table:—

—	Actual numbers.	Percentages.
Total number examined	[illegible]	—
Number with defective vision	88	15
Hypermetropia	*55	11
Hypermetropic astigmatism	11	
Myopia	7	2
Myopic astigmatism	4	
Mixed astigmatism	7	1
Leucoma	2	—
Aphakia	1	—
Convergent squint	†18	3
Divergent squint	‡1	
Trachoma	15	—
Nystagmus	1	—
Dislocation of lens	1	—

* Includes 18 cases of squint.
† Hypermetropia 15; leucoma 2, aphakia, 1. ‡ Hypermetropia.

Slight cases of hypermetropia with 6/6 vision, in which muscular equilibrium was perfect and which did not require correction by glasses, are not shown amongst those with defective vision. In one case, a child with myopic astigmatism was found to be wearing + 1 spheres. In another case a child was found with 1/60th vision (each eye) due to partial dislocation of the lenses. In several cases it is remarked that children who were considered wanting in intelligence became quite bright and intelligent after the supply of glasses. The percentage of cases of myopia is much the same as is usually found in school children of the age examined. The large majority of children seen were below 12 years of age, whereas myopia attains its greatest frequency between 12 and 18 years.

It will be noticed that 19 cases of squint were found. According to Worth, 75 per cent. of cases of unilateral squint appear before the end of the fourth year, and in 53 per cent. of alternating cases the deviation is seen before the end of the second year. This being so, it appears desirable that the eyes of all children should be examined by a medical officer for early signs of squint and other visual defects before school attendance is commenced.

LIGHTING.

With the exception of the schoolrooms at Karachi and Colaba, the lighting in all cases was found to be defective and in some instances very bad, notably the schools for adults and elder children at Calcutta, Fyzabad, Ahmednagar, Rawal Pindi (cavalry) and Mhow (cavalry), and the infants' school at Meerut. The rooms referred to at Ahmednagar and Mhow are described as very dark and ill-ventilated. In some schools the lighting was so defective that the inspectors found that lamps had to be used on dull mornings. The defective lighting was found to be due chiefly to the fact that most schools were not built as such, but are old barrack-rooms re-appropriated and so constructed that to improve the lighting is a difficult matter. The defects in lighting have been brought to notice and representations made indicating the structural alterations necessary to improve it so as to render the building suitable for school purposes. In the majority of cases this can be done at small expense by enlarging and increasing the number of clerestory windows, reducing the woodwork in windows, and increasing the glass area generally. The necessity for so arranging matters as to insure a larger glass area on the side (left side of the pupils) from which the major portion of the light enters has been pointed out. It has been recommended that sunshades should be removed from all clerestory windows on the north side and that those over other windows should be hinged so that they may be raised during the winter months. Attention has been drawn to the desirability of colour-washing the walls of schools pale green and a recommendation has been made that an order should be issued and embodied in regulations to this effect. Softer light would be obtained and glare from the walls would be prevented. In nearly all schools the walls are at present whitewashed.

DUTIES OF TEACHERS IN CONNEXION WITH EYESIGHT.

In addition to the defective lighting the report states that in many cases the light is not properly directed on to the desks. In some cases children are to be seen sitting facing the glare from windows, while in others they have their backs to the light, or the light comes from the right. This incorrect placing of desks is due in some cases to ignorance on the part of teachers of the fact that the preponderance of light should always come from the "left" of the scholars; in other cases it is due to inability on the part of schoolmasters so to arrange the desks as to obtain the above effect, as a result of narrowness of the rooms, length of desks, or difficulty in arranging classes and blackboards so that a side light from the left is obtained. Considering this, and the fact that 19 cases of squint were found, of which some had not been sent to hospital for treatment, it would appear that army schoolmasters fail to realise their responsibilities in preventing the deterioration of vision of the children who are constantly under their observation. With a view to rectifying this a short list of instructions detailing "the duties of schoolmasters in connexion with eyesight" has been drawn up.

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In all schools (with the exception of five desks at Rawal Pindi and a few at one or two other stations) the desks and seats are very unsuitable for children. Those supplied for elder children are in nearly all cases too high, being intended for men. The result is that children seated at such desks assume faulty positions: the feet hang some distance from the ground or rest in an awkward position on foot-rails, and the weight is supported partly on the left arm and partly on the chest which is pressed against the desk. In all cases the seats are too broad; in very few instances have back-rests been provided, and even when present they slope at too great an angle. The seats are forms and are placed at varying distances from the desks, the result being that to reach the desk the body is bent forward and the head falls towards the desk as the muscles of the neck become tired. The eyes being too near the book accommodation and convergence are strained, the eyeball is compressed by the recti muscles, and myopia or strabismus is liable to result. The following extracts from one of the reports will serve to illustrate this:—

(c) It was noticed that three children, about eight years of age, were sitting at a desk; the form was 20 inches in height, the front edge of the desk was six inches from a perpendicular let fall from the scholar's edge of the desk, so to reach the desk, which was 22 inches in height (scholar's edge), they had to bend over. These children were stooping over their books writing, their eyes two and a half inches or so from the books. One of these children I found to be suffering from a high degree of myopia; the other two children were, probably unconsciously, copying the example of the elder myopic child.

(d) The desks are those usually supplied for adults with forms as

Communications, Letters, &c., have been received from—

A.—Mr. E. D. Anderson, Lond.; Messrs. Allen and Hanburys, Lond.; Dr. J. Stanley Avery, Johannesburg.

B.—Mr. J. F. Bigwood, Worthing; Bad Wildunger, Heilquellen A.-G. "Konigsquelle"; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. T. B. Browne, Lond.; Messrs. Blundell and Rigby, Lond.; Mr. H. T. Butlin, Lond.; Birmingham and Midland Free Hospital, Secretary of.

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treaties. Then Spain, France, Italy, and Norway with nine; Belgium, Denmark, and Sweden with eight; the United States of America with seven such treaties; and other nations with a smaller number. Various diagrams and "graphics" illustrate all these facts and they seem to point the moral and to explain the significance of the whole exhibition and such similar international efforts. Obviously exhibitions are a work of peace. Without peace, science, especially preventive medicine and sanitary science, would make but scant progress.

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Of other French firms having their exhibits close at hand, we may mention Messrs. Roure-Bertrand Fils and other *great distillers from Grasse who make* extracts from flowers for the manufacture of scents. Then in a glass case there is a mysterious pile of small white paper tubes looking like a pyramid made with collapsed and half-empty cigarettes. These are cigarette papers but they contain and shield from the air and its microbes "Le Negri" sterilised toothpicks. As something toothsome there is to be seen just opposite the phosphatine Fallière, a food for young children and invalids, consisting of sterilised flour, with a slight addition of phosphates, and some finely flavoured chocolate. Boiled with milk we have here something that is really delicate and pleasant, while it is a useful food for the weak and the young.

In regard to nutritious substances that constitute at the same time an epicurean delicacy we have in the horticultural and gardening section a very graphic exhibit of those Parisian mushroom beds which produce the small, white, firm nut- or button-shaped mushroom without which a real chef would not deign to prepare a meal. Not only are the actual beds there with the mushrooms growing on them, but there are many photographs of those innumerable underground passages which honeycomb a great part of Paris. Here the beds are built up and here these gastronomic delicacies are grown and then exported to many foreign countries. The details in regard to a still greater delicacy are also given in this section and we see where and how truffles are grown. Photographs also are suspended to the wall of that modern Tantalus, the pig, which is ever digging the truffles out of the ground but is forced to drop them before it has time to enjoy a bite or two. There is a great deal to be seen relating to technical instruction for the production of aliments, butter, cheese, fruits, and the preservation of fruits. Indeed, for food and for wines France has naturally much that must interest British subjects since we are the best customers of the French cultivator or vineyard proprietor.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM A SPECIAL CORRESPONDENT.)

IT will, perhaps, be useful to describe a little more in detail the way in which the subjects for discussion will be arranged in the seven sections which I enumerated last week.[1] The meetings may be the occasion of no such piquant episode as characterised the meeting in London when Professor Koch startled the medical world by his crisp statements as to the want of infectivity of the bovine tubercle bacillus for the human subject and the converse. It is evident, however, from the provisional programme which has reached us that in each of the seven sections questions of great scientific and practical interest will be brought forward. There will, of course, be some overlapping of the work of the different sections but the arrangements have been well thought out and the material at the disposal of the committee well organised.

As a kind of echo from the British Congress we have as the first item on the list of subjects for discussion Variations of the Tubercle Bacillus, especially as regards Virulence, a subject on which a good deal of information has been collected during the last few years, and we may anticipate a somewhat lively discussion if the "stalwarts" from different camps settle down to their work. Immunity in tuberculosis, mixed and concomitant infections, the pathological characters of congenital tuberculosis and of tuberculosis in infancy and childhood will all receive attention, whilst bearing on the question of the variations of the tubercle bacillus, the lesions, especially the primary lesions, produced by this organism are to be considered, as are also the sources and channels of infection, especially the lungs, whether from without or from surrounding organs and tissues. The work of Section II. is divided into three symposia: In the first the diagnosis and Treatment of Early Cases of Tuberculosis in which the use of x rays, the opsonic index, and the conjunctival and cutaneous tuberculin reactions will probably come in for special consideration. A number of other subjects, such as diet in pulmonary tuberculosis and the physiological effects of residence in high altitudes upon consumption, will also be discussed. In the second symposium tuberculin and its derivatives and the serum treatment are to be considered, whilst in the third sanatoriums, hospitals, dispensaries, and home treatment for tuberculosis are set down for discussion. For this *part of the section* a programme of most useful papers has been prepared and a good many of the State and municipal delegates will probably spend a considerable part of their time in following the discussion in this section, though the counter-attraction of some of the other sections will be very great.

In Section III., that of Surgery and Orthopædics, tubercle of every organ of the body is to be considered and the surgical treatment of tuberculosis and such questions as the Prevention, Diagnosis, and Surgical Treatment of Tuberculous Sinuses and Abscess Cavities; Acute Forms of Abdominal Tuberculosis; Indications for Operative Treatment for Bone Tuberculosis; and Wright Vaccination being representative headings of discussion in this section. In Section IV. we have a regular syllabus which reads almost like the contents page of a "work by many authors" on tuberculosis in children. The thing that will strike anyone on going over this syllabus is that three weeks, even if the discussion is continued the whole time, is a very short period in which to tackle such a large number of questions. The same remark applies to Section V., but it is seen in this case that the main questions to be tackled will form a very small portion of the official programme, as a good many of the points laid down are already accepted and will probably lead to a very little discussion, whilst on others very little information can possibly be forthcoming. At the same bullous or vesicular disorders. Poisons generated from within account for the itching in severe jaundice and in Hodgkin's disease. In like manner we may explain the itching occasionally met with in women at or after the menopause, a vaso-motor disturbance connected with the cessation of a long existent and important function and not improbably due to a degree of auto-intoxication from deficient elimination.

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[1] THE LANCET, Sept. 12th, p. 840.

While itching may, as we have seen, be experienced over large tracts of the surface, it is quite as frequently restricted to certain localised areas, and examples of this constantly come under our notice. One of the most common is that known as pruritus ani, an aggravating, sometimes an intolerable, irritation about the seat. Men are much more liable to this than are women, or at least more of our patients who complain are of the male sex. Some are sedentary and studious, others active, restless, or nervous. It is in all cases a symptom, but we cannot in every one determine with exactitude the latent cause. Thread worms in the rectum, piles (external or internal), fissures, prostatic disorders may, one or all, be incriminated. But in many the liver is assuredly at fault. Not always primarily, as one may have to go further back and discover in some cardiac trouble the source of the portal repletion or congestion. A simple catarrhal state of the hepatic ducts may be traced in not a few instances. Again, itching at the anus may be a symptom of cancer within the pelvis. In fact, we have in many otherwise obscure cases a dilated and tortuous condition of the submucous veins of the rectum, which finds its expression as itching at the anus. The scratching indulged in leads to a white, sodden, and thickened condition of the neighbouring integument, accompanied with heat and moisture, intensifying the discomfort. You are all sufficiently familiar with the characters assumed, which require no further elaboration.

Another distressing variety is that which affects the vulva. The labia become swollen, leathery, and hard, and the patient has often a worn worried expression, owing to lack of sleep, and also to the difficulty she has in refraining from rubbing and scratching the parts in public. Here one must be on the outlook for glycosuria, not necessarily diabetic, as this form is perhaps more aggressive in stout, gouty women than in the subjects of veritable diabetes mellitus. It is thus often eminently curable. But it may occur quite apart from saccharine urine, and some of the most severe and obstinate examples I have met with have been in women approaching the menopause, whose urine did not show a trace of glucose.

Lastly, there are some minor forms. One occurs under the fourth toe, and between it and the adjoining ones, and is particularly troublesome at night when the stockings are removed. Though the mucous surfaces themselves hardly itch, yet this is now and again observed within the meatus of the ear, inside the nostril, and on the surface of the tongue, but scarcely to such an extent or lasting so long as to need any treatment.

There are but a few points in the diagnosis of itching which call for remark. In all cases of generalised itching the possible existence of scabies, or the presence of insect pests, or the chance of the irritation having been started by plants must ever be borne in mind. No station in life, no correctness of habits or apparent care as to the person, should be allowed to prejudice our judgment. From circumstances of the nature of which we cannot be ourselves cognisant, and without even the knowledge of the sufferer, he or she may have been exposed to the chance of contracting the parasites, or have been in contact with the noxious leaf. In all our inquiries the utmost tact requires to be exercised, and we should omit nothing in our examination so as to arrive at the knowledge which will enable us to afford relief.

In the treatment of itching one cardinal proviso emerges. One cannot treat it solely as a substantive lesion without risk of failure. All the circumstances must be taken into account. The cause has to be diligently sought for, the locality considered, the individual studied, and accessory conditions given due weight. In the cases where there is itching without definite integumentary disturbance, as in senile pruritus apart from pediculi, some medicated soaps will be found useful. Menthol soap is that most frequently applicable. It acts by substituting the sensation of cold for that of itching and in mild instances often gives prompt relief. Nicotine as nicotiana soap, as recommended by Taenzer and Unna, deadens the hyperæsthesia of the nerve terminals in the epidermis, but it should be employed with caution and never over wide areas, else toxic symptoms may arise. Naphthol soap is indicated in similar states, and not only lessens undue sensitiveness but tends to ward off the attack of parasitic insects. When the surface is dry with slight desquamation of branny particles warm baths taken under blood heat and containing some freshly prepared starch jelly, followed, after gentle drying with a soft bath towel, by the inunction of glycerine of starch thinned down by the addition of a double proportion of glycerine, has proved extremely valuable in my hands in climacteric cases. Should these measures prove insufficient we can in most cases of pure senile pruritus obtain a permanent cure by giving a course of subcutaneous pilocarpine injections administered each night and extended over a couple of weeks. This usually restores the sweat gland system to functional activity and with the re-establishment of cutaneous exhalation the trouble ceases. The vests worn next the skin should be of silk, Indian gauze, or linen, and over these thicker and warmer ones may be put according to the season of the year or in the case of those whose circulation requires additional protection. When pediculi are discovered or their presence is strongly suspected, besides washing with carbolic or storax soap, accompanied by a thorough change of body and bed linen, the soil may be rendered unattractive by directing the patient to wear next the skin, day and night, a muslin or flannel bag containing fragments of rock sulphur. The heat of the body slowly volatilises the sulphur, it is converted into sulphurous acid by the oxygen of the air, and so provides an atmosphere round the person which acts as an efficient deterrent to the onslaughts of the pediculus. It must be borne in mind that the pediculus vestimentorum occasionally attaches its ova to the lanugo hairs; to prevent these hatching and so germinating a fresh colony it is well to rub some ordinary paraffin oil over the trunk and limbs or to anoint with unguentum staphisagriæ for a few days. Neglect of this is the source of the belief in spontaneous generation of lice and simply explains why the insects so constantly reappear, though all other precautions have been taken.

We cannot dissociate the treatment of itching in eczema from that demanded by the conditions of the disease in each actual case, but as far as possible we ought to combine antipruritic with anti-eczematous remedies. In eczema the horny layer is soft and porous and thus deficient in its natural power of resistance. Since it is in the dry and the chronic forms of eczema in general, and again in all varieties immediately preceding or subsequent to apparent cure, that itching most markedly asserts itself, two indications for our guidance emerge. One of these is that the new and delicate epidermis dries very rapidly, and hence minute fissures form in it, and by these cracks the atmospheric air gains access to the deeper strata and so acts as an irritant to the spongy cells. It is in this layer of cells that the cutaneous sensory nerve fibrils terminate and the unhealthy state of the skin renders these specially sensitive. Thus it follows that lotions, always the simplest and most agreeable preparations to employ, which in drying deposit an impalpable and neutral powder, take the premier place in our armamentarium. The coating in process of formation insinuates itself into the chinks, and not only occludes them but at the same time promotes exsiccation and so diminishes itching. Calamine lotion with the addition of a drachm of boric or in some cases of carbolic acid, here proves very valuable. In the essentially dry forms perhaps even more useful is one recommended by Boeck of Christiania, which possesses likewise astringent and sedatives properties:—

Talci	āā 100 0
Pulv. amyli	
Liq. plumbi subacetatis dil...	
Sol. acidi borici in aquâ 1%...	
Glycerini	40 0
Aq. camphoræ	250 0

This should be well shaken before being used, as it is apt to cake owing to the starch, and painted uniformly on with a stiffish paste brush since the ordinary camel hair one is too soft and readily clogs. The lotion will relieve the itching for about four or more hours and can then be re-applied.

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A few steps further and the very complete and well-arranged French drug section is reached to which a very brief allusion has been already made. Here many old and well-known friends meet the eye such as the papier Rigollot form of mustard poultice and the ever-popular Tamar Indien, the effective laxative that looks and tastes like a sweetmeat. The Clin laboratories were founded in 1864 by Dr. Clin who obtained the Prix Montyon. Here have been produced the fer Rabuteau and the bromide of camphor much used by Professor Charcot and Professor Bourneville. More recently, under the management of Messrs. F. Comar et Fils et Cie., some modern drugs have been put on the market and are now exhibited. There are, for instance, various cacodylates and metharsinates which permit the administration of large doses of arsenic; and the new salicylarsinate of mercury. Opposite this exhibit Messrs. Berlaut-Blancard Frères have specimens of catgut prepared according to the interesting method devised by M. J. Triollet and described in the annals of the Pasteur Institute. A catgut used for surgical purposes must be supple but if sterilised with dry heat it will be brittle. The catgut exhibited is rolled round a bobbin and placed in a receptacle containing acetone and sterilised at 120°C. for 40 minutes. When this is done the receptacle is not opened but simply turned upside down. A little sterilised water which had been placed inside the bobbin is spilt, and as it reaches the catgut only after the sterilisation is over helps to soften it without great injury to its qualities. The process is ingenious but difficult to explain in a few words. There are also in this section the exhibits from the works of Poulenc Frères that date back to a small drug store established in 1827. They now produce a great variety of chemicals used in pharmacy, science, photography, metallurgy, and also in the china, earthenware, and glass industries. Of special interest is the fact that they have been appointed the sole selling agents for the preparations of the Pasteur Institute at Lille. These consist of Dr. Calmette's anti-venom serum used in cases of snake bites and the powdered antitetanic serum for dressing wounds, together with the recently discovered tuberculin test for the ophthalmo-reaction of tuberculosis.

Of other French firms having their exhibits close at hand, we may mention Messrs. Roure-Bertrand Fils and other great distillers from Grasse who make extracts from flowers for the manufacture of scents. Then in a glass case there is a mysterious pile of small white paper tubes looking like a pyramid made with collapsed and half-empty cigarettes. These are cigarette papers but they contain and shield from the air and its microbes "Le Negri" sterilised toothpicks. As something toothsome there is to be seen just opposite the phosphatine Fallière, a food for young children and invalids, consisting of sterilised flour, with a slight addition of phosphates, and some finely flavoured chocolate. Boiled with milk we have here something that is really delicate and pleasant, while it is a useful food for the weak and the young.

In regard to nutritious substances that constitute at the same time an epicurean delicacy we have in the horticultural and gardening section a very graphic exhibit of those Parisian mushroom beds which produce the small, white, firm nut- or button-shaped mushroom without which a real chef would not deign to prepare a meal. Not only are the actual beds there with the mushrooms growing on them, but there are many photographs of those innumerable underground passages which honeycomb a great part of Paris. Here the beds are built up and here these gastronomic delicacies are grown and then exported to many foreign countries. The details in regard to a still greater delicacy are also given in this section and we see where and how truffles are grown. Photographs also are suspended to the wall of that modern Tantalus, the pig, which is ever digging the truffles out of the ground but is forced to drop them before it has time to enjoy a bite or two. There is a great deal to be seen relating to technical instruction for the production of aliments, butter, cheese, fruits, and the preservation of fruits. Indeed, for food and for wines France has naturally much that must interest British subjects since we are the best customers of the French cultivator or vineyard proprietor.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM A SPECIAL CORRESPONDENT.)

IT will, perhaps, be useful to describe a little more in detail the way in which the subjects for discussion will be arranged in the seven sections which I enumerated last week.[1] The meetings may be the occasion of no such piquant episode as characterised the meeting in London when Professor Koch startled the medical world by his crisp statements as to the want of infectivity of the bovine tubercle bacillus for the human subject and the converse. It is evident, however, from the provisional programme which has reached us that in each of the seven sections questions of great scientific and practical interest will be brought forward. There will, of course, be some overlapping of the work of the different sections but the arrangements have been well thought out and the material at the disposal of the committee well organised.

As a kind of echo from the British Congress we have as the first item on the list of subjects for discussion Variations of the Tubercle Bacillus, especially as regards Virulence, a subject on which a good deal of information has been collected during the last few years, and we may anticipate a somewhat lively discussion if the "stalwarts" from different camps settle down to their work. Immunity in tuberculosis, mixed and concomitant infections, the pathological characters of congenital tuberculosis and of tuberculosis in infancy and childhood will all receive attention, whilst bearing on the question of the variations of the tubercle bacillus, the lesions, especially the primary lesions, produced by this organism are to be considered, as are also the sources and channels of infection, especially the lungs, whether from without or from surrounding organs and tissues. The work of Section II. is divided into three symposia: In the first the diagnosis and Treatment of Early Cases of Tuberculosis in which the use of x rays, the opsonic index, and the conjunctival and cutaneous tuberculin reactions will probably come in for special consideration. A number of other subjects, such as diet in pulmonary tuberculosis and the physiological effects of residence in high altitudes upon consumption, will also be discussed. In the second symposium tuberculin and its derivatives and the serum treatment are to be considered, whilst in the third sanatoriums, hospitals, dispensaries, and home treatment for tuberculosis are set down for discussion. For this part of the section a programme of most useful papers has been prepared and a good many of the State and municipal delegates will probably spend a considerable part of their time in following the discussion in this section, though the counter-attraction of some of the other sections will be very great.

In Section III., that of Surgery and Orthopædics, tubercle of every organ of the body is to be considered and the surgical treatment of tuberculosis and such questions as the Prevention, Diagnosis, and Surgical Treatment of Tuberculous Sinuses and Abscess Cavities; Acute Forms of Abdominal Tuberculosis; Indications for Operative Treatment for Bone Tuberculosis; and Wright Vaccination being representative headings of discussion in this section. In Section IV. we have a regular syllabus which reads almost like the contents page of a "work by many authors" on tuberculosis in children. The thing that will strike anyone on going over this syllabus is that three weeks, even if the discussion is continued the whole time, is a very short period in which to tackle such a large number of questions. The same remark applies to Section V., but it is seen in this case that the main questions to be tackled will form a very small portion of the official programme, as a good many of the points laid down are already accepted and will probably lead to a very little discussion, whilst on others very little information can possibly be forthcoming. At the same which have proved most efficient in my hands Should these disappoint you, and I warn you they will—though I trust not frequently—do so, then try some one or other of those suggested in your text-books. All that it is in my power here to accomplish is to lay down the broad lines on which to advance, bearing in mind that there are numerous other paths available to attain the goal.

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[1] THE LANCET, Sept. 12th, p. 840.

A CASE OF EMBOLIC (? THROMBOTIC) ATELECTASIS OF THE MIDDLE AND LOWER LOBES OF THE RIGHT LUNG; SURVIVAL.

By H. BATTY SHAW, M.D. LOND., F.R.C.P. LOND.,
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AND
EDRED M. CORNER, M.A., M.B., M.C. CANTAB., F.R.C.S. ENG.,
SURGEON IN CHARGE OF OUT-PATIENTS, ST. THOMAS'S HOSPITAL, AND SURGEON, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-SRTEET.

WE publish an account of this case because of the unusually large amount of the right lung which had collapsed as a result of embolic (? thrombotic) partial occlusion of the pulmonary artery and because we are unable to find any account of a similar occurrence with survival.

The patient, a gentleman who was emphysematous and had been suffering from phlebitis of the legs for the previous five or six years, came under the care of one of us on April 16th, 1907. The patient had not been feeling well since February of the same year and had found it difficult to perform his duties. When he came under observation there were signs of phlebitis, more especially of the right leg; the usual methods were adopted for the treatment of this condition. The local symptoms abated and it was felt that with a little longer rest in bed the phlebitis would disappear. On May 2nd, however, the patient was seized with very severe pain in the right chest, with dyspnœa, slight hæmoptysis, and some cyanosis; the temperature rose to 101·6° F. Previous to this date the temperature had been subnormal, except on the evenings of April 29th and 30th when it reached 99° and 99·8°. Examination of the chest revealed no signs of involvement of either lung. So susceptible was the patient to pressure over the whole of the right side and to movement of the right shoulder that a tentative diagnosis was made of "muscular rheumatism." The maximum impulse of the heart was ill defined but the area of dulness presented no abnormalities other than those which might be expected from moderate emphysema; the stomach note was found to reach higher in the left axilla than is usually the case. On May 3rd the pain in the chest was still very marked, the ordinary liver dulness was increased a little upwards, and the breath sounds of the right chest were weak, more especially over that part corresponding with the middle and lower lobes. The blood-stained expectoration was found to be free from tubercle bacilli but contained several varieties of cocci and bacilli (Gram-positive and Gram-negative). On May 4th, 5th, and 6th the pain was still present but less in degree; it failed to respond to the action of aspirin, &c. On the 7th fluid was suspected at the base of the right chest as the dulness had gradually extended upwards to the spine of the scapula behind and to the second rib in front. (Diagrams I. and II.) Movement of the right chest was very limited and the breath sounds and vocal fremitus over the dull area were almost suppressed. On the 8th an exploratory puncture was made of the right chest and two ounces of yellow blood-stained fluid were removed. Each cubic millimetre of the fluid contained 560,000 red corpuscles and 31,000 white corpuscles. The analysis of the latter showed small lymphocytes 48·2 per cent., large lymphocytes 11·8 per cent., polymorphonuclear cells 32·4 per cent., and endothelial cells 7·6 per cent.; no organisms could be detected in film preparations and 10 cubic centimetres of the fluid injected into a guinea-pig gave no evidence of tuberculosis at the end of a month. On May 9th an attempt was made to remove the rest of the fluid, using a larger aspirating needle. No fluid, however, could be obtained and the lung could be felt not far removed from the chest wall. A little doubtful friction sound could be heard at the right base. On the 19th the signs of dulness over the greater part of the right lung remained unchanged and there was increased difficulty in locating the exact position of the heart.

Diagram I

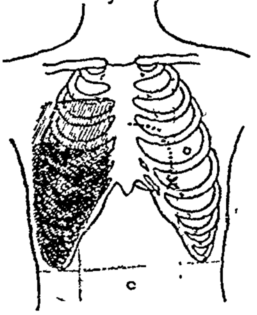
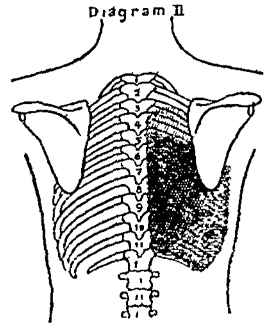


Diagram II



From this date onwards no active measures were taken, the patient being kept in bed and allowed to move as little as possible. The signs of dulness over the right chest gradually underwent some reduction from above; tubular breathing and increase of vocal resonance developed in the neighbourhood of the right inferior scapular angle; the movement of the right chest remained limited, although the pain had disappeared. The temperature had reached normal by May 10th but again rose on the 13th and remained slightly elevated during the rest of his stay in the nursing home. The pulse which before the episode of May 2nd had been normal rose to 112–120 on occasions of extra pain; ordinarily it was 80–84. On May 27th, owing to progressive loss of weight and the maintenance of the elevated temperature, it was decided that the patient should be removed from the "home" and be placed under the care of Dr. E. T. M. Tunnicliffe of North Finchley. The same methods were continued combined with open-air treatment. Eructation which had all along been a source of annoyance to the patient was alleviated by dietetic and medicinal measures. On June 16th the phlebitis, which had subsided, again supervened in the neighbourhood of the right popliteal space but subsided in a few days and there has been no further recurrence since. On the 29th the patient was again examined and the following observations were made. The pulse and temperature were normal and the general condition was satisfactory, though there was some shortness of breath on exertion. On moderately hard percussion of the right chest the dull area was limited above by a line drawn from the fourth rib in the right nipple line to the right inferior scapular angle; the same area of dulness was limited below, not by a line corresponding with the costal margin, but by a curved line, with the concavity downwards, which reached from the sixth rib in the right nipple line to the eleventh rib behind in the scapular line. Over this area the breath sounds were practically absent. The area of cardiac dulness was still very obscure, a slight cardiac impulse could be felt occasionally in the fourth space in the left nipple line; the stomach note was still unusually elevated. (Diagrams III. and IV.)

Diagram III

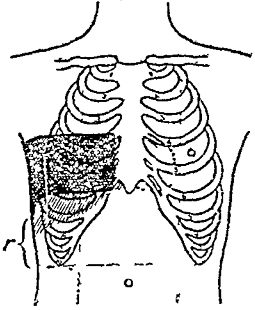
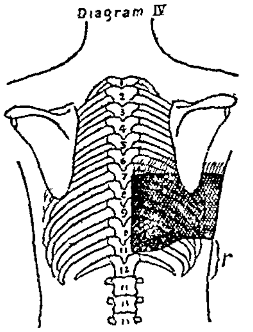


Diagram IV



The patient was allowed to leave for another part of the country and ultimately went to Dresden, being free from pain

Tuberculosis in Cattle.

Tuberculosis in cattle is not only dangerous to the health of the community but may lead to financial loss on the part of the public. A largely attended meeting of the Lancashire Farmers' Association was held just lately at Preston, which pledged itself to use every effort to put in force the prices recommended by the milk committee for the Michaelmas milk contracts. It need not be said that they are higher than the old ones. Another matter was also the subject of much discussion—namely, who must pay if an animal bought by a butcher which has been guaranteed as free from disease and fit for human food is found to be diseased. After some vigorous speeches the following motion was unanimously agreed to:—

> That while sympathising with butchers in the hardships inflicted on them by the confiscation of tuberculous carcasses *bonâ fide* bought at a fair market price and apparently healthy, the proposal to throw the whole responsibility on the farmers was unfair, and that farmers, butchers, and auctioneers, should combine to enforce their demand for a reasonable scheme of compensation from public funds when carcasses that have shown no previous symptoms of being diseased are condemned in the public interest.

If all possible care has been taken by the farmer to ascertain whether the animal sold is healthy or not it does seem hard if he has to bear all the loss. This, of course, is quite a different case from that of the "slink butcher," whose business it is to deal in diseased meat, sometimes, no doubt, in collusion with a dishonest farmer.

Sept. 15th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Changes in the Staff of the Royal Victoria Infirmary.

Dr. George Redmayne Murray has been elected an honorary consulting physician on resigning his position as physician to the infirmary. Dr. Murray leaves Newcastle this week to take up his duties as Professor of Systematic Medicine in the Victoria University of Manchester and physician to the Manchester Royal Infirmary. Dr. W. E. Hume has been elected a physician to the infirmary. Dr. Hume was senior house physician to the Royal Infirmary until 1907, and was elected an honorary assistant physician at the beginning of the present year.

Presentation and Dinner to Dr. Murray.

Dr. Murray was entertained to dinner on Sept. 3rd by his colleagues at the College of Medicine and Royal Victoria Infirmary on the occasion of his approaching departure for Manchester in order that they might offer him their congratulations and wish him success in his new sphere of work. Sir G. H. Philipson was in the chair, and in proposing Dr. Murray's health congratulated him very heartily on his appointments, and assured him that the good wishes of all present, and of many others besides his immediate colleagues, would accompany him to Manchester, where they hoped he would spend many useful and happy years. Dr. David Drummond, in supporting Sir G. H. Philipson, referred to the loss which he and his colleagues would sustain by Dr. Murray leaving Newcastle, but at the same time they could not but feel gratified that one of their number had been invited to accept the important positions which Dr. Murray was about to occupy. He offered Dr. Murray the congratulations and good wishes of himself and his colleagues and begged his acceptance of the piece of silver which he had been asked to present to him as a memento of those years of his professional life which he had spent in Newcastle. Dr. Murray, in reply, said that while he appreciated to the full the goodwill and kindliness of feeling on the part of his colleagues which had prompted that meeting, he nevertheless found it exceedingly difficult to give expression to the thoughts and feelings of which he was at the moment the subject. It was with no light heart that he was leaving the town where he was born and with which he had so many close associations. He recognised the honour which had been done him when he received the invitation to go to Manchester, but it was only after very anxious thought and consultation with his professional friends that he had decided that he ought to sacrifice his personal inclinations to what he thought was, in the circumstances, a duty. He was, however, very glad indeed that he would not altogether sever his professional connexion with Newcastle. The position of consulting physician which the infirmary had done him the honour to confer upon him and the honorary membership of the College which had been offered him would, he believed, give him the chance, which he was most anxious to take, of retaining a real and active interest in the work of the medical world of Newcastle. For many reasons he was sorry that he was leaving Newcastle at the present time. Changes were taking place, or were about to take place, which were bound to have a most important influence on the future of medical education in Newcastle. The present was the great opportunity of the provincial schools. London, for well-known reasons, had been steadily ceasing to attract students for the past ten years. Decentralisation of medical education was taking place, and that very rapidly indeed. Several of the larger provincial cities and towns had realised this and had made full use of the opportunity. He hoped that Newcastle would not fail to follow the lead of other provincial schools and provide facilities such as they had provided. The present was the opportunity and one which it was vitally important should not be lost. Many problems were involved, but of one, he thought, he was competent to speak. He wished very earnestly to impress upon the authorities of the College and of the infirmary the necessity for a closer union between the two institutions, a union which was equally necessary in the interests of the students, the patients, and of medical research. He wished them especially to realise the necessity for bringing the departments of pathology and bacteriology in the College and infirmary each under the control of one man respectively. The present position was anomalous. The student's opportunities were wasted through no fault of the latter. The patients could not derive the benefit which they should from the present-day knowledge of pathology so long as things remained as they were. It should not be a difficult matter, seeing that many members of the staff of the College held positions on the staff of the infirmary, and *vice versâ*, to bring about a better understanding. In his opinion this was the moment for arriving at that understanding, and he hoped that those holding positions in the profession which would enable them to carry through such a reorganisation would approach the problem with the single object of the advancement of medical education in Newcastle.

Sept. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh and Leith Medical Practitioners' Association.

THIS association of registered medical practitioners residing in Edinburgh, Leith, and district has been founded with the object of promoting the interests of the medical profession by serving as a medium of friendly communication between members. The annual subscription is for the present fixed at the low sum of 5*s*. There will be an inaugural dinner on Oct. 16th, on which date the first general meeting will be held, when a debate of special interest to general practitioners will be arranged. The following have accepted office in the new association, which promises to be a practical success:—Honorary Presidents: Dr. J. O. Affleck, Dr. Joseph Bell, Dr. T. S. Clouston, Sir Henry Littlejohn, and Sir A. R. Simpson. President: Dr. William Nicol Elder. Vice-Presidents: Dr. T. Monck Burn-Murdoch, Dr. James Carmichael, Dr. Alexander James, Dr. James Ritchie, and Dr. T. R. Ronaldson. Honorary treasurer: Dr. H. Martyn-Clark. Honorary secretaries: Dr. John M. Bowie (46, Grange-road, Edinburgh) and Dr. John Orr. These officers will be assisted by a large committee representing different localities.

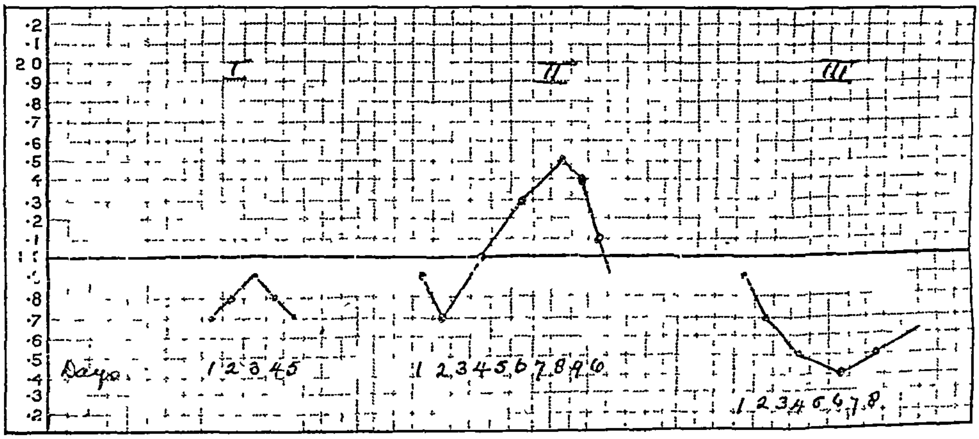
Sanitary Congress at Peebles.

The Sanitary Association of Scotland last week held its annual congress at Peebles. Various subjects were discussed, the most important being the Milk-supply of the Country, with Special Reference to Prospective Legislation. This discussion was introduced by Dr. G. Matheson Cullen, convener of the public health committee, Edinburgh, who treated the subject from the point of view of the local authority in a burgh, while Dr. A. Campbell Munro, medical officer of Renfrewshire, gave the county local authority's view, its turn followed by a fall towards normal; or (3) a fall tending to be more or less permanent according as to whether the dose be small, medium, or excessive. These effects are diagrammatically represented in the appended charts.

The rise in the first case will, though quick, be short lived. In the second case the rise subsequent to the initial fall, or negative phase, will be more prolonged, and having reached its maximum will gradually fall towards the level it was at previous to inoculation. In the third case the fall may be so severe as to last a considerable time, in some cases even never regaining its previous level without a further inoculation of minimal doses of vaccine. All gradations between will occur according to the dose of vaccine, and these varying results are designedly aimed at, according to the nature of the case in hand. There is thus no ideal opsonic curve in general to be aimed at, though in a particular case one particular form of curve may be ideal.

The fall subsequent to inoculation is called by Wright the negative phase, the subsequent rise he calls the flow, and the gradual fall towards normal he calls the ebb, the tides of flow and ebb together constituting the positive phase. In addition a phenomenon has been noted, occurring mainly in auto-inoculations produced by passive congestion and similar measures called the false rise. Here a slight rise precedes the negative phase but it is of small importance. question of dosage. In the case of (1) this in certain conditions would be an ideal curve in the circumstances. Taking, for example, a case of septicæmia, with or without a localised focus, it would be disastrous to induce a negative phase of any duration at all. During a negative phase of only a few hours' duration all the symptoms might be profoundly aggravated, the toxæmia deepened, the temperature raised, and pain, if present, increased, and it is probable that owing to the low protective power on the part of the blood foci of suppuration would be initiated in many hitherto uninfected areas. Obviously in such cases the aim of the immunisator should be to produce a maximum rise in protective substances compatible with an entire absence of negative phase. Nor even if no negative phase be produced should the dose be large enough to delay the elaboration of protective substances. If the dose be of such a size that the above desideratum be fulfilled the temperature should fall, pain and discharge should decrease, and a diminution of any local congestion and swelling that might be present should be noted, and these symptoms would in most cases be sufficiently marked to enable a determination as to re-inoculation to be made. Such cases as the above will usually be comprised in the following—erysipelas, cellulitis, lymphangitis, and puerperal fevers and septicæmias generally, in which, even if the process be more or less localised, a temporary lowering of resistance may be answerable for an alarming increase in the area of the process.

FIG. 1.



Diagramatic opsonic charts of the effects achieved by varying doses of vaccine. Referred to in the text as Diagrams (1), (2), and (3).

In general in the treatment of infections it is desirable to maintain an average high level of resistance. Thus, in the case of an effect such as Diagram 1 re-inoculation would be necessary very shortly; in Diagram 2 a second inoculation would be indicated, as the curve was falling to normal; whereas a minimal dose of vaccine might be advisable in Diagram 3 when the fall had ceased to bring the resistance back to the initial position.

Within limits it may be said that the duration of the effects produced by any one inoculation varies proportionately to the dose of vaccine inoculated—that is to say, that the longer the negative phase the longer the positive phase will be. However, a point is soon reached beyond which the duration of the negative phase is only increased at the expense of the positive phase, and ultimately no positive phase accrues at all, as indicated in Diagram 3. Here it may be stated that no attempt is made, except in cases of very low resistance initially, to superpose one positive phase upon another without any intervening negative phase. In general, an effect similar to that depicted in Diagram 2 is aimed at, constantly repeated, so that the sum total of the individual effects of a series of inoculations shall result in longer average duration of time of increased immunity and shorter average duration of time of decreased immunity as compared with that of a normal individual.

Before leaving the consideration of the three classes of curves produced by varying doses of vaccine it may be advisable to correlate with the opsonic results certain clinical symptoms and at the same time consider generally the

Thus it follows that in any infection which is not strictly localised, and more especially in septicæmias, the curve to be aimed at is one in which no negative phase occurs. In other words, the dose must be minimal in size. The corollary is that the response invoked is short, and therefore reinoculation must quickly follow, even to daily doses. In such cases the opsonic index is of paramount value as a guide, but as indicated above much assistance as to dosage and interspacing may be gained by the general symptoms and local signs.

Apart, however, from such severe cases as have been taken into consideration above, where a temporary lowering of the resistance is absolutely disastrous, it is inadvisable to give such a dose as to cause a negative phase in many chronic local conditions of less severity. To illustrate my meaning I will instance such a case as that of chronic tuberculous lymphatic glands. Such a case might well, and does mostly, show a constant low resisting power, as indicated by several successive tuberculo-opsonic indices of between 0·70 and 0·80. In such a case it would be desirable to aim in the first instance at such a curve as that in Diagram 1, so that a resistance equal to normal might be achieved without any intervening negative phase. A normal index having been thus attained either by one or two minimal doses of tuberculin, larger doses might then be given; an effect being aimed at such as depicted in Diagram 2, which will shortly come under consideration.

In considering those cases in which it is desirable to aim at producing the effect depicted in Diagram 2 we encounter

The Public Health of Cork.

The annual report of the medical superintendent officer of health in Cork suggests that the efforts of the guardians of the public health to procure a food-supply for the people are not always adequately supported by the magistrates. During the year 7012½ pounds of beef, 2819½ pounds of pork, 59 pounds of veal, 403½ pounds of mutton, 3535½ pounds of fish, 77 pounds of fruit, 95 pounds of fowl, and 116 pounds of onions were seized and destroyed as unfit for human food. Arising out of these seizures there were 18 prosecutions, but the penalties aggregated only £3 5*s.* 6*d*. This report also shows the distressful prominence of the tenement question in Cork as well as in Dublin. Of the 12,480 houses in the city of Cork 1500 are of the tenement class, and these abodes shelter 23,000 persons—nearly one-third of the whole population. The medical officer of health states that many of these dwellings are old and decayed and unfit for human habitation. In the same connexion, too, the report states that: "There can be no doubt that overcrowding exists in Cork to a very large extent, consequent on insufficient house accommodation for the poorer classes, where the density of the population is about 33·6 persons to each acre." This is one of the very many cases in which a boon would be conferred on the community by the passing into law of the Housing Bill.

Tipperary and the Tuberculosis Bill.

At a meeting of the South Tipperary county council last week Mr. John Cullinan, M.P., drew attention to the fact that "the Bill provided for the building of sanatoria, appointment of doctors, nurses, veterinary surgeons, &c., the expense of all which was to come out of the pockets of Irish ratepayers. It was an Imperial question and one that could not be dealt with except out of Imperial funds." The chairman (Mr. J. F. O'Ryan) agreed that it could not be adequately handled except by Imperial funds, and after some discussion a resolution was passed declaring that, while approving of any practical steps which could be taken to provide against or check the spread of tuberculosis, which they considered a national calamity brought about by the want of proper attention by successive Governments to the needs of the poor people, the council protested most emphatically against the financial provisions of the Tuberculosis Bill now before Parliament, which would place the entire expense of sanatoriums, &c., on already overburdened ratepayers, and the council claimed that it was the duty of the Treasury to finance any scheme dealing with the spread of the disease.

Sept. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Ritual Circumcision and Medical Men.

THE recent Separation Law which divorced religion from the State in France and which has abolished the stipends paid by the Government to the ministers of various religions has been fraught with a number of unexpected results, one of which concerns the medical profession. It is common knowledge that amongst the Jews circumcision is practised by a special official called a *mohel*. Under the old *régime* the State recognised this special case in consideration of the ritual aspect of the operation, and by a relaxation of the French law forbidding the performance of operations by unqualified persons it was laid down that circumcisions performed by a non-medical *mohel* should be permitted without being considered to constitute illegal medical practice. But since the new law under which the State takes no official cognisance of the existence of any religion or of any religious ceremonial in France the *mohelim* have come to be regarded as illegal practitioners who perform operations without the title of doctor of medicine and who consequently lay themselves open to prosecution. The Jewish authorities are quite content to agree henceforward only to employ doctors of medicine as *mohelim*, as is the almost universal custom in well-to-do families. But they desire not to oust from their occupation the old *mohelim* who were recognised before the present law. It is now proposed that these men should still be allowed to circumcise until they have all dropped out, conditional upon the presence of a doctor of medicine at the operation and at subsequent dressings.

The New Edition of the Codex.

The *Codex Medicamentarius* is the French Pharmacopœia and the possession of a copy of it is obligatory upon all French pharmacists. They are obliged to keep in stock all the drugs in the official list. The book further gives the composition and official methods of preparation of all such drugs and compounds and includes a discretionary list of such new remedies as have been proved of service. As therapeutics is a progressive science, from time to time the Codex is revised completely and a fresh edition is published under the direction of a special commission which advises the Minister. The original Codex appeared in 1818, the second edition in 1837, the third in 1867, the fourth in 1884, and the fifth in July last, 24 years after the preceding issue. It shows a large number of alterations which are chiefly directed to the simplification of many preparations, such as the tinctures of iron and opium, in the manner recommended by the recent International Convention that considered the maximum doses of potent drugs. A crowd of old preparations which have fallen into disuse and which had become stereotyped in former editions have been swept away in this one. On the other hand, a certain number of new drugs are included, amongst which are adrenalin, theobromine, tuberculin, and other agents employed in opsonic, vaccine, and serum therapy.

Gynæcological Operations in the Treatment of Neuroses.

At the Eighteenth Congress of French Alienists and Neurologists which met at Dijon from August 3rd to 10th this question was discussed. M. Schuyder began by *maintaining* that gynæcological affections do not cause psycho-neuroses but that in certain cases the functions of the female pelvic organs, whether there be any structural change or not, by reason of the nervous instability of the patient, may be accompanied by subjective symptoms giving rise to irrational ideas which end in hypochondria. In such cases the failure of rational psychotherapy is sufficient justification for surgical interference.

A Monument to Professor Cornil.

The compatriots and friends of the late Professor Cornil, whose career I laid before your readers at the time of his death last spring, have recently appointed a committee for erecting a monument to his memory at Cusset, his birthplace, a town not far from Vichy in the department of the Allier. A public subscription list has been opened under the auspices of the committee, which includes the President of the Republic, a former president, M. Loubet, the Dean of the Faculty of Medicine, and numerous professors and medical men.

Medical Attendance at the Paris Theatres.

The prefect of police has just issued a new order dealing with theatres, cafés, concert-rooms, and other public places of amusement. After some new regulations dealing with the question of first aid, lighting, and sanitary matters, he modifies the old regulations by which it was obligatory upon all places of entertainment having a seating accommodation of over 800 to *provide the services* of a medical man. Moreover, the medical man is no longer obliged to be at the theatre as formerly for a quarter of an hour before and for the same time after any performance.

The Adulteration of Foodstuffs.

The Inspection Department of the town of Paris has, during the second quarter of 1908, dealt with 3015 samples, which have led to 1148 prosecutions. Of this number analysis established the fact of adulteration in 48 per cent. of the samples of milk officially taken, in 31 per cent. of the samples of wine, and in 26 per cent. of the samples of other foodstuffs, being 35 per cent. of the total number of samples officially taken. These do not include samples taken for the purpose of control or at the instance of a judge (*commissions rogatoires*).

Sept. 14th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Hydrophobia.

FOR Italian physicians this is indeed a formidable accompaniment of the hot season when the *rabies canina* is prevalent enough to give it a double right to the name of scope of this article to do more than just indicate the procedure to be adopted.

As pointed out by Dr. John Freeman, the phenomenon of auto-inoculation is often observable where a circumscribed local infection is subjected to such treatment as to cause a temporary increase of circulation through the part. Such increased blood-flow may act in one of two ways, or in both ways at once. It may carry into the general circulation a greater or less amount of the products of the microbe, or of the microbe itself. If this be not excessive results comparable to those observed after an ordinary inoculation of bacterial vaccine occur; that is to say, a short negative phase followed by a positive phase and subsequent fall towards the pre-existing condition will occur and may be demonstrated if the opsonic indices to the organism in question be measured. Secondly, such increase of local circulation may cause an increased outflow of lymph, whereby a greater quantity of protective substances are carried into the infected areas and healing tends to result.

The phenomenon of auto-inoculation may be made use of for the purpose of diagnosis. An obscure joint swelling may be so treated as to cause an increase of the local circulation when, if tubercle be present, a variation in the tuberculo-opsonic index will occur, or if gonococcus be the cause a variation will occur in the opsonic index to the gonococcus. An enlarged lymphatic gland may be carefully massaged and the blood examined before and after massage. If a variation of wide dimensions in the tuberculo-opsonic index occur tubercle is the cause of the swelling, or at least is present as a secondary infection. A variation to be diagnostic should extend over a distance at least equal to three-tenths of unity, unity being taken as the opsonic index of the normal healthy person. Thus a variation from 0·8 to 1·10 would be considered strong presumptive evidence of infection. The presumption is the greater if a number of opsonic indices when plotted out as a curve produce a curve without irregularities. Again, a high opsonic index is at all times more suggestive of infection than one below normal. It is to be pointed out that general and indiscriminate massage of infected joints or lymphatic glands is not advocated, each case being weighed on its own merits. At St. Mary's Hospital we constantly use Bier's method of passive congestion as a means of producing a diagnostic auto-inoculation. Cautious exercise of a previously immobile joint often gives valuable indications as to the nature and activity or otherwise of any infection, if opsonic indices before and after movement be taken.

The fringe only of the question of bacterial diagnosis is touched in the above remarks. The elucidation of any particular case must be left to the clinical observation of the practitioner, aided by such bacteriological technique as he may have at his command. Obscure infections must perforce be left to the bacteriologist and preferably one conversant with the technique of opsonic estimations. Such a question, for instance, as the diagnosis between tubercle and gonococcus may in some obscure cases baffle even an experienced bacteriologist, if he be not also an opsonist.

2. We now come to the consideration of the second subheading—viz., *the estimation of the amount constituting a correct dose and the period that should elapse before re-inoculation.* While on the whole general principles only will be enunciated a few examples will be quoted, and for the sake of simplicity the cases to be considered will be divided into two main classes—viz.: (*a*) Those cases in which the exhibition of a correct dose of an appropriate vaccine will be followed by recognisable and obvious clinical signs without any delay. An example of this class of case is afforded by a furuncle and, indeed, staphylococcal lesions generally. (*b*) Those cases in which a dose of vaccine, be it ever so appropriate, is not followed immediately by recognisable and obvious clinical signs or, it may be, any sign whatever. An example of this class of case is often afforded by a tuberculous lymphatic gland in which even objective symptoms may often be absent even when the dosage is appropriate.

Now it follows that the treatment of these two classes of case must be approached from a totally different standpoint. In the first class, where obvious clinical signs may be expected to follow a dose of vaccine, it is possible to determine within a few days whether our dose has been appropriate or otherwise. Taking for example an incipient furuncle, we will follow out a typical case. A patient with a history of recurrent furunculosis presents himself with a commencing boil and with a view to aborting it one gives him 50 million staphylococci and gives directions that he attend again in four days. On his second attendance one of three indications may be present: he may be better, he may be *in statu quo ante*, or he may be worse. In case the furuncle was seen early enough he is likely to be better or *in statu quo*. If he be better one has evidence that the dose of vaccine was large enough to cause an elaboration of a sufficiency of protective substance to go towards an abortion of the lesion; a similar or slightly larger dose of vaccine would be indicated. Again, if there has been little or no change the indications are that though a rise in protective substances may have occurred in the circulating blood, it is either not high enough or the blood, though maybe rich in protective substances, is not having free access to the congested area comprised by the boil. A larger dose of vaccine is indicated and some measure designed to determine the blood to the part. Such a measure, for instance, is a series of fomentations. It is likely that these measures will result in the absorption of the congested fluids and a return to the normal condition on the part of the area of the boil. There will in that case be no further evidence immediately observable as to the accuracy of any dose, but to insure a more or less permanent immunity gradually increasing doses are indicated until a maximum of 400 or 500 millions be reached, and the doses may be given at first weekly and later at increasing intervals. On the other hand, should a furuncle be under consideration that is clearly about to suppurate, a larger dose, say 500 millions, may be immediately given. The resistance will be depressed temporarily and the boil will quickly ripen and discharge with or without incision as may seem best. A week after the first inoculation a small dose of 100 millions should be administered and doses rising by 50 millions or 100 millions a time should be given at first weekly and later at increasing periods until a maximum of 400 or 500 millions be reached.

Another example of a lesion that gives early evidence as to the appropriateness of the dose of vaccine is afforded by a case of suppurating acne. Here an appropriate dose is followed by a temporary exacerbation of the signs lasting for 24 hours, after which amelioration occurs. If the dose be too small an immediate amelioration is observed; such an amelioration, however, is but short-lived; should, on the other hand, the dose be excessive and a more or less profound negative phase be produced, the lesions get worse for several days and only slowly get back to the condition they were in at the period of inoculation. In some cases of acne, especially in females, large doses of staphylococci are ill borne at first, and it may be some months before a dose of 400 millions will be borne without a marked negative phase ensuing.

Many cases of chronic eczema are associated with a low resistance to staphylococcus together with an abnormal fluidity of the blood. Small doses, gradually increased, of staphylococci combined with the internal administration of lime, preferably calcium lactate, may be given, such procedure in most cases producing an immediate and marked effect. A case came under observation with a history of nearly 40 years' duration. Half a dozen doses of 250 million staphylococci at fortnightly intervals, together with the administration of half-drachm doses of calcium lactate every other day for three doses, with a weekly rest between each series of three doses, cleared up the case in three months. A slight relapse six months after was cleared up with two more doses of staphylococci and some more calcium lactate, and for 18 months there has been no recurrence.

The examples quoted above are of typical cases, but occasionally cases are met with in which the dose has to be extremely small, and where any dose is followed by a negative phase lasting more than a day or 36 hours, it may be concluded that the dose was too large, and a smaller one must be given on the next occasion. A case of furunculosis of some years' standing came under treatment, and it not being at first realised that the patient was peculiarly intolerant of the ordinary doses, the dose was rapidly raised, and it was not until on two separate occasions that serious negative phases, followed by crops of furuncles, were caused by doses of 250 millions that it became obvious that an intolerance existed. A complete cure followed, when a series of doses of 50 million staphylococci were given, a cure that serve a term of at least three weeks every other year for six years. The students of the clinics, on the other hand, will have to serve a term of 19 days in this ward in groups of from six to eight, whilst graduates will also be enabled to profit by the new arrangement. The ambulance corps and the police have received instructions to send accident cases happening within a certain radius to this ward. Thus the clinic will offer abundant accident material for teaching purposes. Of late years there has been constant complaint that the clinics were lacking in material of such kind, and this condition of affairs seriously interfered with the teaching side of the clinics. In 1902 only 24 cases of cerebral concussion, 76 cases of bullet wounds, 18 stab wounds, and 12 cases of extensive burns were taken to the clinical wards, whilst the majority of accidental injuries were distributed amongst the suburban hospitals and thus lost for teaching purposes. The addition of about 60 beds (the remainder of 40 must be kept for military purposes and accidents requiring internal treatment only) will not only relieve pressure, but will also do away with the difficulty in teaching an important part of surgery. The new arrangement may be modified a little in some points but its adoption is already sure.

What Constitutes a Specialist?

The question of bestowing the title of *Specialarzt* (specialist) for a certain branch of medical art upon a duly qualified man has again been brought to the front by the Vienna Medical Council, which asked the medical councils of the other Austrian districts for their opinion on this subject. Four years ago a similar movement sprang up but it did not gain much publicity. At present the increase of specialists seriously handicaps the general practitioner. Some men style themselves specialists in gynæcology and diseases of children, thus taking away from the all-round man a large portion of his practice, without ever having had any hospital practice. On the other side, actual specialisation has so far progressed in our country that in Vienna there are, amongst 3000 practitioners, no fewer than 800 specialists; of these 280 are either professors or *privat-docenten*. Suggestions have therefore been made to stop for the future the wholesale increase of specialists of the self-styled type. A special study of at least three years, either under a specialist of recognised reputation or in the special ward of a hospital or a polyclinic, will be indispensable. A number of original scientific publications will be required, besides giving proof of actual work in the chosen branch. Furthermore, a medical man will not be recognised as a specialist in more than one branch of medicine, except, of course, in such subjects as may be considered in connexion, for instance, ear, nose, and throat; or skin and sexual disease.

A Case of Early Ossification of the Coronary Suture of the Head.

Dr. Algyogyi at a recent meeting of the Medical Society of Vienna showed a boy, aged 15 years, subject to epileptic seizures. The history of the patient was not unusual except that his mother mentioned that she noticed an abnormal configuration of the boy's head at the time of his birth. The head was very high, the fronto-occipital diameter, as well as the bi-temporal one, being very small compared with the mentoparietal diameter. Since the age of ten years the boy noticed cramps of the adductory type in his fingers of both hands; a few months ago he suddenly had an epileptic seizure lasting five minutes and since then such fits have occurred repeatedly. The examination of the patient showed besides the abnormal shape of the head the presence of asymmetric development of the skull, the right side being less developed. The teeth were of the Hutchinson type; there was marked exophthalmos of the left eye, without nystagmus. An x ray photograph revealed a shortening and narrowing of the anterior cerebral fossa, an increased convexity of the middle fossa, and very marked "impressiones digitatæ," proving the existence of increased intra-cerebral pressure in combination with many rough spots on the inner aspect of the skull. Cases of this early ossification of the sutures of the skull have *only* been recorded comparatively lately. Sometimes the ossification takes place before birth, sometimes much later. The etiology of the abnormal ossification is not yet clear. Some writers consider syphilis or rachitis responsible for it, others point to meningitis or pachymeningitis, whilst a great many other authors believe that an intra-uterine meningitis with subsequent chronic hydrocephalus accounts for the condition. In several cases trephining of the skull was followed by improvement of the symptoms; this pressure-lowering operation is also contemplated for the patient mentioned above.

The New Clinics in Vienna.

The erection of three new clinics, in addition to the two gynæcological pavilions already finished, has been begun. The clinics will comprise von Noorden's internal clinic, a laryngological ward, and a children's ward. Von Noorden's clinic will have 100 beds, with an isolation pavilion, clinical teaching halls, a lecture hall seating 236 students, a special dietetic kitchen, and laboratories for experiments on metabolism. The Chiari clinic for diseases of the nose and throat will have 48 beds with a pavilion for seven diphtheria cases; and the third clinic, under Professor von Escherich, will have 44 beds for children, a pavilion for 10 infants, and a station for 12 "boxes" or "couveuses" for premature infants. The infection wards consist of a pavilion with 21 diphtheria beds and another pavilion with 24 scarlet fever beds. The lecture hall of this clinic will hold 200 students, against 100 seats in the Chiari lecture hall. A good operating theatre will be attached to both the latter clinics. The exterior of the building will be finished in 1909, whilst the completion of the interior has been fixed for the summer of 1910; the cost of the erection, together with all apparatus and fixtures, has been estimated at £200,000. The plans are in accordance with the desires of the professors, and all the latest innovations and the best material, together with the best recognised equipment, have been allowed for by the committee. The fittings will cost about £60,000. Care has been taken to provide for sufficient rooms for students to spend at least twice a year a term of a fortnight as junior assistants, so as to come in close contact with patients and diseases. Hitherto this most important part of a medical curriculum was rather badly handicapped by sheer want of accommodation.

Sept. 12th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

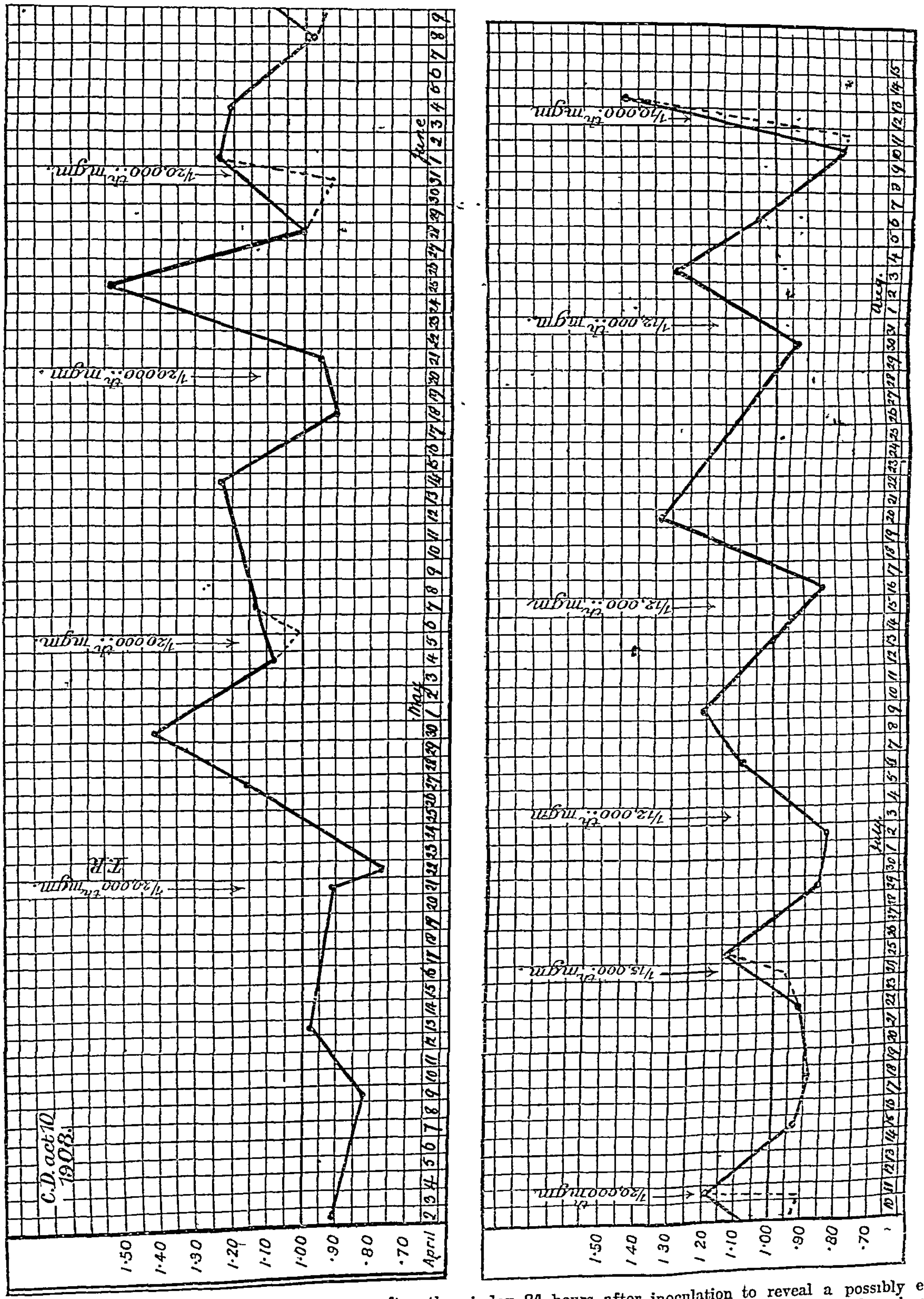
Military X Ray Equipment in India.

IN 1904 Sir Thomas Gallwey, K.C.M.G., C.B., principal medical officer His Majesty's forces in India, submitted a carefully drawn up scheme for the consideration of the Government of India which comprised the provision of 15 complete sets of x ray equipment for India for use in peace and war. The apparatus selected consisted of portable outfits for use on field service. One complete set was obtained from London at once and subjected to severe and prolonged tests on field service conditions, consisting of marching it loaded on mules for long distances over rough bridle paths, both in the plains and the hills, and, finally, by conveying the complete component parts from Dehra Dun to Simla, a distance of about 100 miles, over mountainous ranges by very rough tracks. On arrival at Simla in November, 1904, the entire apparatus was set up for a working trial and was inspected by a representative gathering at army headquarters, and while in working order it was reported on by a committee of medical officers consisting of Major H. W. H. Elliott, D.S.O., I.M.S., Captain E. Blake Knox, R.A.M.C., and Captain A. E. Walter, I.M.S. This committee expressed its opinion that the outfit was suitable in every way for use in peace and war. Lord Kitchener concurred in the finding of this committee and considered that the portable outfit should be used with general hospitals and hospital ships as well as with peace charges in order to accustom medical officers to its use in peace time and to avoid duplication of equipment. Another advantage of the portable apparatus was that it could be sent when necessary to out-stations away from the railway in which circumstances portability would be a great desideratum. The next step was the formation of a headquarters x ray institute at Dehra Dun, and Captain Walter was appointed superintendent and was given a suitable staff. This institute, besides carrying out x ray work for the civil Government and also for the military, became a training school for medical officers and subordinates (assistant surgeons and hospital assistants) for all branches of the medical services in India. It also undertook special forms of

From this it will be seen how small a dose was given in the first instance and how gradually it was increased. That from a low average resistance a high average resistance was attained and maintained. That the average period above the normal line was much greater after the course of inoculations was started than the average period below the normal line.

This particular case is instanced because a generous number of opsonic indices was estimated and it affords a better example of chart than when only two estimations between each inoculation are undertaken, which latter number is usual in an average straightforward case. The indications in such a case being to estimate the opsonic index 24 hours after inoculation to reveal a possibly excessive negative phase and on the seventh day or thereabouts to reveal the persistence or otherwise of the positive phase. If a high state of resistance be revealed inoculation is, of course, delayed for a few days.

FIG. 2.



An opsonic chart showing the responses to increasing doses of tuberculin.

an ophthalmic surgeon. He enjoyed the confidence of his professional brethren and his opinion was frequently in requisition as a consultant, not only in Newcastle but also in the northern counties of England. When in the zenith of his reputation he was invited to allow himself to be associated with the Newcastle Infirmary on the surgical staff, he respectfully declined the honour and gave as his reason that his time was so fully occupied that he would not be able to do justice to the appointment and had no desire to be simply an ornamental official. He was a courteous and Christian gentleman, the trusted friend and medical adviser of many families for more than half a century, and distinguished for his consideration, attention, and prudence."

JOHN WILLIAM BILLING STEGGALL, M.R.C.S. ENG., L.S.A.

Mr. J. W. B. Steggall, whose somewhat unexpected death took place on August 14th, at the house to which he took his young bride in 1854 and in which he had resided continuously ever since, was the eldest son of the late John Steggall, M.D. He was born in 1827 and in the year 1843 commenced his professional studies at Charing Cross Hospital. He passed through the course with distinction, receiving the gold medal of the Society of Apothecaries and qualifying as L.S.A. in 1848 and M.R.C.S. Eng. in 1849. He then held the appointment of house surgeon at Charing Cross Hospital for over three years, the duration of these posts not being limited 60 years ago as they are now, after which he was assistant to his father for some time, both in his *more strictly professional* practice and in the tuition which, in accordance with the custom of the day, was often given by physicians to students who in some cases resided, as well as studied, at a medical man's house. In this manner the late Mr. Steggall had, amongst other well-known pupils, Albert Smith under his charge, and the humorous sketches that appeared in the early pages of *Punch* under the heading of "The Medical Student" owed much to the writer's experience as a medical pupil in Dr. Steggall's house. Some of the names attached to the anecdotes were, indeed, but thinly disguised; those in the secret, however, admitted the accuracy of the sketches.

Mr. Steggall later carried on a large practice in Bloomsbury, though the modern changes in the residential character of the neighbourhood materially affected it. He never actually retired from practice, and even on the day of his death some old patients sent to ask his attendance or advice, but alterations in all the conditions of medical practice were bound to affect him, as they do all senior practitioners. In his profession he was inclined to be conservative, but his powers of diagnosis were admittedly high and his skill in dealing with such surgical work as falls to the lot of a general practitioner was undoubtedly great. His rather old-fashioned manner and his constant urbanity, together with the interest that an admirably trained and exact memory lent to his conversation, were valued by a large circle of friends.

Mr. Steggall was famous for his love for London. He did not sleep away from his house more than, on the average, once a year during his long occupation of it. One of his chief delights was to walk through the London streets, studying their new and old architectural features, or examining the books and engravings at the well-known dealers. His knowledge of architecture was extraordinarily minute and he was generally much better informed as to the principal English and continental buildings which he had never seen than those who had had the advantage of visiting the cathedral cities or the great centres of European history. His collection of engravings and drawings was large and detailed, and included many architectural designs from his own hand. His appreciation of this particular branch of art was very keen, and his criticisms were always marked by excellent taste. In addition to his knowledge of architecture and engraving he was learned in general classical and late Latin literature, and possessed a wide knowledge of Roman numismatics. His wife died in 1893, but of his family, numbering 12, the ten who survived their infancy are still alive. The eldest son is one of the two professors of mathematics at the University of St. Andrews, and the seventh son has followed his father's footsteps, having taken the medical course at Charing Cross Hospital and qualified as M.R.C.S. Eng., L.R.C.P. Lond. His second daughter was his constant companion for the last 13 years.

JOHN CAMERON, M.D., C.M. EDIN.

WE regret to record the death of Dr. John Cameron, medical superintendent of the Argyll and Bute Asylum at Lochgilphead, which occurred on Sept. 5th at Edinburgh, whither he had retired three months ago with a serious disease which gave no hope of his recovery. He was born at Killin 67 years ago and was educated at Edinburgh University, where he took his M.B., C.M. in 1872 and proceeded to the Doctorate five years later. Subsequently to his qualification he became a house surgeon at Glasgow Royal Infirmary and then assistant to the professor of the practice of medicine in his own university and assistant physician at the Edinburgh Royal Infirmary. He relinquished a career in internal medicine which promised so well to take a medical officership in the Crichton Royal Institution, Dumfries, and in 1874 succeeded to the superintendentship which he held until his death. He was a keen officer of the Argyll and Bute Artillery (Volunteers) and after some 15 years' service retired with the rank of lieutenant-colonel.

JAMES BRIERLEY HUGHES, M.R.C.S. ENG., L.S.A.

GREAT regret has been felt at Macclesfield at the death of Mr. James Brierley Hughes who was an old practitioner and prominent citizen of that town. He was attacked with serious heart trouble in December last but made a great improvement until a serious relapse occurred in August which resulted in his death on August 25th, when he was in his sixty-fifth year. He was the son of the Rev. John Hughes, rector of St. Peter's, Congleton, and was apprenticed to Dr. Bulloch of Congleton after being educated at the Macclesfield Grammar School. He came up to St. Bartholomew's for his hospital training, obtaining his qualifications in 1866. In the following year he returned to Macclesfield, where he was appointed medical officer of the workhouse, district medical officer, and public vaccinator, all of which offices he held until his death. He was an active councillor of the borough for the last five years, being a member of the water, library, health, and other committees. He was a keen militiaman, having joined the 4th Battalion of the Cheshire Regiment (Macclesfield Militia) as surgeon-lieutenant in 1873 and held the rank of Surgeon-Lieutenant-Colonel at its disbandment last year. Mr. Hughes leaves a widow, who is the daughter of Mr. A. E. Sears of Blackheath, three sons, and one daughter. Two of his sons, Dr. J. B. Hughes and Mr. Guy Hughes, are in medical practice in Macclesfield. The funeral, which by his own request was very quiet, took place at Congleton on August 29th. We take the following appreciation of the deceased gentleman from a local contemporary. "Bluff and outspoken, and always uncompromising in his detestation of sham and mere empty parade, Dr. Hughes was not given to 'coddling' his patients, or anybody else with whom he came into contact, but he nevertheless earned their respect and complete confidence. He possessed an inexhaustible store of good humour and had qualities of heart which, though rarely displayed openly, will cause his death to come to many with the force of a personal loss."

FREDERICK JOHN MASON, M.R.C.S. ENG., L.M., L.S.A.

AN old and well-known surgeon of Lincoln, Mr. F. J. Mason, passed away on August 25th at his residence, 6, Sibthorp-street. He had reached the age of 71 years, of which 43 had been spent in practice in the city. He was the eldest son of the late Mr. John Mason of Wisbech and was educated at University College, London. He obtained his diplomas in 1858, subsequently settling in Lincoln. He had not enjoyed good health since he suffered from a paralytic seizure 14 years ago, but his end came somewhat suddenly after a few days' illness. In 1869 he married the second daughter of the late John Stevenson of Barton-on-Humber who survives him with one daughter. Mr. Mason was a keen and successful surgeon and gained a considerable local reputation by his skill in the treatment of fractures in which he had always been interested. He enjoyed a large private practice. The funeral took place at Canwick-road Cemetery, Lincoln, two days after his death, and the tributes included a beautiful was followed on the 12th by a sli[illegible] in the neck, and the temperature, [illegible] normal, rose a degree, otherwise there was no constitutional disturbance. On the 13th the inflammatory signs passed off and the temperature *fell* to normal. On the 15th the wounds were covered by a thin delicate skin. On the 17th this skin *was shed and the wounds* were once more open. On the 20th another injection of 1-5000 cubic centimetre of T.R. was given, the opsonic index being again 0·7. This injection *caused*, 12 hours later, inflammation in the wounds with distinct pain, which lasted for 24 hours. In four days the inflammation had subsided.

On June 1st a bluish-white line of epithelium began to appear round the wounds. On the 3rd 1-5000 cubic centimetre of T.R. was again injected and the same clinical phenomena followed as on the previous occasions. On the 10th the condition was as follows: The upper wound was closed by thin, young, healthy cicatrix; the second wound was partly closed and showing healthy margins; and the third or lowermost wound was still open but was surrounded by healthy edge and floored with pink, healthy granulation tissue. On the 15th 1-2500 centimetre of T. R. was injected, the opsonic index being at this date 0·89 (practically normal). On the 17th the two lower wounds were almost closed and three days later all were completely covered and the patient was now allowed to go out in warm weather. On the 25th 1-2500 cubic centimetre of T.R. was injected, the patient remaining in bed on the two following days. This procedure was followed after each injection till the termination of the treatment.

On July 2nd 1-2500 cubic centimetre of T.R. was injected, the opsonic index being now 0·98. The patient was feeling in splendid health. The wounds had remained quite closed and the cicatrices were beginning to contract. On the 13th 1-5000 cubic centimetre of T.R. was injected. The scars were white and anæmic in places. On the 24th 1-5000 cubic centimetre of T.R. was injected. The scars looked strong, tough, and white. An area about one-eighth of an inch in diameter in the centre of the lowermost scar had broken down. On the 29th this breach was diminished to half its previous size.

On August 19th 1-25000 cubic centimetre of T.R. was injected. On this date only an area of the size of a pin's head remained bare. On the 25th the wounds were entirely closed and the cicatrices appeared fine, white, and strong. There was wonderfully little marking. The patient has remained well ever since and started work on Sept. 3rd.

CASE 2.—A man, aged 26 years, came on May 20th, 1908, complaining of an inflamed chin of a week's duration which proved to be a case of folliculitis barbæ. The infection involved the whole of the hairy part of the face and extended down the front of the neck. The chin was greatly swollen with subcutaneous abscesses and was the seat of much tension and pain. In a smear taken from one of the pustules the dominant micro-organism seemed to be the staphylococcus pyogenes aureus. There were also present a few streptococci and other pyogenic bacteria. The hair-roots were examined, but no trichophyton spores could be detected. The diseased parts were treated by epilation and by the application of boric acid and starch poultices, followed by antiseptic lotions and ointments for six weeks, but there was little or no improvement. Some of the pus was now plated, incubated, the right colony selected, and by a succession of sub-cultures a pure emulsion of staphylococci was obtained. This we attempted to sterilise by exposing it for one hour to a temperature of 68° C., or 2° above that which is sometimes recommended, but a loopful incubated for 12 hours on agar showed growth. We therefore decided upon sterilising the emulsion at 100° C. for 40 minutes, the measured doses being again steamed for 20 minutes in the ampoules immediately before sealing. We argued that even if one loopful or more should prove sterile on incubation this was no proper guarantee that the rest of the emulsion was free from living bacteria, whereas one hour at 100° C. practically eliminated all risk. Some consider that this temperature materially alters the toxins, so making the vaccine less efficient, but the favourable results obtained in this case, with a possibly modified toxin, would make us hesitate to take any risks with bacteria which had only been subjected to the lower temperature.

On July 4th a dose of vaccine containing 45,000,000 staphylococci was injected. The opsonic index for this bacterium was then 1·10. Wright has recommended 500,000,000 as a suitable dose, but other observers have obtained *good* results from smaller *numbers*. The patient was kept in bed for two days after the injection and this course was *followed after* each subsequent inoculation. All local *antiseptic treatment* was stopped. On the 5th there was a severe inflammatory reaction, with pain, swelling, and redness at the site of the disease. On the 6th the reaction passed off and a day later some of the pustules began to disappear. No new pustules made their appearance on the chin, but *a crop came out on* the right flank. On the 8th 90,000,000 staphylococci were injected. Local reaction followed on the 9th and did not subside until the 11th. Succeeding this there was a period of *improvement*, many pustules disappearing, and a crop again occurred on the right flank, disappearing in the course of four days. On the 15th the opsonic index was 0·9 and an injection of 125,000,000 was followed by a sharp reaction and the appearance of a few pustules on the flank. On the 17th the reaction passed off, the pustules on the flank disappeared, and a period of improvement set in which continued steadily until the 24th, when the whole of the inflammatory process had subsided except at the point of the chin, where an area of about one square inch still exuded pus. On the 24th 200,000,000 staphylococci were injected and after the local reaction had passed off there was further improvement. All pain and tension had completely disappeared. On the 27th the process had become limited to two small pustules on the chin and a few scabs.

On August 5th 300,000,000 staphylococci were injected. No pustules were present on the chin on the 10th and the hair was growing luxuriantly. For the first time during the course of treatment no pustules on the flank followed this fourth and last injection. The patient has remained quite well up to the present time.

CASE 3.—A boy, aged ten years, was brought to us in the beginning of June, 1907, complaining of pain, stiffness, and swelling over the first metatarsal bone and proximal phalanx of the great toe of four months' duration. The case was one of tuberculous disease of the metatarso-phalangeal joint. Calmette's ophthalmic reaction was positive. The boy was put to bed, the foot was immobilised in a splint, and cod-liver oil and a nutritious diet were prescribed. The general condition was asthenic. In the course of a month the swelling had increased and showed signs of liquefaction. The question of an excision was considered, but it was decided to incise and evacuate. This was done at the beginning of August. Shortly after this the skin broke at two other place, and there were now three sinuses discharging. *Treatment* by Bier's method was initiated, the congestion being kept up for two hours twice daily. This had a distinctly *salutary* effect. The swelling began gradually to subside and the discharge lessened. One sinus closed completely, but the other two still remained open, discharging a little serum every day. During February, 1908, a second sinus closed, *but opened* again in a few days. This was repeated *on two or three* occasions during the next three months; *the third* wound never closed. The boy's general health had improved.

On June 13th, 1908, 1-10000 cubic centimetre *of* T.R. was injected and the patient was kept in bed the following day. There were a well-marked local reaction with *congestion* and increased discharge from the sinuses. *On the* 15th the reaction had subsided and during the following seven days there were a continued diminution of the *swelling and* a lessening of the discharge. *On July 2nd another* 1-10000 cubic centimetre of T R was injected. *After the reaction* had passed off further improvement occurred. *One of the* sinuses closed, while the other remained open, discharging a little serum every second or third day. At the beginning of August the remaining sinus closed, but opened up again about the middle of the month. *On the* 19th 1-10000 cubic centimetre of T.R. was *injected*. After the reaction had passed off *the remaining sinus* closed and remained so. On Sept. 1st the scars were white, soft, pliable, and depressed. Comparatively little thickening was present at the site of the lesion. *The joint remained stiff.* On this day an injection of 1-10000 cubic centimetre of T.R. was followed by a very slight reaction. The last closed sinus opened on the 2nd and emitted *a drop or* two of blood-stained serum. On the 3rd the dressing was absolutely dry, no *discharge being* present nor has there been *any reappearance of the discharge* since that date.

colds which, he thought, had a great future. Dr. Broadbent read a note on Homburg and Some Other Spas. He described the waters and baths which gave the best results with chronic dyspeptics. Compared with England the finer climate, better management, and consequent greater cheerfulness of foreign spas gave them a great advantage.

University College, Bristol.—The fête recently held at the Zoological Gardens, Clifton, for the purpose of raising funds to clear off the debt on the recreation ground of the University College Union was very successful. The gross receipts were £1993, and after paying expenses the sum of £896 will be handed to the University College Union.

Manchester Royal Infirmary.—In view of the closing of the old Manchester Royal Infirmary, which will take place shortly, it is proposed to hold a gathering of past and present residents who wish to visit the old building again. A dinner will be held on Thursday, Oct. 15th, and the old and new hospitals will be open for inspection on Oct. 15th and 16th. Any former resident officer or resident apprentice who has not received notice of the dinner is requested to communicate with the resident medical officer of the infirmary, who is acting as secretary for the gathering.

The Pirogoff Society and Political Propaganda.—The *Novoe Vremya* reports the arrest of D. B. Zhbanko, secretary to the Pirogoff Society, at whose residence 1500 pamphlets were found entitled, "What you must know to Combat Contagious Diseases." Only the first few pages were devoted to the subject of the title, the rest were filled with anti-Government propaganda. The executive offices and library of the Pirogoff Society were searched at the same time, where 600 of the pamphlets were found. The society's journals were removed.

Failure of the Champagne Vintage.—It is reported from the chief departments of the champagne country that the vintage of 1908 simply does not exist, so disastrous have been the ravages of mildew. This blow is the more unfortunate just now inasmuch as there is a bitter feeling amongst the growers in regard to the unchecked manufacture of wines purporting to be champagne but which is made from grapes grown outside the real champagne district. They ask for the same protection at the hands of the State as is accorded to the producers of Cognac brandy which is defined to be the product of the distillation of wines produced in the Charentes. It is feared that if a practice of substitution is continued there will be a general rising amongst those engaged in the champagne industry who realise that their livelihood is menaced.

The New Water Charges in London.—A movement is on foot in the City of London to ask the Lord Mayor to summon a meeting of ratepayers to protest at the Guildhall against the new charges of the *Metropolitan* Water Board. The Lord Mayor has expressed his willingness to preside at such a meeting if a sufficiently large requisition is presented to him, and during the next few weeks it is expected that a considerable number of prominent ratepayers will give the chief magistrate the mandate he seeks. The dissatisfaction aroused in the City by the new water rate is very great. It is understood that at the projected meeting a demand will be made for such an amendment of the Act of 1907 as will lessen the burden imposed upon City ratepayers, the adoption of supply by meter being suggested, no other means appearing feasible.

Tuberculosis in Norway.—The annual report of the sanatorium for tuberculous patients at Reknaes on the west coast of Norway shows that during the year ending Dec. 31st, 1907, there were 269 cases admitted and 265 discharged. The average period of residence was 88 days, the maximum being 151 days. Of the 269 cases admitted 28 per cent. were in the first, 50 per cent. in the second, and 22 per cent. in the third stage of the disease, while among the 265 cases discharged there were 80 in the first, 125 in the second, and 48 in the third stage. Of the 80 cases in the first stage and of the 125 cases in the second stage 54 per cent. and 10 per cent. respectively were discharged "recovered," while of the 48 cases in the third stage 58 per cent. were discharged improved. There were two deaths, one of which was due to nephritis with uræmia and the other to perforated duodenal ulcer with general peritonitis. Calmette's ophthalmic reaction and Pirquet's cutaneous reaction were tried in many instances. That these reactions may be of value in doubtful cases is highly probable, but owing to the great variability of the results sufficient data have not yet been collected to warrant publication. The average cost per diem for a patient was 1*s.* 11*d.* (kr. 1·70), of which 1*s.* 1¼*d.* (kr. 0·99) were spent on food. The average temperature for the year at Reknaes was 5·9°C., with a maximum of 24·3° and a minimum of –11·8°C.

Pontypridd and District Cottage Hospital.—Over £1500 have been already received towards the building fund of the proposed "Pontypridd and District Cottage Hospital."

The Vaccination Act in East Devon.—The question of the fees paid to public vaccinators has been engaging the attention of the boards of guardians in East Devon, and in some cases considerable reductions have been proposed. At Axminster recently the public vaccinators all resigned their appointments in consequence of the reduced fees which were offered. At the last meeting of the Honiton board of guardians a letter was read from the Local Government Board stating that the guardians must offer such fees as would attract qualified medical men for the positions. The guardians apparently realise that the local medical men are determined only to accept the scale of fees at present in force, and a member of the board gave notice that at the next meeting he would move that the guardians revert to the old conditions.

The Kepler Society.—A Kepler Society (Keplerbund) has been founded recently under the auspices of certain German men of science "to counteract the advances which Monism has made and which appear to be of an atheistic tendency." An appeal to the public has been made and the society has now about 3000 members. The object of the society is to instruct the lay public in scientific truths and to promote its interest in the study of nature entirely apart from religious views. About 140 men of science have offered their services as public lecturers and scientific contributors. Six popular treatises have already been issued. A committee of 29 members has charge of the organisation. Dr. Desmert, D.Ph., of Godesberg, is scientific director. Members pay an annual subscription of at least 5 marks.

The Health of South Devon in 1907: A Record Year.—Mr. W. Harvey has just presented to the Devon county council his summary of the reports of the medical officers of health of South Devon for 1907. The report deals with the rural and urban sanitary districts in South Devon and shows that the death-rate for the year was 14·3 per 1000. Pulmonary tuberculosis for the first time had caused less than 300 deaths—viz., 294. The death-rate of enteric fever was 0·05, the lowest on record. The infant mortality was 93 per 1000 births, the lowest recorded. 313 deaths were due to cancer; this is the first occasion on which the deaths from cancer exceeded those due to pulmonary tuberculosis. 945 cases of infectious disease were notified in 1907, compared with 1144 in 1906. The birth-rate for 1907 was 20·3, the lowest on record.

Third International Congress for the Care of the Insane.—This Congress will be held at Vienna from Oct. 7th to 11th, under the patronage of the Austrian Government and of a distinguished council. The proceedings will embrace all questions relating to the insane, not only of medical interest but also of legal, technical, administrative, and pædagogic interest, as will have been seen by a list of some who propose to take part which has already been published. The Congress aims at putting us in possession of complete information upon the present position of lunacy administration in the different countries; the care of the feeble-minded, the nursing of lunatics, the arrangements for their restraint, the care of the insane in armies, and all legislative aspects of these questions will be dealt with in different communications, after which a report will be read upon the proposal of Dr. Frank of Zürich to establish an international institute for the study, prevention, and treatment of mental diseases. Excursions to inspect noteworthy places will be made and in particular to the hospital for a condition known as eosinophilia in those who are infected, whether they show symptoms or not.

Method of infection of mine.—This is brought about by (1) the mine becoming infected by men who have brought disease home from countries where it is endemic (for example, soldiers from India, Egypt, or West Indies) or from European mines where the disease is found; and (2) lack of sanitary arrangements when such men work in mines.

Conditions favourable to the disease.—1. Temperature exceeding 68° F. Dr. Boycott and Dr. Haldane have hatched out fully developed larvæ at temperatures as low as 60°. The disease may claim greater attention in the future as all new workings will be very deep, 800 or 1000 yards or more. In these cases the temperature will be much higher than the minimum required. The temperature of a mine also depends upon ventilation, so that if there is any slackness in attention to this matter, even in what is regarded as a cold mine, we may find at times the temperature sufficiently high to favour the development of the larvæ. 2. Moisture is an essential factor for the development of the ova and the growth of the larvæ. In the deepest pits, which are regarded by mining engineers as dry, water may be found sometimes. If the watering of the roadways be made compulsory this condition will always be present in every mine so watered. 3. Lack of sanitary arrangements in mine.

Prevention.—1. By providing suitable sanitary arrangements. This point will be referred to in detail further on in this paper. 2. By forbidding miners to relieve themselves along the permanent roadways and in places where the fæcal matter may be trodden about. 3. By the miners taking the precaution to wrap up their food in paper when handling it and thus keep it free from contamination. 4. By the rigid exclusion of those men who are known to be infected. 5. By the medical examination of all men who apply for work at mines and who are known to have been in countries where the disease exists.

Relaxation of efforts to deal with this disease may be attended with grave dangers. The following points may be worthy of notice under this heading:—1. The miners may be infected without showing any symptoms. 2. No mine should be assumed to be free from ankylostomiasis unless a careful inspection has been made and negative results found. 3. An epidemic of ankylostomiasis does not break out in a few days like influenza. Infection may be present in the mine for a considerable period of time and an epidemic follows when there arise conditions which are more favourable to its development.

To give an idea of the extent to which this disease may spread, I would like to remind you that in 1903 in Westphalia, even after considerable improvements had been made in consequence of stringent regulations, out of 188,730 working miners no less than 17,161 were affected by this malady, which is equivalent to 9·09 per cent. In Belgium this subject engaged the attention of the International Congress of Miners and the International Hygienic Congress, both of which were held in Brussels in 1903, and it was stated that 10,000 miners around Liége were suffering from ankylostomiasis; this represents about 30 per cent. of the whole mining community in this district. Dr. Barbier has shown that in the vicinity of Liége 49 pits were infected out of 72 and 23 were immune or had only a single case of the disease. In Austria it was found at Brunnberg, a mining centre, that no less than 85 per cent. of the miners were infected in 1896. With the most strenuous precautions and the establishment of a hospital for the treatment of sufferers the percentage of patients declined to 47 per cent. in 1898, 26 per cent. in 1899, 23 per cent. in 1900, 12 per cent. in 1901, to 8 per cent. in 1902.

Typhoid Fever among Miners.

It has been observed for some years that colliers have been predisposed to contracting typhoid fever through the lack of sanitary arrangements in mines and through the infective exhalations being carried by air currents along the roadways and workings of the mines, and several Local Government Board reports have been issued from 1889 onwards dealing with this subject. But the most important report on this matter has been issued this year by Dr. R. Deane Sweeting, who deals with the prevalence of typhoid fever in the borough of Leigh. This town has a population of 43,000 people of whom 5000 are working colliers. For many years past typhoid fever has not been absent from the town.

The following table shows the number of notifications of, and of deaths from, typhoid fever since 1899:—

TABLE I.

Year.	Notification.	Deaths.	Year.	Notification.	Deaths.
1899	47	9	1904	35	12
1900	57	2	1905	37	11
1901	34	8	1906	49	14
1902	49	13	1907 (to Sept. 30th)	26	5
1903	46	12			

Table II. shows the number of cases of typhoid fever notified from 1902 to 1906 and also the number of colliers affected:—

TABLE II.

Year.	Total number of notifications.	Number of colliery employees notified.
1902	49	13
1903	46	17
1904	35	12
1905	37	11
1906	49	17
1902–1906	216	70
Average per year	43	14

Table III. shows that the incidence of typhoid fever on the collier population of Leigh is four times that on the non-collier population:—

TABLE III.

	Population.	Average yearly incidence of fever.	Rate per 1000.
Colliers	5,049	14	2·8
Non-colliers	38,267	29	0·7
Whole borough	43,316	43	1·0

Dr. Sweeting attributes this fourfold greater incidence among colliers as compared with the rest of the inhabitants as mainly due to the conditions of excrement disposal which obtain at the various collieries at which the men work. There are seven collieries within the borough of Leigh and at four of these there were no provisions made underground, excrement being voided anywhere and anyhow. At one colliery there were a dozen wooden boxes provided for 620 workers, but the conditions which prevailed at the remaining two collieries were distinctly better, improvements having been instituted since the outbreak of ankylostomiasis in Cornwall.

It is now common knowledge that a typhoid patient may remain an effective carrier of the disease for a long period of time and it would appear that the underground workings of a mine afford ideal conditions for the dissemination of the disease.

Present-day Requirements.

These considerations of ankylostomiasis and typhoid fever among miners, as well as the general hygienic aspect of the question, should emphasise the necessity for the sanitation of mines being put upon a satisfactory basis. In making a few suggestions upon the present-day requirements I shall follow the evidence which I had the honour of giving before the Royal Commission on Mines.

There should be proper conveniences at the pit bottom and at convenient points near the main roadways where large numbers of men work. I cannot do better than refer to the arrangements at the Norton Colliery near Stoke-upon-Trent, where Mr. Salt, the manager, has erected closets near the pit bottom and near one of the principal roadways of the mine where a considerable number of men work, and it is purposed to extend the accommodation to other parts of the mine. Each closet is situated in a brick structure provided with a wooden door, and it consists of a galvanised iron pan containing coal-dust placed underneath a wooden seat. The closet near the pit bottom is put in the intake roadway and the other one is placed between the separation doors in a cross cut connecting the main intake with the return crut and each closet is satisfactorily ventilated by an iron pipe placed over the pan and communicating with the return airway. The total cost of a closet, including brickwork, is within £5. The closets are kept in a clean condition by the men and the pans are emptied about twice a week, or oftener if necessary, by one of the horsekeepers, the pans being taken up to the surface and emptied on the waste heap, where they are

Newcastle-upon-Tyne and Northumberland Sanatorium, Barrasford, North Tyne.—Locum Resident Medical Officer, unmarried. Salary £15 a month, with board, residence, and laundry.

North Shields, Tynemouth Victoria Jubilee Infirmary.—House Surgeon. Salary £100 per annum, with rooms, board, &c.

Norwich, Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

Oldham Infirmary.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Oldham Union.—Resident Assistant Medical Officer. Salary £130 per annum, with rations, furnished house, washing, and attendance.

Oxford, Radcliffe Infirmary and County Hospital.—Junior House Surgeon, unmarried, for six months. Salary at rate of £40 per annum, with board, &c.

Pendlebury, Manchester Children's Hospital.—Visiting Physician. Honorarium £100 per annum.

Poplar and Stepney Sick Asylum, Bromley, E.—Third Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

Prestwich County Asylum, Manchester.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with board, apartments, and washing.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Rainhill County Asylum, near Liverpool.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with further increase to £350, with apartments, board, attendance, and washing.

Rochdale, County Borough of.—Medical Officer of Health. Salary £450, increasing to £550.

Royal London Ophthalmic Hospital, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

Royal Navy, Medical Department.—Fifteen Commissions.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Clinical Assistants.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board and residence.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £70 per annum, with board and apartments.

Southampton Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board and residence.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board, and washing.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Torosay, Parish of.—Medical Officer. Salary £100 per annum.

Tunbridge Wells General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and attendance.

Warrington Infirmary and Dispensary.—Junior House Surgeon, unmarried. Salary £100 per annum, with residence and board.

West London Hospital and Post-Graduate College, Hammersmith-road, W.—Clinical Assistants. Also Casualty Officers for three months.

Winsley, near Bath, Three Counties Sanatorium for Consumptives.—Resident Medical Officer, unmarried. Salary £200, rising to £300.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Invergordon, in the county of Ross and Cromarty; at Chatteris, in the county of Cambridge; at Higham Ferrers, in the county of Northampton; at Enniscorthy, in the county of Wexford; and at Rothes, in the county of Elgin.

Births, Marriages, and Deaths.

BIRTHS.

Alford.—On Sept. 7th, at Stafford Lodge, Weston-super-Mare, the wife of H. T. Marmaduke Alford, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

Furnivall.—On Sept. 12th, at Highfield-terrace, Halifax, the wife of Captain C. H. Furnivall, R.A.M.C., of a son.

Mounsey.—On Sept. 13th, at Moorlands, Camberley, the wife of Ridley Ewart Mounsey, M.R.C.S., L.R.C.P., of a daughter.

Taylor.—On Sept. 8th, at Eaton Hill, Norwich, the wife of Sidney Johnson Taylor, M.B., M.R.C.S., of a daughter.

MARRIAGES.

Partridge—Vandermin.—On Sept. 12th, at St. George's, Camberwell, Victor Stanley Partridge, L.R.C.P. Lond., M.R.C.S., M. & L.S.A., to Florence Gertrude, second daughter of the late Petrus Vandermin and Mrs. Vandermin.

Ward—Stoop.—On Sept. 12th, at the parish church, Byfleet, Vere Godsalve Ward, M.D., to Janey Corry, second daughter of Fred C. Stoop.

DEATHS.

Eustace.—On Sept. 10th, at Bournemouth, Fleet-Surgeon Richard Eustace, M.D., R.N., aged 75 years.

Paton.—On Sept. 10th, Edward Percy Paton, M.D., M.S., F.R.C.S., aged 41 years.

Ray.—On Sept. 10th, at Tunbridge Wells, Charles Ray, M.D., M.R.C.S., aged nearly 95 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SHAKESPEARE ON SYPHILIS.

To the Editor of THE LANCET.

SIR,—It would be difficult to point to any great author, not himself a physician, in whose works the healing art is referred to more frequently and more respectfully than those of Shakespeare, the sacred writings alone being excepted. Any careful student of the immortal dramatist, who bears, as Hallam says, "the greatest name in all literature," must be struck with the amount of attention paid to subjects of medical interest, scarcely if at all inferior to that which has served as the basis of the ingenious argument, supported by Lord Campbell and others, that this intellectual king of men had devoted seven years of his life to the study of law. Without entering into an argument on this point, i might be interesting to take but a single example of disease referred to in his writings to see what an up-to-date knowledge he possessed on this as on all other subjects.

In *Timon of Athens*, Act. IV., Scene 3, we find a complete list of the secondary effects of venereal virus uttered by the mad misanthropist against Phrynia and Timandra the mistresses of Alcibiades who together visit Timon in the woods near Athens whither he has retreated.

> *Timon*: Consumptions sow
> In hollow bones of man; strike their sharp shins,
> And mar men's spurring. Crack the lawyer's voice,
> That he may never more false title plead,
> Nor sound his quillets shrilly; hoar the flamen,
> That scolds against the quality of flesh,
> And not believes himself: down with the nose,
> Down with it flat; take the bridge quite away
> Of him, that his particular to foresee,
> Smells from the general weal: make curl'd pate ruffians bald;
> And let the unscarred braggarts of the war
> Derive some pain from you: plague all;
> That your activity may defeat and quell
> The source of all erection.—There's more gold:
> Do you damn others, and let this damn you,
> And ditches grave you all!

It has been thought probable that "consumptions in the hollow bones" means disease of the bones of the cranium, which has been called the hollow bone of the body. Diseases of these bones we know to have been terribly frequent in olden time, when the treatment of syphilis was not nearly so effectual as it is now. Painful nodes on the shin bones are, no doubt, meant by the expression, "Strike their sharp shins." The subsequent symptom may be read as we give it, "mar men's spurring," and refer to the victim's inability to use the spurs on horseback, or it may be rendered "mar men's sparring," and taken to mean that they would prevent men from using those kicks on the shin which formed part of the movement of attack and defence in wrestling.

Venereal ulcers of the larynx are next referred to; "crack the lawyer's voice." That hideous disfigurement of chronic syphilis, loss of the nose, is mentioned and even the structure is dealt with "take the bridge quite away." The fearful list of the effects of the virus of syphilis is concluded by impotence and baldness; the last of which is especially remarkable as it was not observed to be a symptom of the complaint until a date shortly before Shakespeare wrote. We learn from Fallopius, upon whose information we may rely, that the loss of hair was not observed to be a symptom of the complaint before 1536, when the disorder had been known for about 40 years—Fernelius being the first to notice it. It is also worth noting that these two symptoms—impotence and loss of the nose, which the dramatist mentions, were omitted by Nicholas Brassa in a work on syphilis, founded almost wholly from his own experience. He jumbles together the primary and secondary manifestations while Shakespeare in this remarkable passage mentions the secondary and tertiary forms of the disease only. That this is from knowledge and not from ignorance seems certain, since in an earlier passage of the same scene he refers to the primary symptoms.

While the discussion of such subjects is allowable in a medical journal one would be rather shocked to find such a passage even from the pen of a great writer in the popular literature of to-day. We must remember, however, that in Shakespeare's time both the novelty and the ravages of this disease attracted to it a larger share of public and private attention than any other disease, except, perhaps, the epidemics which were at that time so frequent and so fatal.

The wide prevalence and the horrible nature of these "rotten diseases of the South" are referred to in Hamlet in the grave digging scene.

> *Hamlet*: How long will a man lie i' the earth ere he rot?
> *Clown*: I'faith, if he be not rotten before he die, (as we have many pocky corses now-a-days, that will scarce hold the laying in,) he will last you some eight year or nine year.

In Wunderlick's "History of Medicine" it is stated that Girtanner had recorded 253 separate treatises which had been written on this disease before the end of the sixteenth century, a fact significant of the anxiety and attention which it excited in the profession.

a condition known as eosinophilia in those who are infected, whether they show symptoms or not.

Method of infection of mine.—This is brought about by (1) the mine becoming infected by men who have brought disease home from countries where it is endemic (for example, soldiers from India, Egypt, or West Indies) or from European mines where the disease is found; and (2) lack of sanitary arrangements when such men work in mines.

Conditions favourable to the disease.—1. Temperature exceeding 68° F. Dr. Boycott and Dr. Haldane have hatched out fully developed larvæ at temperatures as low as 60°. The disease may claim greater attention in the future as all new workings will be very deep, 800 or 1000 yards or more. In these cases the temperature will be much higher than the minimum required. The temperature of a mine also depends upon ventilation, so that if there is any slackness in attention to this matter, even in what is regarded as a cold mine, we may find at times the temperature sufficiently high to favour the development of the larvæ. 2. Moisture is an essential factor for the development of the ova and the growth of the larvæ. In the deepest pits, which are regarded by mining engineers as dry, water may be found sometimes. If the watering of the roadways be made compulsory this condition will always be present in every mine so watered. 3. Lack of sanitary arrangements in mine.

Prevention.—1. By providing suitable sanitary arrangements. This point will be referred to in detail further on in this paper. 2. By forbidding miners to relieve themselves along the permanent roadways and in places where the fæcal matter may be trodden about. 3. By the miners taking the precaution to wrap up their food in paper when handling it and thus keep it free from contamination. 4. By the rigid exclusion of those men who are known to be infected. 5. By the medical examination of all men who apply for work at mines and who are known to have been in countries where the disease exists.

Relaxation of efforts to deal with this disease may be attended with grave dangers. The following points may be worthy of notice under this heading:—1. The miners may be infected without showing any symptoms. 2. No mine should be assumed to be free from ankylostomiasis unless a careful inspection has been made and negative results found. 3. An epidemic of ankylostomiasis does not break out in a few days like influenza. Infection may be present in the mine for a considerable period of time and an epidemic follows when there arise conditions which are more favourable to its development.

To give an idea of the extent to which this disease may spread, I would like to remind you that in 1903 in Westphalia, even after considerable improvements had been made in consequence of stringent regulations, out of 188,730 working miners no less than 17,161 were affected by this malady, which is equivalent to 9·09 per cent. In Belgium this subject engaged the attention of the International Congress of Miners and the International Hygienic Congress, both of which were held in Brussels in 1903, and it was stated that 10,000 miners around Liége were suffering from ankylostomiasis; this represents about 30 per cent. of the whole mining community in this district. Dr. Barbier has shown that in the vicinity of Liége 49 pits were infected out of 72 and 23 were immune or had only a single case of the disease. In Austria it was found at Brunnberg, a mining centre, that no less than 85 per cent. of the miners were infected in 1896. With the most strenuous precautions and the establishment of a hospital for the treatment of sufferers the percentage of patients declined to 47 per cent. in 1898, 26 per cent. in 1899, 23 per cent. in 1900, 12 per cent. in 1901, to 8 per cent. in 1902.

Typhoid Fever among Miners.

It has been observed for some years that colliers have been predisposed to contracting typhoid fever through the lack of sanitary arrangements in mines and through the infective exhalations being carried by air currents along the roadways and workings of the mines, and several Local Government Board reports have been issued from 1889 onwards dealing with this subject. But the most important report on this matter has been issued this year by Dr. R. Deane Sweeting, who deals with the prevalence of typhoid fever in the borough of Leigh. This town has a population of 43,000 people of whom 5000 are working colliers. For many years past typhoid fever has not been absent from the town.

The following table shows the number of notifications of, and of deaths from, typhoid fever since 1899:—

TABLE I.

Year.	Notification.	Deaths.	Year.	Notification.	Deaths.
1899	47	9	1904	35	12
1900	57	2	1905	37	11
1901	34	8	1906	49	14
1902	49	13	1907 (to Sept. 30th)	26	5
1903	46	12			

Table II. shows the number of cases of typhoid fever notified from 1902 to 1906 and also the number of colliers affected:—

TABLE II.

Year.	Total number of notifications.	Number of colliery employees notified.
1902	49	13
1903	46	17
1904	35	12
1905	37	11
1906	49	17
1902–1906	216	70
Average per year	43	14

Table III. shows that the incidence of typhoid fever on the collier population of Leigh is four times that on the non-collier population:—

TABLE III.

	Population.	Average yearly incidence of fever.	Rate per 1000.
Colliers	5,049	14	2·8
Non-colliers	38,267	29	0·7
Whole borough	43,316	43	1·0

Dr. Sweeting attributes this fourfold greater incidence among colliers as compared with the rest of the inhabitants as mainly due to the conditions of excrement disposal which obtain at the various collieries at which the men work. There are seven collieries within the borough of Leigh and at four of these there were no provisions made underground, excrement being voided anywhere and anyhow. At one colliery there were a dozen wooden boxes provided for 620 workers, but the conditions which prevailed at the remaining two collieries were distinctly better, improvements having been instituted since the outbreak of ankylostomiasis in Cornwall.

It is now common knowledge that a typhoid patient may remain an effective carrier of the disease for a long period of time and it would appear that the underground workings of a mine afford ideal conditions for the dissemination of the disease.

Present-day Requirements.

These considerations of ankylostomiasis and typhoid fever among miners, as well as the general hygienic aspect of the question, should emphasise the necessity for the sanitation of mines being put upon a satisfactory basis. In making a few suggestions upon the present-day requirements I shall follow the evidence which I had the honour of giving before the Royal Commission on Mines.

There should be proper conveniences at the pit bottom and at convenient points near the main roadways where large numbers of men work. I cannot do better than refer to the arrangements at the Norton Colliery near Stoke-upon-Trent, where Mr. Salt, the manager, has erected closets near the pit bottom and near one of the principal roadways of the mine where a considerable number of men work, and it is purposed to extend the accommodation to other parts of the mine. Each closet is situated in a brick structure provided with a wooden door, and it consists of a galvanised iron pan containing coal-dust placed underneath a wooden seat. The closet near the pit bottom is put in the intake roadway and the other one is placed between the separation doors in a cross cut connecting the main intake with the return crut and each closet is satisfactorily ventilated by an iron pipe placed over the pan and communicating with the return airway. The total cost of a closet, including brickwork, is within £5. The closets are kept in a clean condition by the men and the pans are emptied about twice a week, or oftener if necessary, by one of the horsekeepers, the pans being taken up to the surface and emptied on the waste heap, where they are

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

FRIDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. G. Adamson: Clinique (Skin).

TUESDAY.—4 P.M., Dr. J. E. Squire: Clinique (Medical)

WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical).

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical).

FRIDAY.—4 P.M., Mr. Stuart-Low: Clinique (Ear).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and .30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.(, St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

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known in dilute solution; it is said to occur in the chlorophyll cells of all plants and to form an unstable product in the unsolved synthetic process of conversion by the plant of the carbonic acid gas of the air into carbohydrates.

Formaldehyde is a powerful reducing agent and by its combination with oxygen forms formic acid, whereas by reduction it becomes converted into methyl alcohol. By *evaporation formaldehyde is* converted into a polymeric body, paraformaldehyde. Polymerisation is one of formaldehyde's most characteristic properties; when an aqueous solution is treated with a weak alkali there is produced a polymer formose. (What a field for therapeutic romance!)

Formates, or salts of formic acid, are decomposed by dilute mineral acids yielding formic acid. N.B.—Whether the dilute HCl secretion of the stomach converts the glyceroformates into formic acid I *do not know, but I would assert* that the alkali of the pancreatic juice would soon reconvert any such formic acid into alkali formates.

Formic acid blisters the skin and acts like a weak mineral acid, so that I do not see why its use should be any more exploited than the long-employed and well-known mineral acids, HCl, HNO_3, H_2SO_4, which have long yielded to the more accurate delineations of the knife and more penetrating but less diffusing cauterisation by the use of the easily adjustable thermo- and electro-cautery. Like formaldehyde, formic acid possesses reducing properties.

Formalin has long enjoyed a just reputation as a preservative and, by virtue of its antiseptic and drying properties, is much used as a topical application to ulcerative lesions. Do the enthusiasts of the vaunted formic acid cure for cancer *think that when formalin comes in contact with necrotic* tissues it is converted into formic acid? Or will they shortly advance that formic acid, taken by the mouth and subsequently absorbed, circulates in the blood but at the cancerous focus becomes reduced to formaldehyde, here, concentrated and nascent, to serve the dual purpose of a destroying demon to the cancer cell but of a guardian angel to the normal cells of the tissue. The potency of a drug introduced into the systemic circulation to destroy the cancer cell—a living cell—and yet leave unscathed the normal cell of the *tissue infers a selective process with which I am not* familiar.

Quinine does not limit its powers of primary retardation and final stagnation of the varying changes in the life-history of the "plasmodium malariæ" without affecting the *cellular elements of the blood.* Why, every student of medicine is taught to observe the phenomenon of negative chemiotaxis and the inhibition of amœboid movements as induced by the action of a solution of quinine upon the leucocyte!

The *extensive use of iodides depends, first,* on their diffusibility, but secondly upon the readiness with which the halogen salt of the lesion-producing toxin is formed, so that I believe, before many years, the therapeutic action of the halogen bodies will be accurately determined and equated chemically.

The following cases, proved to be carcinoma by microscopical investigation in corroboration of clinical deductions, have been treated by one or more of the preparations or applications referred to above:—

CASE 1.—Patient aged 53 years. Carcinoma *cervicis uteri.* Much pain. Owing to distaste for the infusion of nettle such was discontinued after six weeks. *Formalin douches.* No benefit obtained from this treatment. Progressive cachexia. *Death.*

CASE 2.—Patient aged 42 years. Carcinoma cervicis uteri. No pain. Marked cachexia. Infusio A.F. Formalin douches. No benefit. Death.

CASE 3.—Patient aged 47 years. Carcinoma linguæ. Constant sipping of infusion of fresh nettle for four months. *Formamint tablets.* No check to the progressive course of his malady obtained by such medicaments. Death.

CASE 4.—Patient aged 50 years. Carcinoma laryngis. Previously treated at a special hospital for diseases of the throat. Pain progressive, now intolerable. Insomnia. Infusio A.F. constantly imbibed for six weeks with neither relief from pain thereby nor diminution of the growth. Formamint tablets. Death.

CASE 5.—Patient aged 54 years. Advanced carcinoma cervicis uteri. Formic acid by the mouth. Formalin douches and *fomentations of* nettles regularly employed from May 29th to July 31st without any amelioration to the progressive fatal *course of the* disease.

CASE 6.—Patient aged 62 years. Cancer of floor of mouth. This man had been an *in-patient at one of our* large general hospitals under the care of an eminent surgeon. The patient stated that he felt better while in hospital

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were in no way alleviated.

In each of the above cases the treatment was systematically conducted under favourable dietetic and hygienic conditions. In each case the progress was unchecked and the issue definite. Of course, the breath was less obnoxious when formamint tablets were sucked and the vaginal discharges were less offensive when formalin douches were employed.

The therapy of formic acid is no new and wondrous discovery which has come to emancipate us from the terrible disease cancer. The diuretic and irritating action of the urticaceæ have long been known; indeed, urtication is a term applied to flagellation with nettles which was a method *of treatment once employed for paralysis.* This crude method probably found out the malingerer with as much success as modern procedures. Again, infusion of nettles ("nettle-tea") is commonly drunk by country folk when the young succulent herb can be plucked; whereas "nettle-beer," an *ancient summer beverage* entailing some housewifery in its brewing owing to the essential proportions of added ingredients, of which buck-bean, yeast, and certain salts are most important, and demanding a timely perception of the adequate fermentation, is much drunk by haymakers. I know a family who have *regularly for the past* 40 years brewed their weekly quantity of nettle-beer, which has been their chief beverage at dinner and supper for four months every year, yet cancer has attacked these temperate folk despite their hygienic surroundings. Of this family the mother *died from Bright's disease about* 20 years ago; the father died from cancer of the rectum three years ago; the elder daughter was operated on by me in 1903 for cancer of the right breast and is to-day clinically free from all traces of cancer; and the younger daughter *is living.*

In one of the wildest parts *of Wales there lived to nearly* 90 years of age a keen-witted and observant farmer's wife who was in her lifetime well known to me and whose fame as a herbalist was widely spread in those regions of "Gwalia." Infusions and fomentations of nettle were among her *pharmaceutical armamentarium;* these in particular she applied after a more energetic treatment to such cancerous conditions as rodent ulcer, epithelioma of the lip, tongue, and hand—which malignant papillary growths she termed "dafad wyllt," or wild wart. The more energetic treatment, *dexterously carried* out by her gentle hands, was the actual cautery—a kitchen poker, a large nail, or a knitting-needle heated to redness in the fire, before which the patient sat, was driven deeply into the lesion and repeatedly if deemed correct—to be followed by a sterilised dressing of molten lard and a burnt rag. Her cures were numerous and, needless for me to state, were due to the cautery and not to the subsequent nettle concoctions *and applications.*

If formic acid has these beneficial effects why is acetic acid, one of the same homologous series of organic compounds, held out by many medical men as a cause of an antecedent state productive of cancer of the stomach? Again, if this acid of the *lowest* of the methane or *paraffin series* is a cure, why have clinicians through many ages taught that the higher members of this paraffin series are a causative factor in sweeps' cancer?

I feel no hesitation in adding that no authentic case of *carcinoma, as recognised clinically* and confirmed by an expert microscopist, has as yet been expurged by ingestion of formic acid.

Berkeley-square, W.

A CASE OF RUPTURED UTERUS.

BY ALICE M. SORABJI, B.SC. BOMBAY, M.B., B.S. LOND.,
DOCTOR IN CHARGE, VICTORIA ZENANA HOSPITAL, DELHI, INDIA.

THE patient was an Englishwoman, aged 24 years, who came to me five weeks *after parturition* complaining of general lassitude and pain *over* the lower part of the abdomen, with exacerbations at *intervals. She had come* in from an out-station and was only brought to see me on her way home. On examination the abdomen was *found to be* very tender below the level of the umbilicus, and per vaginam the cervix was soft, the os admitted two fingers, and the sound went in five inches and abutted against a soft mass at the fundus. There was a good deal of discharge which had an unpleasant *odour.* The patient was *induced to stay* in the hospital and was prepared for curettage the next *day.*

At the operation there was naturally no need *for dilatation* and the blunt *curette* was inserted at once and some blood

An Address

ON

ITCHING: ITS CAUSES AND TREATMENT.

Delivered to the Edinburgh Post-Graduate Vacation Course in Medicine on Sept. 15th, 1908,

BY W. ALLAN JAMIESON, C.M., M.D. EDIN.,

SURGEON, THE KING'S BODYGUARD FOR SCOTLAND, THE ROYAL COMPANY OF ARCHERS; CONSULTING PHYSICIAN FOR DISEASES OF THE SKIN, EDINBURGH ROYAL INFIRMARY.

GENTLEMEN,—Everyone knows from personal experience what itchiness is, but when it comes to define the sensation in words a difficulty arises. It is not pain. Indeed, pain is in some respects the antithesis of itchiness, and while in quite a minor development, that of tickling, the impression may approach the agreeable, its persistence even for a brief period is not pleasurable. Reduced to its simplest terms it conveys the idea to consciousness of some insect impinging on or crawling over the skin, immediately succeeded by the involuntary desire or effort to dislodge the offender. So vivid is this conviction in some cases that the individual can scarcely be persuaded that there is not a material cause for his annoyance. Hence the term formication or the procession of ants has been attached to a variety. The specialised sense of touch still retains traces of the time when it was not differentiated from common sensation. We may therefore interpret itching as "a functional disorder of innervation which may be produced by external or internal causes alike." Itching or pruritus is essentially a surface sensation, and Bronson, who has most deeply studied the subject, is disposed to locate it in the epidermis. Assuredly its most marked developments are to be found in those lesions which mainly affect the epidermis. Thus the tingling characteristic of nettle-rash may precede the eruption of the wheal if it is not coincident with its appearance. It is just when an abrasion or a wound is finally cicatrising that itching, popularly regarded as a favourable sign, is experienced. Pressure is inimical to itching. When slight it may not exert much influence in this direction, but firm pressure, however exercised, annuls the sensation for the time. The tormenting itching in scabies is caused by the female acarus driving her tunnel through the epidermis.

We may have intense itching with entire absence of any definite skin disease, and this we may call essential pruritus, or we may have it in direct association with some accredited lesion or integumentary ailment. It occurs as a superficial manifestation in both. When encountered over or near varicose veins it is the surface innervation which is disturbed. The proximate cause of itching is closely connected with that of urticaria, more particularly that form known as urticaria factitia or dermographism, where the vaso-motor mechanism is so sensitive that wheals can be evoked at will by friction, such as drawing the edge of a paper-knife across the skin, with slight pressure. Unna has enunciated the theory that itching is due to a disproportion between the pressure of the tissue juices and that of the limiting corneous layer. He explains the relief afforded by scratching as at least partly referable to the escape of serum from lacerations inflicted by the nails, temporarily equalising the tension. But this theory will not wholly account for itching in cases where there is no evidence of œdema, as in senile pruritus, where the integument is often fine, polished, and satiny. In such individuals, in addition to atrophy and thinning of the skin, there can almost always be traced an inactivity or complete arrest of perspiration. Many have never perspired freely all their lives; in others the diminution has been so gradual that a point is reached where the skin scarcely becomes moist even in hot rooms or warm weather. That this has much to do with the incidence of the pruritus is corroborated by the evidence of treatment, for such remedies as tend to restore sweating *pari passu* relieve the pruritus. We must probably assume in addition wholly to account for the pruritus that there is likewise a degree of hyperæsthesia, an undue sensitiveness of the skin, so that contacts which in ordinary circumstances would be well and easily borne in such persons evoke this peculiar form of irritability. Some are disposed to hold the view that all cases of pruritus senilis are examples of pediculosis, but while pediculi vestimentorum may, and do, find a suitable soil in the integument of the aged, yet there are numerous instances of general itching in the elderly quite unconnected with the presence of these parasites. We must bear in mind also that in old people inactivity, solitariness of life, and enforced leisure, make them conscious of impressions which passed unnoticed when busily engaged. Scratching indulged in to mitigate the sensation is not in itself harmful; it is the degree to which it is carried, not the act itself which is injurious. In civilised life we all, more or less designedly, habitually scratch our skins. The rough towel, the flesh brush, the loofah, used in our bath or after it, by the friction they exercise, have the salutary effect of ridding us of the effete cells of the horny layer of the epidermis. This of course presupposes a healthy and resistant skin, but in disease the same action is deleterious, since the resistance of the organ attacked is lowered. In lichen planus itching is a feature, yet here less harm is done by scratching than in most other ailments. The pigmentation left behind by the involuting papules may certainly be partly due to scratching, just as the darkening of the integument so constantly met with in the case of tramps infected with pediculi. It is singular that there are some diseases almost wholly limited to the epidermis where itching is not complained of. Of such we may cite as examples a parasitic disease, pityriasis versicolor, and an inflammatory one, pityriasis rosea.

But generalised pruritus may be set up by parasites. Lice very commonly occasion it in the aged, or in the alcoholic and careless, even though not old. Since the pediculus lives in the clothes and only attacks the skin for the purpose of feeding, the insect selects situations where the linen lies close to the surface, as at the neck or waist, or where it is little likely to be disturbed, as the back between the scapulæ. As this is a region only with difficulty accessible to the fingers the monks who occupy the monasteries of Mount Athos make and sell special instruments called "back scratchers," probably to relieve the irritation thus caused. These consist of a long, narrow, slightly curved piece of wood bearing at the extremity a minute carved human hand. Bundles were lying for sale in the bazaars of Karyes the capital. Curiously enough, these implements seem unknown in the monasteries in the Peloponnesus, though it is more than doubtful if ablutions are any more frequent, at least inquiries for specimens were fruitless. Fleas come next to lice as a cause of itching from this source, but even the human flea, much less those derived from domestic animals, does not permanently live on his host. The attacks, therefore, of this variety are brief, and idiosyncrasy exerts an important influence. The bug, repulsive as it is, does not occasion any very severe itching though the red bumps it causes are for a time both annoying and disfiguring.

The next stage in itching lies in its occurrence in association with some definite skin disease, and the one with which it is most especially conjoined is undoubtedly eczema. Not with all forms of eczema, however. It is met with in acute erythematous, papular, and scaly eczemas, while it is almost wholly absent in the vesicular and weeping forms. Here Unna's theory finds its strongest confirmation. The adjustment between the pressure of the tissue juices and of the corneous epidermis is disorganised. In many types of chronic eczema itching is also well marked though absent in that attacking the palms and soles. The thinner the epidermis is naturally the more pronounced is the itching in chronic infiltrated eczema. It persists, too, after apparent cure, and is answerable for relapses in eczema in not a few instances, for the scratching which it gives rise to lights up the dormant ailment into activity.

Like insects, plants may set up a dermatitis and induce itching. The rôle played by the primula obconica and sinensis is now well recognised, but Dr. Norman Walker has observed that the humea elegans may, in certain individuals, act in a similar manner.

We know nothing of the true cause of mycosis fungoides, but the early eruptions, eczematous or lichenous in character, which may long precede the evolution of the tumours, raise our suspicions by the persistent itching which accompanies them, an itching which yields to no remedy except the x rays, and even then the relief so afforded is not with certainty lasting. The itching encountered in dermatitis herpetiformis distinguishes it from pemphigus and other

The second indication is to supply pressure, which the loose cells of the extemporised corneous layer do not yet efficiently provide. Hence, where it can be used, Unna's zinc glycerine jelly furnishes this, prevents scratching, advances the cure of the eczema, and obviates itching. The most approved formula runs thus:—

Gelatinæ albæ	30·0
Zinci oxidi...	30·0
Glycerini	50·0
Aquæ	90·0

The glycero-gelatin so compounded is best dispensed in a narrow and deep tin can. This when placed in boiling water allows the jelly to liquefy rapidly, and when it has reached the consistence of milk it can be conveniently painted on the skin. While it is setting the surface should be touched with absorbent cotton-wool, enough of which attaches itself to form a felt-like coating. This plan is especially serviceable in *those localities* which have been mentioned as apt, from the thinness of the integument, to be seats of troublesome *itching*, as the bend of the elbow and the ham.

Weak tarry lotions or varnishes are most advantageously *employed in the final stages*. Patients admit that their eczema to appearance is well, yet complain bitterly that the itching still continues. Then painting with a solution of coal tar in acetone may be helpful.

Picis carbonis	ʒi.
Benzol	ʒiv.
Acetone	℥ii.

The *solution* should be filtered to get rid of particles of undissolved tar, and then a clear brownish fluid is obtained, a thin layer of which is not disfiguring.

In almost all forms of itching in eczema much temporary relief can be got from sopping the part with very hot water for a few minutes, then drying without friction with a fleecy towel. One of the lotions mentioned may be applied immediately to maintain the sedative effect. The itching associated with lichen planus yields, slowly no doubt, to the administration of small and repeated doses of tartrate of antimony in solution, but it is greatly allayed by painting with Boeck's lotion, already mentioned, or by smearing the affected parts, if the eruption is limited in area, with cold cream containing a drachm of chloral camphor to the ounce.

The irritation, culminating in itchiness produced by poisonous plants, may be merely *erythematous*, may proceed to definite dermatitis, with œdema, redness, and heat, or vesiculation may occur. In all these *forms* the most appropriate treatment is that accorded to burns from caloric, plus the neutralisation of the poison introduced into the skin, which is more or less acrid. Hence something of the nature of carron oil is *specially grateful*:—

Ol. amygdalarum }	āā ℥iii.
Liq. calcis ... ... }	
Zinci oxidi ... ... }	āā ʒiv.
Cretæ praeparatae }	
Acidi borici	ʒi.

This suits the erythema and the simple dermatitis. Should blisters or bullæ form then there is no *better way* of dealing with the trouble than by dusting freely with a bland powder—

Acidi borici pulv.	grs. xxv.
Talci pulv.	ʒi.

and enveloping the part in absorbent cotton-wool, secured by a bandage. When the surface has dried up the hard epidermic masses which accumulate must be allowed to separate spontaneously, not picked off prematurely, as is very apt to be done, with a false idea of hastening the cure. With the *removal* of the cause—cessation of contact with the obnoxious plant—and proper management one might conclude that the irritation would disappear, but this is by no means always the case, and hence prolonged care is frequently necessary to get quite rid of the itching in such cases.

In dealing with pruritus ani one has to remember that the state revealed to us on examination is not the original one. The condition of the neighbouring skin has been much altered and modified by scratching, and these secondary phenomena call for special attention. It has been stated that frequently the liver is at fault and hence hepatic stimulants are indicated. Not, however, those coarse, reputed mercurial cholagogues, as calomel, grey powder, or blue pill, relics of an effete system of indiscriminate drugging, still far too often prescribed, but such as euonymin; bismuth, soda, and rhubarb; or the compound sulphur lozenge of Garrod; mild alteratives, far more efficient than the older and rougher ones. Indeed, in all cases it is desirable to procure, either naturally or artificially, an easy, regular, and soft movement of the bowels, avoiding constipation on the one hand as much as anything approaching diarrhœa on the other. This end is reached better by sulphur in some combination than by aloes or cascara. Compound liquorice powder, therefore, suits many persons; others do better with one of the natural aperient *mineral waters containing sulphates, as Hunyadi Janos* or Franz Josef. When there are internal piles a nightly suppository of two grains of hamamelin, continued for a couple of weeks, usually renders them no longer a source of trouble. If there is more general irritability of the rectal mucous membrane, with dilated and varicose venules, an enema composed of two drachms of liquor bismuthi in two ounces of freshly prepared, thin, warm starch, administered at bedtime and retained as long as possible, will prove soothing and healing. Thread worms, if discovered, require lavements of salt-and-water or lime-water. The patient should be advised *to sit habitually on a hard and flat seat and to discard* cushions on his chair. Locally, Lassar's paste, in which one drachm of the zinc is replaced by as much oxychloride of bismuth and without salicylic acid, applied very thinly, is appropriate in most cases. Sometimes a cold cream, having a lanoline base, in which is incorporated a little ammoniated mercury, suits even better:—

Lanolini	ʒv.
Ol. amygdal.	ʒiiss.
Aq. camphoræ	ʒiiss.
Hydrarg. ammoniati	grs. vi.

Immediate temporary relief to the itching is also obtained by occasional painting with a solution of nitrate of silver, ten grains in an ounce of spiritus ætheris nitrosi. At night the disposition to scratch may be prevented by manacling the wrists with a skein of wool arranged as a clove hitch and fastened to the bedstead. In obstinate cases one or two brief exposures to the x rays have been found to exercise a markedly curative effect, but their application must be directed with great caution and circumspection. Finally, for detergent purposes paper, even the finest, is inapplicable, water and a soft sponge being substituted.

In pruritus vulvæ, when glycosuria is present, the condition should be treated on the recognised lines. *In the gouty* form met with in middle-aged women the mineral waters of Contrexeville and Vichy have *proved of service*. The sugar has in many cases wholly and permanently disappeared under their use *between meals*, combined with a pill of codeine, lactucarium, and nux vomica. Locally boric acid in a rather stiffish lanoline cold cream has, as a rule, answered best. In the non-glycosuric cases painting with the solution of nitrate of *silver already* mentioned, washing with menthol soap, and the application of the same boric cold cream have in *most cases* in time proved curative. At night a fold of Beiersdorf's zinc ichthyol salve muslin is both cooling and comfortable, if carefully introduced.

For itching under and between the toes, since this largely depends *on the decomposition* of the perspiration secreted there, careful and daily ablution is to be practised, and after drying a tumenol ointment annuls the sensation. It consists of 48 grains of tumenol in an ounce of cold cream; the sole disadvantage is the dark colour, but this does not so much matter in the case of the feet.

If in the course of your reading you may turn to any of the larger treatises on skin diseases in general, or to some article or lecture appearing in the periodicals on itching in particular, you will find a long array of remedies formulated, and you may perhaps feel disappointed that so few comparatively have been mentioned to-night. It is almost a certain inference that the obstinacy may be gauged by the number of curative agents tabulated, and itching is no exception. It is an obstinate symptom, as the fact of your presence here to listen to what I can tell you testifies. You desire to learn all you can about it. But Mr. Jonathan Hutchinson has sagely observed that it is preferable to know how and when to employ a few remedies than to have a superficial acquaintance with a great many. I have given you the formulæ for, and indicated the mode of using, those as in the preceding case. When the patient left the hospital she was able to walk without pain.

These cases of acquired diffuse painful lipoma of the foot are clearly distinguishable from that form of "gigantism" known as congenital diffuse lipoma, where the affection is characterised by a general hypertrophy of the fatty and subcutaneous tissues, first affecting the toes or fingers. It spreads by direct continuity for a time; but as the hypertrophy increases, isolated masses of fatty material appear at some distance beyond the advancing edges. In time these masses become incorporated with the advancing growth. Incidentally, I should add that the microscopical characters of the congenital diffuse lipoma are entirely different from those seen in the painful acquired form of diffuse lipoma. In the former, while the main part of the section is occupied by fat and areolar tissue, yet the interfibrous spaces are crowded by small round cells, not unlike those seen in round-celled sarcoma. And clinically the diffuse congenital form of lipoma is somewhat akin to sarcoma in that it shows an inveterate tendency to recur very rapidly after removal. In the acquired diffuse form no such appearances are evident, but the blood-vessels are extremely numerous and somewhat hypertrophied. And in connexion with their origin cases are met with which throw some light on this point. Such an one is the following; occurring in a girl, aged 17 years, which was diagnosed as angioneuroma of the hands. In April, 1907, a swelling formed on the dorsum of the right hand towards the radial side. It was situated over the first and second metacarpal bones and appeared to surround more particularly the extensor tendon of the index finger. The growth was always extremely painful to the touch and sometimes gave her pain even when the part was at rest. The skin over the tumour was hotter than in other parts of the hand, at the centre it was red, but there was a dark bluish discolouration around the circumference. The swelling increased rapidly while she was under observation for a few days previous to operation. A mass of nævoid tissue of about the size of half a crown was excised through a T-shaped incision. Dr. Hebb made the following report on the specimen: "It consists of fibrous and adipose tissue in which are numerous blood-vessels, the arterial walls being extremely thick." The left hand had been similarly affected in January, 1907, when the girl was operated upon by my colleague, Mr. Arthur Evans. In January, 1908, she reappeared at the hospital, as the angiomatous condition had re-formed on both hands. The striking feature of her case was the extreme tenderness, and the parts were so sore that it was impossible to examine them properly. Further, the swellings were hard and appeared hotter to the touch than elsewhere. An operation was undertaken by Mr. E. Rock Carling and a considerable mass of nævoid tissue was dissected from the extensor tendons over which it had spread.

Now in the case of acquired painful lipoma, and in the nævoid condition just described, in which fat was present, we have certain conditions in common—namely, their excessive vascularity, the size and thickness of the vessels, and their extreme tenderness. It is difficult to account for the tenderness. It may be due to irritation of the nervi vasorum. Certainly no nerve fibres or endings could be discovered in the substance of the growths. Whether the acquired diffuse form is due to fatty degeneration of nævoid tissue is not proven, but this possibility should be borne in mind.

We now pass on to certain clinical points. Without careful observation the swellings due to acquired painful diffuse lipoma may partially fill up the arches of the feet, so that the condition can be mistaken for flat foot; but in all the cases I have seen, numbering now five, the tumours have always been between the inner edge of the sole of the foot and the internal malleolus, and have not extended further forward than the anterior part of the sustentaculum tali. In no case have I seen them over the scaphoid or internal cuneiform bone. The striking features about them are their slow growth and their indolence, their extreme tenderness, and their vascularity when cut into. It is also noticeable that any pressure, whether arising from an irregularity on the inside of the boot or from the employment of a "flat-foot" pad, renders the patient completely unable to get about on account of the pain. Finally, on removal, they do not, as far as I know, recur, and in this respect are entirely different from the congenital diffuse lipoma.

Harley-street, W.

SANITATION IN A TERRITORIAL CAMP.

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The following account gives some idea of the methods of sanitation and sanitary training adopted at the Kent Brigade training at Walmer from July 25th to August 8th, 1908.

On appointment as sanitary adviser to the senior medical officer of the brigade I went over the ground and thought out the best means whereby the sanitation could be carried out so far as possible on the same lines as in the regular forces. I found that the methods used in the Hampshire training and manœuvre area 1907 were most applicable. The troops, over 2000 in number, consisting of four battalions of infantry, a battalion of cyclists, two field ambulances, Army Service Corps, and a cadet battalion (during the second week) were camped on the slope of a hill facing the sea. The formation of the hill was of chalk on the upper two-thirds and of loam on the lower one-third. The camp was divided into two parts by a public street kerbed and channelled. There were open fields to the south and to the north a plantation of trees. On my arrival I found that the camp had been pitched and that deep latrines had been dug on the flanks, which were already foul. The kitchens and the ablution benches adjoined the main street. There were no destructors and no urinals and the refuse tubs were uncovered. The latrines on the south flank were well away from the tents. Those on the north flank were in undesirably close proximity to the tents and the stores and to a public footpath. There was really no other place where they could have been dug. Water was laid on in iron pipes and standpipes were to be found in various convenient positions. It was obvious then that dirty water could be disposed of separately from excreta.

A detailed inspection was made on July 26th. Arrangements were made for inspecting all food supplies, dry canteens, kitchens, horse lines, and the sanitary accommodation generally, and for lectures to be given on sanitation to the troops. An official inspection was made every morning by the senior medical officer and myself, and I paid frequent visits to all parts of the camp at uncertain hours during the first few days.

Food inspection.—The meat supplied throughout was good. On three occasions meat was rejected: (1) a carcass of frozen mutton, which showed signs of recent pleurisy in the pleural cavities; (2) a forequarter of frozen meat which was tainted; and (3) a forequarter of frozen meat supplied instead of home-killed meat. The bread supplied was of good quality. Dry canteens were inspected and all food and comestibles ordered to be covered with muslin or wire-netting. Perishable food supplies were ordered to be kept in cool places and covered up. The cooking arrangements varied from field ovens to portable kitchens, stoves, and boilers. No two units were alike in their cooking arrangements. Messing as regards the battalions was in tents. This I consider to be undesirable, it fouls the ground and attracts flies. There is much unnecessary waste. A large proportion of the contents of the refuse tubs were found to consist of bread, butter, and cooked meat. There is no accommodation in tents for the keeping of rations nor for washing up. The field ambulances and the cadet battalion messed in marquees; their ground was always free from food refuse and was much easier to keep clean. If attention is given to detail men can be as easily fed in messes in marquees as on transports. They are more comfortable. The ground remains clean and labour is saved in the picking up of scraps and in the washing up afterwards.

Disposal of refuse.—Large tubs or barrels were supplied by a contractor who removed the food refuse periodically. He was required to supply wooden covers for the tubs. This, after a little pressure, he did. The lids, however, were not invariably to be found on the tubs.

Dry refuse.—On my suggestion each unit in the camp built a destructor. These were circular structures 3 feet in height and 2 feet across, with openings at the bottom to admit air. They were made of sods strengthened by wood battens, or of bricks puddled with clay. The plan was shown to the pioneers, and it was left to their ingenuity to carry it out in detail. These destructors worked well; dry rubbish, tins, &c., were burnt up, and they lasted all the camp. They were most satisfactory.

and cyanosis; dyspnœa was still present. At no time has clubbing of the fingers been noticed. During the past winter the patient has been under medical care at Dresden and effervescent carbon-dioxide baths and moderate exercises were prescribed. On Feb. 3rd of the present year the patient was again seen by us. He is quite free from all dyspnœa even on great exertion, and he has completely regained his weight. The condition of the chest is but little altered from what was observed on June 29th, 1907, the difference being that the dulness previously observed is now a little lower and the upper right chest is a little more resonant than normal. The obscurity of the cardiac dulness is maintained.

Radiographic examination.—This was carried out by Mr. R. Higham Cooper on March 3rd, 1908. The shadow shown by the heart was normal in extent and position, and the diaphragm reached to the level of the fifth rib in the nipple line on both sides during expiration; posteriorly during expiration the dome of the diaphragm forming the upper limit of the liver reached as high as the seventh rib in the scapular line.

Comments.—In reviewing the illness and the subsequent developments it appears to us that on May 2nd, 1907, an embolus was dislodged from one of the veins of the lower extremities or a thrombus[1] was dislodged from the pulmonary artery and was driven into the lower division of the right pulmonary artery—i.e., into the branch supplying the middle and lower lobes of the right lung. These two lobes became atelectatic and the space formerly occupied by them when fully expanded was filled up by the ascent of the liver and right half of the diaphragm, and also probably by compensatory emphysema of the left lung in the direction of the right chest, accompanied by the upward dislocation of the stomach and left half of the diaphragm. The area of cardiac dulness was, especially towards the left, obscured by the compensatory emphysema of the left lung, the heart itself being little altered, if at all, so far as clinical examination could determine, in its normal position. We believe that the upper lobe of the right lung is undergoing compensatory hypertrophy and we anticipate that in the course of time it will be able completely to occupy the space formerly filled by the three lobes of the right lung if it has not already almost done so, as the diaphragm as shown by the x rays now during expiration reaches the height of the fifth rib in the right nipple line, the level reached in a normal individual, though probably the normal level in our patient owing to his original emphysema is lower. This view is supported by the observation by one of us that in a patient who died from an acute illness the left lung consisted almost entirely of the upper lobe of the definitive lung, the lower one being represented by an attenuated mass of atelectatic lung substance with a complete but small system of bronchial tubes, the whole not being much larger than a hen's egg.

A blood examination made 19 days after the accident of May 2nd, 1907, showed 5,687,500 red corpuscles and 9375 white corpuscles per cubic millimetre; the relative proportions of the latter were normal; the hæmoglobin amounted to more than 100 per cent., from which it may be surmised that the hæmoglobin had increased beyond the normal limits in response to a reduction of the normal lung substance

We are unable to find any reference to any account of survival after such an extensive obliteration of lung substance by an embolus or thrombus. Cohn refers in the section of his work[2] dealing with embolus of the pulmonary artery to two cases (Cases 1 and 14) in which *at the post-mortem examination* old or partly old clots were found in the pulmonary artery, but there is *no information* which would lead us to understand that the actual deposit of the embolus had taken place and had been clinically observed at a time as long as 11 months previously, as in our case. Our case now shows no signs of distress in breathing and in fact he is quite well. We believe that the reason why in this case the heart has not been dislocated into the right chest, as happens so often in tuberculosis and fibrosis of the right lung, is to be found in the possibility that the diaphragm, unaltered and unhampered by inflammation as it was, was readily able to yield and so allow the liver and the left lung instead of the heart to fill the place of the collapsed lung, or it may b that the mediastinal structures in our patient are more firn and less capable of actual displacement.

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[1] Vide paper by Dr. C. R. Box, Transactions of the Clinical Society of London, 1906, p. 189.

[2] Klinik der Embolischen Gefässkrankheiten, Berlin, 1860.

NOTES ON THE THERAPEUTIC APPLICATION OF STOCK VACCINES IN THE TREATMENT OF BACTERIAL INFECTIONS.

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OPSONINS is the name given by Wright and Douglas t those protective substances in the blood serum in the absenc of which leucocytes are only capable of phagocytosis in very limited degree. As immunity to bacterial infection depends largely on phagocytosis opsonins play an extremel important part in producing immunity. It has been show that after recovering from a microbic infection the proportio of protective substances, or opsonins, in the patient's serun connected with that particular infection is higher, to a greate or less extent, than in the serum of a normal health individual. It has also been shown that if an inoculation o killed microbes be made into a normal individual th proportion of opsonins in his serum will rise as compare with the serum of a normal individual not so inoculated.

In the vast majority of microbic infections the physiological mechanism of immunity reacts so quickly to th infection that an adequate supply of protective substances i brought to the site of infection and the phagocytes ar enabled to cope with the microbes. Such an infection wil rarely be attended with symptoms either objective o subjective, and will therefore be unnoticed. In cases whic are not so aborted and which therefore become noticeable a local or general infections, either the infection has been to virulent for the normal mechanism to cope with or for some reason, such, for example, as great exhaustion due t exposure or local injury, the normal mechanism for th production of immunity is deficient. Therapeutic inoculatio supplies a method of artificially producing immunity and th object of this paper is to indicate the potentialities and limitations of therapeutic inoculation in the treatment o microbic infections, generally with the assistance given by the frequent estimation of the opsonic index but mor especially without the aid derived from the opsonic index.

The opsonic index is the expression of the measure of the phagocytic power produced in a sample of washed leucocytes by the serum of the individual in question, as compared with the phagocytic power induced in a similar sample of leucocytes by the serum of one or more healthy individuals. This latter power is taken as unity, and the index of an infected individual is expressed as a fraction of unity, above or below unity according to the greater or less quantity of protective substances in the infected serum, as compared with the normal serum. The opsonic index then is the measure of the resisting power, as comprised in phagocytosis, of a serum, against the microbe in question.

A *vaccine* is a killed bacterial culture suspended in sterilised normal saline solution, to which lysol to the strength of ¼ per cent. or carbolic acid to the strength of ½ per cent. has been added. Vaccines are accurately standardised by mixing together definite quantities of vaccine and normal human blood of known corpuscular content. Smears are made of the mixture, are dried, fixed and stained, and the numbers of red cells and microbes in many successive fields of the microscope are counted. An estimation of the number of microbes in each cubic centimetre of vaccine is then possible. The cultures are killed by immersion for one hour in a water bath at 60° C., and the sterility having been demonstrated by culture methods a suitable dilution for use is made in rubber-capped sterile bottles for laboratory and hospital use, and in sealed glass sterilised capsules, containing slightly more than one cubic centimetre, for general use.

The effect of vaccines on the blood.—The injection of a dose of vaccine into a healthy normal individual produces either (1) an immediate rise in the protective substances, as indicated by the opsonic index; (2) a fall of longer or shorter duration, followed by a rise up to or above normal, in

OBSERVATIONS ON A CASE OF HUNTINGTON'S CHOREA.

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LATE HOUSE PHYSICIAN TO WESTMINSTER HOSPITAL.

As is well known, the diagnosis of the above rare disease rests upon the following facts: (1) Choreic movements which are of a hereditary nature; (2) difficulty of articulation leading to a slurring character of speech; (3) progressive dementia and emaciation; and (4) exaggeration of the deep reflexes. All the above symptoms make their appearance during the middle period of life, most frequently between the ages of 30 and 40 years. A curious fact about this case of Huntington's chorea which came under my observation quite recently was that the symptoms increased at the time of the menopause, and on this account the story may afford some interesting matter.

On June 3rd, 1907, a woman, aged 41 years, was admitted into the Westminster Hospital under the care of Dr. R. G. He[illegible]. Until 1902 she had always enjoyed good health; in that year, however, she began to develop spasmodic movements of the face and arms. Soon afterwards the speech became affected, rendering articulation progressively more difficult. Her character also changed and from being bright and cheerful she became moody and indifferent to her surroundings. Menstruation was regularly performed until September, 1906, when the function suddenly ceased, and at this time all the symptoms became extraordinarily worse. The moodiness developed into definite dementia; so acute became the movements that they prevented the patient alike from feeding herself and from walking. Simultaneously with this state of affairs progressive dysphagia made its appearance, while she became more and more emaciated in spite of an abnormally large appetite. In this connexion I may mention that at the time of admission into the hospital she was unable to protrude the tongue. At this time also constipation and insomnia made their appearance and continued troublesome during the remainder of her life. All these combined circumstances rendered the patient almost beyond recognition.

The movements which were present in all the limbs were most marked in the arms; they were of a continuous whirling character, too quick and jerky for athetosis, and they ceased during sleep. There were no fibrillary tremors of the muscles. The deep reflexes were not markedly exaggerated, but the plantar reflexes on both sides were extensor in type. The pupils were normal in reaction and in size. Sensation was unimpaired, and on examination of the cerebro-spinal fluid nothing abnormal was discovered. The cardio-vascular, respiratory, and urogenital systems presented no abnormality. Towards the end of June, 1907, there was repeated incontinence of urine and fæces and on June 22nd a nasal discharge developed. About this time the patient become noisy and insomnia became worse, necessitating the administration of drugs. On the 29th the temperature, which had up to this time remained normal, suddenly rose to 102·4° F. and continued high and remittent until on July 2nd it reached 105° and the patient died. During this febrile period the breathing was very rapid but there were no physical signs to account for the condition.

The family history is valuable and interesting as the grandfather and father of the patient were both similarly affected, but to a less degree physically, as, unlike the patient, they were never bedridden, both ending their days in lunatic asylums. The patient's brother and his children have shown no signs of the disease. The grandfather, it was said, was at some distant time bitten by a mad dog, and although actual evidence of this is not clear I think it should be mentioned as a possible explanation of his mental condition.

A post-mortem examination was performed 27 hours after death. The body was emaciated and rigor mortis was present. On opening the skull the dura mater was found to be everywhere thicker than normal; its inner surface was red and injected, and from it could be separated a delicate membranous exudate. There were much œdema of the arachnoid mater and excess of cerebro-spinal fluid. There was slight adhesion between the mesial surfaces of the frontal lobes. The brain weighed 40 ounces; its substance was soft and flabby and the cortical grey matter was thin; the pia mater was not thickened and could be easily stripped from the surface of the cerebrum. The lungs showed scattered broncho-pneumonic patches throughout both lower lobes; there was a small amount of fibrinous lymph in each pleural cavity. The remaining viscera showed no changes of pathological importance. Death resulted from pneumonia.

Microscopically the exudate upon the inner surface of the dura mater was seen to consist of blood-stained fibrin. The cortical pyramidal cells of the cerebrum had the appearance of shrinkage and there was a clear space around them. I can find no trace of granules which are described by French authors around these cells. No other changes have been detected.

I wish to offer my sincere thanks to Dr. Hebb and Dr. J. M. Bernstein for their valuable assistance.

Reviews and Notices of Books.

Surgery, its Principles and Practice. By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol. III., with 562 text illustrations and 10 coloured plates. London and Philadelphia: W. B. Saunders Co. 1908. Pp. 1132. Price 30s. net.

A GLANCE at the list of the contributors to the third volume of this System of Surgery is sufficient to show the high character of the work. All the names are those of well-known surgeons and each has dealt with that subject with which he is best acquainted.

Dr. Harvey Cushing of Baltimore has supplied the section on the Surgery of the Head. It is excellently written and fully illustrated. The author might have explained that the reason why in fractures of the skull very little callus is formed is that there is complete absence of movement. The moving of the fragments is the main cause of the formation of callus and the callus formed is directly proportional to the amount of movement. Dr. Cushing mentions that he has frequently replaced a trephine button of bone after boiling it and he has never seen it fail to heal in place; it is well known that a trephine button can be replaced with safety, but we do not remember to have seen hitherto any case mentioned in which the button was boiled first. Dr. Cushing discusses very fully the question of the best method of draining a hydrocephalus. He determines whether the foramen of Magendie is open by puncturing simultaneously the ventricle and in the lumbar region, and if the tension levels of the two are the same the foramen of Magendie must be open. The analyses of the two specimens of fluid withdrawn should also be identical. In such a case he has practised subperitoneal drainage in the following manner. A few days after the punctures a laparotomy is performed, the posterior layer of peritoneum to the left of the rectum is split, and the body of the fifth lumbar vertebra is exposed; the bone is trephined by means of a very small calibre trephine and a small cannula is inserted. Then a laminectomy is performed, the subarachnoid space is opened, the strands of the cauda equina are separated, and another cannula is [illegible] pushed forward until the two [illegible]. Both [illegible] closed and drainage of the cerebro-spinal fluid [illegible] first into the peritoneum, but later only into the [illegible] peritoneal space. Dr. Cushing tells [illegible] out this method in 12 cases with a [illegible] of success. As this is [illegible] novel and interesting pr[illegible] we should have [illegible] details of the cases [illegible] has been [illegible] Intracerebral hæmorrh[illegible] attention hitherto, but [illegible] possible to reliev[illegible] blood into the [illegible] much larger class of case than we considered in connexion ith Diagram 1. The majority of cases which the immunisator is called upon to treat are comprised in chronic or cute, strictly localised processes. In some the resistance of he circulating blood is actually above normal; in most it is, owever, below normal, and is likely to be variable. In other ords, the state of resistance of the circulating blood may ot necessarily have an immediate effect upon the local nfection. Hence, a temporary negative phase, if followed y a more or less prolonged positive phase, will be of no onsequence. The practical result is that by giving such a lose that a small negative phase is produced we obtain a ositive phase that will probably last seven or eight days, nd so the injections may be interspaced by a period of some 0 or 12, or even more, days. In this class of case we may herefore consider the result depicted in Diagram 2, an "ideal curve."

In most cases the negative phase should not last longer han 24 hours. The temperature will be no guide, for most of such cases will be apyrexial, and the indications as to dosage, apart from opsonic indices, will be mainly local. They will be objective and subjective. The subjective symptoms will be some or all of the following: malaise and increased tenderness and pain at the site of the lesion and in bladder cases increased frequency of micturition. Objectively there will be some or all of the following: increase of discharge, swelling, and congestion, and in the case of acne, and such like more or less generalised local infections, an increase in the number of foci of infection, and in bladder cases perhaps more cloudiness due to increased activity of the infective microbe. In short, during a negative phase an increase of those signs and symptoms due to the infection under consideration will be noticed. Such increase should only be noticeable for not more than 24 hours, and subsequently an amelioration should take place.

It is hardly necessary to point out that should any of the symptoms above mentioned be severe it would be advisable to return to smaller doses—that is to say, an endeavour should be made to proceed as in those cases in which Diagram 1 was said to be an "ideal curve." Necessarily inoculations will be more frequent.

In the case of tuberculous lymphatic glands and suppurating acne, which cases are probably the most numerous that one is called upon to treat, *in which results* such as depicted in Diagram 2 are aimed at, a slight subjective tenderness in the glands or an increase in the number of comedones respectively would not be of importance if lasting for not more than 24 hours, provided they were followed by a positive phase that lasted a week, more or less.

We now come to the consideration of the result of an inoculation as depicted in Diagram 3. With possibly one exception such a result is wholly bad. *It is disastrous* in acute general infections and it is at the best useless in chronic or acute local infections. The one exception is the case of a furuncle in such a condition of maturity that absorption without suppuration is unlikely *to occur*. In such a case it may be desirable to give such a dose of staphylococcus vaccine that a marked *negative* phase is produced during which rapid maturation with breaking down and subsequent *evacuation* of the abscess occurs.

The foregoing general considerations *rest* on the experience gained from the results of therapeutic inoculation as carried out at St. Mary's Hospital, where the majority of the inoculations are controlled by a varying number of opsonic indices. Nevertheless it is realised that in a vast number of cases the estimation of opsonic indices must be out of the question, and if it be a choice between therapeutic inoculation without opsonic indices or no inoculation at all, then therapeutic inoculation undertaken without indices most certainly is indicated. Moreover, we have now the accumulated experience of several years to generalise upon—an experience which takes cognisance of upwards of 15,000 opsonic estimations per year, carried out by the staff of the Department of Therapeutic Inoculation at St. Mary's Hospital. As the result of this experience the practice of vaccine therapy *is becoming* in certain directions more crystallised. Though we are more inclined to dispense with opsonic indices in the treatment of staphylococcal lesions than in any others, vaccine therapy without opsonic indices *need* not be confined to the treatment of such lesions, but may be applied to some cases of tuberculous, streptococcal, and gonococcal lesions as well as to the preventive inoculation of typhoid fever. For this purpose vaccines are prepared, standardised, and put up in bulbs of a little over one cubic centimetre each at St. Mary's Hospital and are obtainable through Messrs. Parke, Davis, and Co. These vaccines are precisely the same as are regularly used at St. Mary's. It is to be understood that the following statements are the outcome of the experience derived from the treatment of a large number of patients in hospital and in private, treatment which has almost invariably been controlled by frequent estimations of the opsonic index, and the writer in no way relinquishes the conviction that the best use of bacterial vaccines will always be made when the effects of each dose are ascertained by means of the opsonic index.

Having thus briefly considered the general effect of the inoculation of bacterial vaccines, it is advisable to pass to the consideration of applying the principles as above sketched out to the treatment of individual cases, or classes of case, and this can best be done under two main headings: (1) Diagnosis of the microbe at fault, its isolation and culture, and the preparation and standardisation of a vaccine; and (2) the estimation of the amount constituting a correct dose and the determination of the correct period that should elapse before re-inoculation.

1. For the complete conception of *bacteriology indicated* in the above subheading standard works on the subject must be consulted. Here it is only necessary to point out the elementary factors to be considered. From clinical experience many common lesions are always associated with certain *micro-organisms* and where such a comparative certainty exists it is sufficient to obtain the appropriate vaccine and proceed with inoculation. Such common diseases may be tabulated as follows, though no completeness is aimed at:—Staphylococci are mostly concerned in furunculosis and carbuncle, osteomyelitis, sycosis, and suppurating acne. Frequently in eczema and whitlow and occasionally in infective endocarditis and septicæmias. Streptococci are mostly concerned in erysipelas, puerperal septicæmia, septic endocarditis, lymphangitis, and most forms of cellulitis. The tubercle bacillus is concerned in many chronic local joint, glandular, and osseous swellings, and many skin lesions, besides phthisis, tuberculous peritonitis, and frequently in infections of the genito-urinary system. Thus in many lesions met with in everyday practice experience tells us, without precise bacteriological procedure, what is the probable causal microbe.

A few details as to the technique carried out where the diagnosis is not obvious may be indicated. Any discharge from the lesion can be directly examined by an ordinary smear preparation, stained either by a simple basic stain or by Gram's method. If more than one organism be present an endeavour must be made to determine which is the immediate pathogenic agent. Thus a mixture of staphylococcus and streptococcus usually leads one to the conclusion that the streptococcus is the causal agent of the lesion; should, however, an exhibition of streptococcus vaccine not be followed by amelioration one would then give staphylococcus vaccine or a mixture of *both*. Where, however, it is possible to have recourse to opsonic indices the question may be settled *conclusively*. If the index be normal to the staphylococcus isolated from the *lesion and abnormal to the streptococcus* the latter is certainly wholly or mostly responsible for the lesion. A septic endocarditis or other septicæmia can, in the absence of any obvious primary or secondary lesion, only be with certainty diagnosed by making a blood culture. To do this about 10 cubic centimetres of blood are taken with all aseptic precautions from a vein, usually and preferably the median basilic; *about two cubic* centimetres of blood are directly introduced into each of four tubes of sterile broth. One cubic centimetre may be introduced into a sterile flask of peptone water if typhoid fever, paratyphoid or an infection due to a bacillus of the colon group, is suspected, and a *portion* may be spread on to the *surface of* an agar slope. If the organism be present in the blood it will in all probability grow in one of the media mentioned above. Subcultures are made and a vaccine is elaborated. Such *measures*, however, as a blood culture can only be carried out satisfactorily by a practised bacteriologist.

Apart from blood infections which may be diagnosed by means of blood cultures, many lesions may present themselves for *treatment* the cause of which is obscure. In such the opsonic index is of the *greatest* value, but it is beyond the embryology, especially that of Hubrecht on tarsius spectrum (lemur), has thrown a great deal of light on many vexed problems, yet our knowledge of the very early stages of the development of the human ovum itself is excessively meagre and it is fortunate that the present specimens should have fallen into the hands of such accomplished investigators as Dr. Teacher and Dr. Bryce. The problems in human embryology which are possibly of most general interest are those concerned with the early implantation of the ovum, the development of the placenta in its most primitive form, the development of the amnion, including the vexed question of the inversion of the germinal layers, and the problem which we may consider to be determined finally by the present specimen of the origin of the plasmodial investment of the villi, or the syncytium.

In a consideration of the different stages of development of the human ovum obviously the greatest importance must be assigned to a correct determination of the ages of the different ova which have been described. This has usually been determined arbitrarily by the so-called convention of His who reckons the interval of time which elapses between the date on which the first omitted period should have commenced and the termination of the pregnancy as the age of the ovum. The fallacies likely to arise from the use of such a formula are obvious, and the authors of this monograph have rejected this method and from a determination of the probable age of their own specimen, a review of the other recorded cases of early human ova, and a consideration of the known facts of comparative embryology have arranged a chronological table in which in many instances the estimated ages of the various early ova recorded differ very markedly from those assigned to them by their original describers. In the present case very precise and trustworthy data were obtainable and the authors conclude from a consideration of these that the ovum was about from 13 to 14 days old. In arriving at this figure they have allowed 24 hours as the time likely to have elapsed between insemination and fertilisation and 24 hours for the occurrence of the abortion.

From a careful consideration of the known facts and taking the estimated age of the present ovum as a basis on which to work, they conclude that it is the earliest human ovum hitherto described in the literature, and that Peters' ovum which he considers as only three or four days old is in reality from 13½ to 14½ days old. In the same way they have assigned ages to all the other human ova of which the details are recorded with sufficient accuracy, with the result that they arrive at a series of ova of gradually increasing age, the estimated ages of which correspond much more accurately to the facts determined by comparative embryology and to their own varying degrees of development than they do on the assumption that their ages are such as have been imputed to them previously by the various authorities who placed them on record. No doubt this table will meet with a considerable degree of adverse criticism from the various gentlemen the accuracy of whose deductions is in many instances impugned, but for our part after a careful consideration of the data as set out by the authors we are inclined to agree with their estimate of the age of their own ovum and of the others which have been described. If the contention be admitted as true that this is the earliest human ovum which has been met with hitherto, then its interest is obviously very great, and it throws a great deal of light on several vexed problems. For example, it shows a condition of the human blastocyst quite unsuspected, since its walls are almost entirely plasmodial, with the exception of a thin cellular layer of trophoblast, the so-called cyto-trophoblast forming the innermost lining of the blastocyst. Unfortunately, the early embryonic rudiment has been displaced and torn but the conclusions of the authors seem to us justified—namely, that the larger of the two vesicles present in the interior of the blastocyst is in reality an amnio-embryonic cavity in which there is as yet no distinction between amniotic and embryonic ectoderm, an earlier stage therefore to that shown in Peters' ovum, in which these two layers are already differentiated. In the human subject probably, as in tarsius the amnio-embryonic cavity is excavated in the interior of the so-called embryonic cell mass and the floor of the cavity at first concave and therefore apparently inverted becomes the embryonic plate while the roof becomes the amnion. Another interesting fact which the study of this early ovum has demonstrated is that the early mesoblast entirely fills the blastocyst and the extra-embryonic cœlom already present in Peters' ovum appears to be formed by a splitting of this mesoblast.

Much light has been thrown on the process of the imbedding of the early human ovum in the uterus by the study of this important process in the lower animals and it seems likely that the process in man resembles very closely that seen in the case of the guinea-pig. The authors consider the exact process to be as follows: the early blastocyst, still of very small size, comes to rest on a depression in the uterine mucous membrane, destroys the surface epithelium and, continuing its destructive activity, passes into the space in the decidua which has thus been produced. Necrosis followed by solution of a considerable mass of the endometrium follows and in this way the large implantation cavity is formed, the development of the decidua beginning immediately after the destruction of the epithelium. The ovum now becomes surrounded by a thick covering layer of trophoblast, by which it ultimately becomes fixed to the uterine decidua. The idea that the uterine epithelium is necessary for the production of the plasmodial layer of the trophoblast has already been disproved by Catherine van Tussenbroek in her description of a case of ovarian pregnancy, and the second specimen described in this monograph seems to show that it is possible for an ovum to become imbedded in the stroma of the ovary, and therefore it cannot be the follicular epithelium of the Graafian follicle which is converted into the plasmodium; the proof, then, now seems complete that the latter is of entirely fœtal origin.

The importance of these two specimens can hardly be overestimated, and we congratulate the authors on their good fortune in obtaining the material and on the most excellent use which they have made of their exceptional opportunity.

The Treatment of Gonorrhœa in the Male. By CHARLES A. LEEDHAM-GREEN, M.B. Birm., F.R.C.S. Eng.; Surgeon to the Queen's Hospital, Birmingham; Surgeon to the Birmingham and Midland Hospital for Children; Consulting Surgeon to the Birmingham General Dispensary. Second edition. London: Baillière, Tindall, and Cox. 1908. Pp. 160. Price 5*s.* net.

THE serious results of gonorrhœa are at the present day more fully recognised than they were a few years ago, yet even now the public consider that an attack of gonorrhœa is of little moment. It is essential to cure a gonorrhœa as soon as possible and Mr. Leedham-Green's book is a very trustworthy guide. He insists that in order to treat the disease rationally the surgeon must determine (*a*) whether it is a case of true gonorrhœa; (*b*) the stage of the disorder; (*c*) the extent to which the mucous membrane is affected; and (*d*) the presence or absence of complications. He advises that the patient should rest in bed during the early stages of the disease, but it is very difficult to persuade the average patient that so much rest is advisable. For internal treatment he speaks highly of a combination of sandal-wood oil has lasted without relapse for upwards of nine months and bids fair to be permanent.

Some cases of tuberculous infection will provide a certain amount of objective and possibly subjective signs by means of which guidance is afforded in dosage. Thus a tuberculous lymphatic gland may be rendered slightly tender to the touch, or even slightly painful by a certain dose. If such pain and tenderness last less than 24 hours it may be concluded that the dose was appropriate. Similarly a tuberculous joint infection may by increased pain and tenderness, with or without exercise, afford evidence as to the appropriateness of the previous dose.

In the case of streptococcus apart from acute general infections, the majority of the lesions to be treated will be local cellulitis, lymphangitis, and erysipelas, and secondary infections of tuberculous sinuses and lupus vulgaris. The local primary infections have to be approached with caution, and small doses only can be given. The clinical results are, however, so rapid as to afford very material evidence as to the appropriateness or otherwise of the antecedent inoculations. In the secondary streptococcal infections, notably those connected with tuberculous processes, the condition is as a rule, very chronic and sluggish. Larger doses of vaccine are borne without much negative phase, and indeed a slight negative phase may be not contra-indicated, as it may produce a flushing of the lesion with blood and increased exudation of lymph. The progress in these cases is, however, slow, and treatment may have to extend over several months. The secondary infection of lupus with streptococcus often obscures the clinical picture, and care must be exercised that a streptococcal infection be not mistaken for an exacerbation of the tuberculous process. Again, in gonococcal lesions, clinical signs afford valuable guidance. At St. Mary's Hospital the majority of our cases have been arthritic and in these an excessive dose is indicated by increased pain and stiffness with possibly a general malaise.

Some cases of urethritis have been treated with varying results. An autogenous vaccine, that is, one prepared from the patient's own organism, sometimes gives very good results. The negative phase is here indicated by an increase in the gleet, and if this lasts but one day a good result may be expected from the antecedent dose. With regard to gonococcus a marked difference occurs in the case of different vaccines. Thus a vaccine which we have been using for some months at St. Mary's Hospital gives good results in doses of from 2½ to 10 millions, other vaccines may require as a dose 40, 50, or possibly more millions. A recently isolated organism from a gleet gave no appreciable negative phase with an initial dose of 20 millions, and, indeed, only a slight fall towards normal was indicated opsonically, the index having been previously raised by the exhibition of a small dose of stock vaccine. By the fifth day, however, the resistance was nearly doubled and no organisms were found in the discharge which had previously abounded with gonococci. Examples might be multiplied indefinitely but those given above will suffice to indicate the lines to be proceeded upon in those cases in which clinical signs afford evidence as to the appropriateness or otherwise of each individual dose of vaccine.

The essential points in this class of case may be summarised thus. A dose of vaccine may be considered as appropriate when any negative phase, as indicated by objective or subjective signs, is only temporary and is followed by a longer or shorter period of improvement. Up to a certain point the period of improvement is proportional to the duration of the negative phase, but a point is soon reached when no improvement beyond the pre-existing condition is obtained. Beyond this point then a dose may be considered to be excessive. Conversely, if a short period of improvement with no signs of an intervening negative phase occur the succeeding dose of vaccine may be cautiously increased. As regards staphylococci the only exception to the above broadly stated rule would appear to be infective endocarditis and septicæmia, which are occasionally caused by staphylococcus. In such cases it would hardly be proposed that opsonic indices should be dispensed with, but were these latter out of the question it is obvious that extremely small doses should be given, though it might be advisable to repeat them with more than usual frequency, even to daily doses. Practically the only guide in such cases beyond the conditions of any local lesion that might be present would be the temperature. This, however, has been in some cases very valuable, indicating fairly accurately the state of resistance of the blood. Roughly, the temperature rises with a lowering of opsonic index, and *vice versâ*.

We now come to the consideration of the second class of case—namely, that class in which no objective signs immediately follow the exhibition of an appropriate dose of suitable vaccine. As an example of this class of case a tuberculous lymphatic gland was instanced. While it is true that in some cases a suitable dose of vaccine may be followed by slightly increased tenderness or even pain at the lesion, it is certain also that many, if not the majority, of these cases do not afford this evidence. Examples of negative phases that have been prolonged over several days as indicated by the opsonic index might be given in which no evidence as to increased tenderness or pain could be elicited. Again, in cases where two or more organisms are in question, the symptoms due to each several variety of microbe may not be obvious. In such it may be difficult to determine the value of any individual dose; it should be noted, however, that cases involving more than one organism are on the whole rare.

A tuberculous lymphatic gland may be taken as the most frequent lesion to be treated, in which clinical signs afford but little guidance. From week to week no great difference may be observable, and a long period may elapse even when resolution, as the result of appropriate doses of tuberculin, is occurring before the improvement is obvious, a period at least long enough to allow of several doses of tuberculin to be given. Hence it follows that there is no evidence as to which of several possibly varying doses of tuberculin given has been the correct one.

Not having the knowledge gained by constant estimations of the opsonic index recourse must be had to previous experience of similar cases. Before considering the application of this experience to particular cases it is advisable to differentiate between strictly local and more generalised cases of tuberculous infection. A much larger dose may be given in a strictly local case than in a more generalised case. Thus in the case of a robust adult presenting himself with a tuberculous lymphatic gland of the neck it would be good practice to give 1-15000th to 1-10000th of a milligramme of T.R. as an initial dose. If however, there were any involvement of the lung 1-30000th might be quite large enough a dose. The consideration of such lesions as pulmonary tuberculosis and tuberculous peritonitis must be superficial, however; suffice it to say that any doses larger than 1-30000th to 1-20000th must be given with extreme caution. A negative phase of even a few hours' duration may give opportunity for disastrous activity of the tubercle bacilli in such, cases and with no evidence of the existence or otherwise of auto-inoculation a dose which might be suitable one day might well be excessive the following day.

To return to such localised infections as tuberculous glands without any constitutional disturbance. It has been stated that in an adult an appropriate initial dose would be from 1-15000th to 1-10000th milligramme. Such a dose may be administered not more frequently than once every 10 days and may be raised gradually every third dose until 1-5000th to 1-4000th milligramme be reached. Usually it is unnecessary to proceed any higher and 1-4000th milligramme may be given for months with good effect. It is not suggested that every case can, however, stand such doses, but the exceptions will be few. Cases of lupus stand tuberculin well as a rule. Rarely have we occasion to give a dose as large as 1-2000th milligramme. It must be understood, however, that in the absence of the check afforded by opsonic indices any dose greater than 1-4000th milligramme of T.R. is dangerous, at least in the first six months of treatment. Cases of genito-urinary tuberculosis will not stand large doses of tuberculin as a rule, and 1-5000th should be regarded as a maximum. In children below the age of ten years the doses are smaller, though proportionately children take tuberculin well. A typical chart of the opsonic indices and doses of tuberculin is appended as an example (Fig. 2). The case was one treated in the ordinary routine of practice and the indices were not worked out with a view to the formation of a curve chart.

Note with regard to curve.—The dotted lines have been inserted to indicate the probable diagrammatic course of the resistance. It is to be noted that when any particular dose was ceasing to be the correct one the response was very rapid and short-lived.

Nowhere in the book does he state expressly the cause or treatment of cancer, but he suggests that cancer is brought about by unhygienic modes of living and that dietetic methods of treatment will help to remove it. We find some curious statements in the book. In speaking of the thyroid gland Dr. Bell says on p. 241: "To enable it to perform this duty [the destruction of poisonous substances in the blood] more efficiently, as one observer has stated, the blood performs two circuits through the thyroid before its return to the heart." We should like to know where this interesting fact is recorded and who observed it. In the introduction on p. 13 we are told that Metchnikoff states that in the intestine there are developed daily 28,000,000,000 of bacteria. On p. 190 Metchnikoff is again quoted, but now the number has risen to 128,000,000,000,000, or more than 4000 times as many. Perhaps in these high figures a few ciphers more or less make little difference.

School Hygiene and the Laws of Health. By CHARLES PORTER, M.D., B.Sc. Edin., M.R.C.P. Edin., of the Middle Temple, Barrister-at-Law. Second edition. London, New York, Bombay, and Calcutta: Longmans, Green, [illegible] 1908. Pp. 335. Price 3s. 6*d.*—*The Wonderful House that Jack Has: a Reader in Practical Physiology and Hygiene.* By COLUMBUS N. MILLARD, Supervisor of Grammar Grades, Buffalo Public Schools. New York: The Macmillan Company. 1908. Pp. 359. Price 3*s.*—*Ball Games and Breathing Exercises.* By ALICE R. JAMES. With Preface by HARRY CAMPBELL, M.D., B.S. Lond., F.R.C.P. Lond. London: Longmans, Green, and Co. 1908. Pp. 61. Price 1*s.* 6*d.*—This trio of books dealing with different branches of school hygiene may be conveniently considered together. The first and third of them are manuals of instruction addressed to teachers; the second, as its title suggests, is intended as a lesson-book for young children. We need say little about Dr. Porter's work, which was originally based on lectures to school teachers, save to record its second edition, for we reviewed it at length when it first appeared. We were then able to say that it was an admirable text-book in elementary physiology and hygiene for the instruction of school teachers, and a fresh acquaintance with it confirms our opinion. It deserves to become a standard text-book in a subject the importance of which has been so prominently endorsed by recent legislation. As was fitting, Dr. Porter has added a useful little chapter upon medical inspection of schools as it concerns the teacher, rightly laying stress upon the enormous assistance which he or she can afford to the school medical officer by sympathetic coöperation in his inspection work. We regret that Dr. Porter has not seen his way to add a chapter on punishments, a subject upon which his experience should prove of value. The next book is of a very different order. It is an attempt to familiarise children between their fifth and eighth years with the outstanding principles of physiology and hygiene. We think that Mr. Millard has made a mistake in his method. In *The Wonderful House that Jack Has* he has produced a book of the "my dear little children" order containing a number of pictures, some of which irresistibly recall that delightful ephemeron, *Wisdom While You Wait.* In his preface he states that most school physiology books are too full of technical terms and quotes to prove his point. In turn it is legitimate to ask him whether words like "preëstablished," "preëminent," "detrimental," "expectoration"—we pick at random from his pages—are quite suitable in talking to children of tender age, and whether they will profit by hearing about the treatment of adenoids, errors of refraction (including astigmatism) and their correction, the methods of detecting oleomargarine from butter, or of disinfecting a room after enteric fever. The author has, moreover, a habit of dropping into such sententious remarks as these: "But what about fish? How do these finny dwellers in the water world, which so many people greatly enjoy luring from their liquid home, help in our structure?" And again, "Who has not felt pity for Esau because he allowed his greed for pottage to lose him a commanding position and valuable estates? ...... Candy and rich desserts are the pottage most likely to lure away our precious inheritance." This strikes us as the way not to address a "Jack" of six, and however much it may be desirable to instil him with a hatred of tobacco it is surely not ingenuous to conclude a passage worthy of the royal "Counterblaste" with the statement that "we rarely, if ever, find one who does not regret having burned his money up in this way." But with all these faults Mr. Millard has written many pages which would form excellent lessons for little ones, especially those concerning food, ventilation, and breathing. We think, though, that he would have been better advised to adopt a style more suited to older children and to leave the infants to the oral instruction of their teachers. His text-book is altogether too ponderous [illegible] s. The third little book before us gives an [illegible] of an ingenious series of physical exercises performed with the help of indiarubber balls, which have been devised by Miss Alice James and have received the blessing of Dr. Harry Campbell. They aim at grace and lissomeness rather than hard and bulging muscles, and they should help to cultivate ambidexterity. So far as we can follow them from the figures and descriptions they are well adapted for the physical development of children and young women. It would be desirable for a teacher to see the exercises in practice before adopting them, and anyone desiring to do so is invited to attend an evening class at Northfield, 101-105, Stamford-hill. With such an introduction this little manual should prove of great service to gymnastic instructors and "games mistresses."

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H. Thirteenth edition. London: H. K. Lewis. 1908. Pp. 1164. Price 10*s.* 6*d.*—The authors are masters of the art of abstracting and of condensing the information scattered in literature. The only criticism, indeed, that is invited turns on the question as to whether the book is not after all overstocked with information, and yet it cannot fairly be said that the information throughout is without interest or value in some way or other to the medical man, pharmacist, and others. The advisability of including certain materials may be doubtful, while strictly they may not belong to the subject matter implied by the title of the work. There are sections, for example, on the analysis of milk and butter, on poisoning by certain gases, on mineral waters, health resorts, and so forth, which few, we imagine, would expect to find in a pharmacopœial work. The omission of these sections would have made room for further treatment of the more strictly pharmacological portions of the book. Nothing succeeds, however, like success, and the authors have doubtless very good reasons for including the treatment of what are after all collateral subjects. The book has now reached its thirteenth edition, the first issue having been published in 1883, and it is well known that its *clientèle* is a wide one and includes the members of different professions. The medical man, the analytical chemist, the pharmacist, the bacteriologist, and even the lawyer, commonly and rightly regard this work as a valuable and trustworthy source of reference. The copious references alone to the literature of pharmacology make a copy of the book well worth while possessing. This last edition includes a considerable amount of valuable new material, in proof of which mention need only be made of such subjects as the

To summarise the treatment of cases in which no immediate indication as to the appropriate dose is afforded by clinical signs, such cases being generally tuberculous, it may be stated thus. In generalised tubercle, as phthisis and tuberculous peritonitis, larger doses than 1-30000th milligramme are to be given with the greatest caution, and in advanced cases such a dose even may be excessive. In strictly localised infections in adults the doses may range from 1-15000th to 1-4000th milligramme. In children with similar infections the doses may range from 1-25000th to 1-6000th, according to age and physique.

The indications as to dosage have designedly been slightly more dogmatic in the class of cases in which clinical evidence as to the appropriateness or otherwise of dosage is scanty or non-existent. Any hurry to increase the dose is deprecated, it being better to give several possibly non-maximal doses than one large enough to produce a severe *negative phase* with a consequent set-back and the undoing of the good that may have pertained to many previous doses. The generalisation of the infection as opposed to strict localisation is the especial point to bear in mind. In the former small doses are to be insisted upon, for reasons given above.

In the preventive inoculation of typhoid fever previous experience can alone be relied on. Happily, this experience is extensive and the doses can be indicated with exactitude. 1000 million typhoid bacilli are administered and the patient is advised to rest, not necessarily in bed, for the rest of the day. A slight and varying amount of malaise, headache, and possibly joint pains will occur, but they usually pass off by the next day. Not less than ten days subsequent to the initial injection a dose of 2000 millions is given, and a similar sequence of symptoms may follow but is usually less marked than after the primary inoculation.

It is to be borne in mind that a high resistance in the circulating blood may not necessarily react in the direction of a cure. Unless the protective substances have free access to the area of infection the infective microbes have a highly beneficial nidus in which to multiply. Thus, the walls of a long-standing sinus may have a very poor blood-supply by reason of pent-up discharge, due to obstruction to outflow or coagulation. In such a case the sinus may be flushed out with a hypertonic salt and citrate solution consisting of 4 per cent. of sodium chloride and 1 per cent. of sodium citrate in sterilised water. The hypertonicity of the solution promotes increased osmosis through the walls of the sinus and a more copious flow of lymph results; moreover, the citrate prevents coagulation and the increased flow of lymph through the sinus walls finds its way to the surface uncoagulated. The contents of a cavity, such as the peritoneal fluid in tuberculous peritonitis, the exudate in tuberculous pleurisy, or the contents of an abscess may be low in protective substances while the circulating blood contains an excess. Drainage of such a cavity is followed by the introduction of fluids rich in protective substances derived from the blood and the cavity, formerly a suitable breeding place for the infecting microbe, now becomes a highly unsuitable breeding place by reason of the increase in protective substances.

To meet the conditions as to dosage indicated in the foregoing remarks we prepare at St. Mary's various concentrations of vaccine. The different concentrations are so arranged that by quite simple calculations doses from the lowest to the highest figure indicated above may be given. The following is a list of vaccines prepared and issued:—

Tubercle vaccine (T.R.).—Prepared from tubercle bacillary emulsion; in two strengths—viz., 1-2000th and 1-5000th milligramme of dried comminuted tubercle bacilli per cubic centimetre.

Staphylococcus vaccine.—Prepared from recently isolated virulent cultures of staphylococcus aureus and staphylococcus citreus; in three concentrations—viz., 100 millions, 200 millions, and 500 millions of cocci per cubic centimetre.

Streptococcus vaccine.—Prepared from recently isolated cultures of streptococcus obtained from cases of erysipelas; in three concentrations—viz., 5 millions, 10 millions, and 50 millions per cubic centimetre.

Gonococcus vaccine.—Prepared from cultures of proved immunising power; in two concentrations—viz., 5 millions and 10 millions of cocci per cubic centimetre.

Typhoid vaccine.—Prepared from a culture that has been frequently tested as to its immunising power; in two concentrations—viz., 1000 millions and 2000 millions of bacilli per cubic centimetre.

There is a probability that a vaccine of micrococcus neoformans will shortly be issued, as evidence is accruing of the beneficial results as regards lessening of pain and retardation of growth and secondary deposits in some kinds of cancer. It will probably be issued in one concentration—viz., 50 millions per cubic centimetre. 15 millions may be regarded as an appropriate initial dose and 25 millions as an average dose.

The T.R. is prepared from Koch's bacillary emulsion obtained from Meister Lucius and Brüning. It is to be noted that the dilutions are made and standardised on the *assumption that one cubic centimetre* of the product as issued by Meister Lucius and Brüning contains two, and not ten, milligrammes of dried comminuted tubercle bacilli. The stock staphylococcal vaccine, as issued to the profession, is used at St. Mary's for practically all staphylococcal lesions. Very rarely is it necessary to make a special autogenous vaccine. The stock streptococcal vaccine is used initially in acute cases. As soon as the infecting streptococcus is isolated a special vaccine is almost invariably prepared, these being far more specific. Rarely is it possible to prepare special gonococcal vaccines, so the stock vaccine has usually to be relied on.

Practically all other lesions, more especially those due to bacillus coli communis, are treated with specially prepared autogenous vaccines, and with regard to the latter there does not appear to be the slightest likelihood of a stock vaccine proving of any use in more than a small percentage of infections due to the colon bacillus.

VACCINES IN GENERAL PRACTICE.

BY LACHLAN GRANT, M.D., C.M. EDIN.;
T. H. CAMPBELL, M.B., CH.B. GLASG.;
AND
W. D. ANDERSON, M.A., M.B. CANTAB., M.R.C.S. ENG.

THE following cases having resisted the older forms of treatment it was decided to try the effect of vaccine therapy, and in these notes we will give a brief history of the cases, the *modus operandi* employed, and the results obtained.

CASE 1.—A man, aged 35 years, with a tuberculous history, consulted us in September, 1907, regarding a large swelling of two months' duration, on the left side of the neck, which extended from the angle of the jaw almost to the manubrium sterni. The case was one of advanced tuberculosis of the cervical glands which were evidently in a state of caseation and liquefaction. A few days later an incision was made into the dependent part of the swelling and the fluid contents were evacuated. The swelling subsided considerably and during the following three weeks the disease seemed to be held in abeyance. The improvement, however, was only temporary and the swelling advancing downwards another incision became necessary. In the course of another month, owing to the disease having spread over the manubrium, it was found expedient to make a third incision. The wounds were throughout treated antiseptically and all precautions were taken against the possible occurrence of mixed infection. Absolute rest in bed was enjoined, the patient's diet was regulated, and the best hygienic measures possible were adopted. This proved of little avail. *The wounds remained* open, sinuses discharging tuberculous débris. Indeed, an extension along the deep fascia into the mediastinum was feared. The affected part, after remaining unchanged for about three months, was subjected to the x rays. Irradiation was given on three separate occasions at intervals of one week, the dose on each occasion being 15 minutes of a soft tube with 0·35 milliampères passing and the anticathode 12 inches from the diseased tissue. After each irradiation a thin friable cicatrix formed over the wounds, but it invariably broke down again after a few days. The patient had been under our care for seven months and we now decided on a vaccine treatment.

On May 11th, 1908, an estimation of the patient's opsonic index for tubercle bacillus was made, and the index was found to be 0·7. On the same day 1-5000 cubic centimetre of T.R. was injected into the infrascapular region. This by protozoan parasites. It is already well established that trypanosomes become resistant to the drug employed and more difficult to drive out of the peripheral circulation with each fresh recurrence. Ehrlich also showed that in the case of rats treated with atoxyl the parasite itself, apart from the individual host, becomes resistant to the drug and when passed to fresh animals of the same species reaches finally a condition in which it is resistant or "fast" to the particular drug. The special point shown by the experiments described in the present communication is that this resistance only holds for the species of animals in which it has been established and disappears when the "fast" strain of trypanosomes is passed into another species of animal. 6. Observations on the Acidity and Alkalinity of the Blood in Trypanosome Infections, by M. Nierenstein, Ph.D., and J. W. Garrett. 7. A Contribution to the Morphology and Life History of Piroplasma Canis, by Anton Breinl and Edward Hindle. 8. The last paper in this number, by D'Emmerez De Charmoy, describes three new species of culex collected during the anti-malaria campaign in Mauritius in 1908.

The Edinburgh Medical Journal.—To the September number of this magazine Sir Alexander Russell Simpson contributes an illustrated paper on the use of Birth-stools in Egypt and incidentally relates the methods adopted among the lower classes in that country, which seem to have come down unchanged from early times. Dr. James H. Nicoll gives some statistics of hernia of the ovary in infants, and advocates operative treatment but not oöphorectomy; and Dr. H. A. Lediard records a case of successful treatment of a lymphangioma and comments on the unfavourable opinions expressed by the older generation of surgeons as to operative interference with these growths. Mr. Joseph Beard records the notes of two cases of meningitis admitted to hospital as enteric fever. Dr. J. Frank Crombie publishes the results obtained in some examinations of the blood in cases of whooping-cough, in which he found a leucocytosis to occur as a rule, the proportion of lymphocytes being always markedly increased; this feature may prove a useful aid in diagnosis. According to Dr. A. Dingwall-Fordyce Edinburgh milk contains on an average about 4 per cent. each of fat, sugar, and proteins—a simple and easily remembered formula.

ANNUAL REPORT FOR 1907 OF THE REGISTRAR-GENERAL FOR IRELAND.

WE are indebted to Sir Robert Matheson for a copy of this report which has just been issued by the Irish Stationery Office. This document derives additional value from the circumstance that it has been published within eight months of the close of the period to which it relates, in which regard it contrasts favourably with the corresponding reports for England and Scotland, the late appearance of which greatly impairs their usefulness for sanitary and statistical purposes. In some respects the Irish reports and returns differ from those of either of the sister divisions of the kingdom. In the first place, they contain particulars of mortality in the several social grades of the community, the importance of which will be apparent when we come to review the history of pulmonary tuberculosis in Ireland. In the next place, they contain, in addition to statistics of births, marriages, and deaths, all of which are presented on the English model, most valuable notes on the sanitary condition of the several registration districts, and inasmuch as these notes are contributed by registrars who are for the most part medical men, they possess on that account considerably increased value for preventive purposes.

The birth-rate of Ireland is stationary but still very low, amounting to no more than 23·2 per 1000 of the population. In the whole country the proportion of illegitimate to total births is 2·5 per cent., a proportion which compares favourably with that of both England and Scotland. Nevertheless the Irish provinces differ materially in this respect; for, whilst the illegitimate rate does not exceed 0·6 per cent. in Connaught, it is equal to 2·7 per cent. in Leinster and 3·3 per cent. in Ulster.

The Registrar-General reports a low rate of general mortality for the year 1907, namely 17·7 per 1000 living at all ages, which is slightly below the average for the preceding ten years. The rate was highest, 19·4 per 1000, in the province of Leinster, and lowest, 13·5 per 1000, in that of Connaught. The proportion ranged from 12·7 per 1000 in County Kerry, to 21·0 in Belfast, and 25·6 in Dublin. As a rough indication of the relation of poverty to mortality in Ireland it may be mentioned that there were registered in workhouses 10·4 per cent. of the total deaths in Connaught, 10·7 per cent. in Ulster, 16·8 per cent. in Leinster, and 19·6 per cent. in Munster.

From a well-arranged series of tables it appears that, as compared with the average in previous years, there has been in 1907 a reduction of mortality from each of the chief epidemic diseases, but that the mortality from influenza exceeds that of the previous year, and nearly equals the high average rate of the preceding decennium. It further appears that pneumonia has shown increased fatality in the year under notice, and that the deaths from tuberculosis have been equal in number to the average. Malignant disease is reported to have been more fatal than the average in 1907, but less fatal than in 1906. Taking the chief epidemic diseases separately, Sir Robert Matheson remarks on the significant reduction in the fatality of both scarlet fever and typhus fever. From the first-mentioned cause the mortality in 1907 was only one-sixth of what it had been ten years previously; and with regard to typhus fever we learn that whilst in the year 1880 there were 934 deaths from this disease the numbers had fallen to 391 in the year 1890 and to 128 in 1900, the deaths in 1907 having further fallen to 56. With the exception of the diarrhœal group the mortality from whooping-cough in 1907 exceeded that from any other epidemic disease, nevertheless the mortality in that year from whooping-cough was lower than the decennial average. Among other diseases of this group both diphtheria and enteric fever caused a lower fatality than the average in the year under notice, whilst diarrhœal diseases were considerably less destructive than usual.

An important and highly interesting section of the report is that which deals with the prevalence of cerebro-spinal fever in Ireland. Sir Robert Matheson tells us that the first recognised outbreak of this disease occurred in Dublin in the year 1846, on which occasion it lasted for four years. Again, in the period 1865–67 the disease appeared in that city, when it was known as "black death" or "malignant purpuric fever." In the year 1878, and again in 1900, the disease reappeared in Dublin, assuming epidemic form in the latter year. During the year 1907 631 deaths from cerebro-spinal fever were recorded in Ireland, of which not fewer than 495 occurred in the county borough of Belfast. From a table in the report it appears that in the large majority of the cases of this disease the fatal issue was exceedingly rapid, occurring generally within less than ten days from the commencement of illness. In Ireland, as in England, the use of the indefinite term cerebro-spinal meningitis to describe this disease has led to considerable uncertainty in the Register Office. The Registrar-General reports that in 327 cases in which cerebro-spinal meningitis appeared in the death certificates in the year under notice only 234 were finally classed, after inquiry, as cerebro-spinal fever, the greater part of the remainder having been classed as tuberculous meningitis or as other forms of tuberculosis. From these figures it is evident that a large portion of the medical practitioners in Ireland regard the terms "cerebro-spinal fever" and "cerebro-spinal meningitis" as synonymous. In the course of 1907 there were notified to the sanitary authority of Belfast 623 attacks of cerebro-spinal fever, of which 233 occurred in the March quarter, 291 in the June quarter, and 54 and 45 respectively in the September and December quarters of the year. The disease appears to have been particularly destructive to young children, not less than two-thirds of the total deaths having occurred within the first ten years of life. Whether or not exceptional measures of prevention were adopted in order to cope with the Belfast epidemic we are not informed in the report, but the disease seems to have rapidly diminished in fatality towards the end of the year.

The subject of tuberculosis, which Sir Robert Matheson

CASE 4.—A man, aged 70 years, complained in December, 1907, of cough and expectoration, loss of appetite, weakness, and shortness of breath, all of one month's duration. He volunteered the information that he sweated at night. There was a moderate nocturnal elevation of temperature. On percussion the note over the apex of the right lung was tympanitic. On auscultation there were clicking râles and amphoric breathing at the same spot. There was also a distinct history of tuberculous disease at this apex two years previously. At that time tubercle bacilli were found in the sputum. The treatment adopted was on the recognised hygienic, dietetic, and therapeutic lines, and under this *régime* the patient's condition slightly improved.

At the end of April, 1908, the sputum was examined and was found to be teeming with encapsulated pneumococci mixed with a considerable number of Friedländer's pneumo-bacilli, but repeated examination by the more elaborate methods failed to detect any bacillus of tubercle. It was therefore concluded that the focus of tubercle was locked up and that we had to deal with an invasion of the right apex by pneumococci, and it seemed a rational treatment to attack these organisms with a suitable vaccine. This was therefore prepared from the patient's own strain of pneumococci. We considered that the clearing up of the pneumococcic infection would probably be a good step towards the resolution of any tuberculous process that might be going forward.

On May 29th the patient received the first dose of vaccine. This dose contained 15,000,000 of mixed pneumococci and pneumo-bacilli, the former being largely in excess of the latter. Next day there was a very slight reaction which was followed by no discernible improvement in the patient's condition.

On June 6th 15,000,000 were again injected, the patient's opsonic index being then 1·6 for pneumococci. There was a slight reaction, a feeling of malaise and increased cough and expectoration, followed in the course of the day by a sense of well-being. The temperature now remained normal and the night-sweats were less troublesome. On the 10th he was allowed out of bed for an hour. On the 17th 30,000,000 were injected. After the reaction had passed off there was further improvement. Cough and expectoration were diminished, the patient felt stronger, and was able to sit up for four hours. The appetite was much better. An examination of the sputum showed a remarkable diminution in the pneumococci and no tubercle bacilli were to be found. An opsonic estimation made on this day showed an index of 1·0 for pneumococci and 1·3 for pneumo-bacilli. On the 30th he was allowed out on warm days.

On July 2nd another injection of 30,000,000 was given. A few days after this the patient was able to go for an hour's walk. The improvement was progressive and on the 27th he was able to do a little manual work. All the signs of a cavity were, however, still present at the right apex. On the 28th 10,000,000 were injected, and after the reaction had passed off the patient's condition continued to improve. He was soon well enough to work. Since early in August he has been engaged in a regular, though light, occupation, and says that he feels better than he has done for nearly a year. There are still cough and expectoration, but the cough is slight and the expectoration very scanty. A few râles are to be heard at the right apex, but on the whole the improvement is very great indeed.

Conclusions.—The results in the foregoing cases have so far been most satisfactory and we venture to attribute this to the action of the vaccines. In those cases treated with tuberculin the following points are of note:—

1. The scars resulting were soft, pliable, and the disfigurement slight.

2. Recovery under the treatment seemed rapid, and this implied saving of suffering and expense to the patient and anxiety to the medical attendants.

3. The absence of severe surgical measures minimised the risk of a general tuberculous infection and obviated that slight risk which always attends general anæsthesia.

4. Although opsonic estimations were only made occasionally during the treatment, they suggested that the index was being steadily raised, and from this it is probable that for some time, at least, the patients will be less susceptible to attacks by the same bacterium. Surgical measures alone may achieve this indirectly, inasmuch as they rid the body of the focus of disease, but it is questionable if they are capable of raising the standard of defence to the same high level as that induced by vaccine therapy.

It may perhaps be right to conclude by saying that much expense and valuable time were saved to the patients and to ourselves by the fact that the microscopical work, the electrical treatment, the preparation of vaccines, and the opsonic estimations were all conducted in our own laboratories.

Ballachulish, Argyllshire.

THE SANITATION OF MINES.[1]

BY FRANK SHUFFLEBOTHAM, M.A., M.B., B.C. CANTAB.

THE question of the sanitation of mines has been brought prominently to our notice of late years through the outbreak of ankylostomiasis in Westphalia, Belgium, and other European countries, as well as among the tin miners of Cornwall. In each district the disease has affected large numbers of workers, in some cases to such an extent as to be a great menace to the industry. The absence of sanitary arrangements underground has been the principal cause of so many men being struck down by this disease, and it has been due mainly to the institution of elaborate sanitary arrangements that the disease has been eradicated, and even then in each epidemic it has been a matter of many months, and in some districts of several years, before the disease disappeared.

Proper sanitary arrangements are desirable in mines on general hygienic grounds, but they are necessary on account of the dangers which may arise through their absence. In the first place I wish to show how ankylostomiasis can be spread among miners through the want of proper sanitation underground, and I will describe briefly the nature of the disease, so that this will be all the more easily understood.

Nature of Ankylostomiasis.

Ankylostomiasis is a disease caused by the presence of a small worm known as the ankylostoma duodenale in the upper part of the small intestine. The worm attaches itself to the mucous membrane of the bowel by means of hooks which are situated round its mouth. It does not reproduce itself within the intestine but the female lays an enormous number of microscopically small oval eggs which pass away in the fæces. The eggs hatch out into larvæ under favourable conditions of temperature and moisture and in the presence of oxygen and absence of daylight. The eggs will not hatch out in the intestine owing to the lack of free oxygen. The larvæ continue to grow and after a short time they develop a capsule. It is in this state that they enter the human body. Miners often relieve themselves underground and if they are infected with ankylostoma then the motions would be a source of danger. The hands of their fellow-workers might become contaminated with infected fæcal matter and when they take their food at "snapping-time" they would swallow some of the encapsuled larvæ which in the intestine develop into full-grown worms. The worm may live in the human intestine for several years. The disease is endemic in many tropical and subtropical countries but when found in temperate climates it is practically confined to miners and workers in tunnels.

Symptoms and diagnosis of the disease.—The symptoms are: (1) anæmia with its usual accompaniments, pallor, shortness of breath on exertion, palpitation, giddiness, and fainting; (2) gastro-intestinal disturbances; and (3) in the outbreak in Cornwall skin symptoms were found. The positive diagnosis can only be made when the eggs are found in the stools. For the methods of detecting the eggs I would refer to the Home Office Memorandum of Feb. 16th, 1904, and to papers by Dr. A. E. Boycott and Dr. J. S. Haldane in the *Journal of Hygiene*, January, 1903, and January, 1904.

It must be remembered that only a certain percentage of those infected with ankylostoma show symptoms of the disease. This is of great importance from the fact that they are just as great a menace as those whose symptoms are marked. The examination of the blood, however, will show

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[1] A paper read before the Industrial Hygiene Section of the Royal Institute of Public Health at the Buxton Congress on July 21st, 1908.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 26, 1908.

The Present Condition of Pharmacy.

PHARMACY still forms one of the subjects of the ordinary medical curriculum and it is obvious that a knowledge of the various mineral and vegetable preparations which are used as drugs is essential for every practitioner of medicine. At the present time, however, the same intimate knowledge of pharmacy is not required as was the case in past generations of medical men. The evolution of the pharmacist has gradually introduced a new element into medical practice, many practitioners confining themselves to writing prescriptions and leaving the actual compounding of the ingredients to the pharmacist or, to use a more familiar term, the druggist. At the meeting of the British Pharmaceutical Conference recently held in Aberdeen the President, Mr. ROBERT WRIGHT, delivered an interesting address on "Pharmacy—its Rise, Province, and Present Condition," in which he considered in detail many points which are constantly arising in connexion with the preparation and the compounding of drugs, dealing, however, with the ethical side and not with the scientific.

Having sketched in brief outline the rise of pharmacy, Mr. WRIGHT proceeded to make a few remarks upon its province. He correctly maintained that pharmacy included within its range the provision and supplying to the public of everything capable of employment for the relief or cure of any ailment or disease to which human beings are subject. As regards drugs, this includes their collection and the investigation of their botanical character, their chemical and physical properties, and their composition; also their elaboration and exhibition in the form of galenical preparations of approved type, and their distribution to the public, either directly or indirectly. This consideration at once raises the much disputed question of the relationship which should exist between the medical practitioner and the druggist. Mr. WRIGHT stated the ideal condition in a few words: "The proper sphere of medicine lies in the diagnosis of disease and its treatment, including the prescribing of remedies; that of pharmacy in the compounding of drugs and the dispensing of medicines." Could this principle be always and everywhere carried out in practice no difficulties would arise; but Mr. WRIGHT recognises the complexity of the situation and in his address gave his opinion freely on the subject. With most of his remarks we are in accord. He stated the case for the pharmacist with fairness and exactness and uttered a note of warning to those of his colleagues who from "mercenary motives ...... should be tempted to transgress the laws of prudence and common sense, and to administer remedies in cases with which only the trained practitioner should deal." He then went on to remark: "We claim that the counter-prescribing of simple remedies for simple ailments is quite in harmony with the general fitness of things, and an educated and conscientious pharmacist, knowing by experience the difficulties often met with in diagnosing even 'simple' ailments, will in any case of doubt at once draw the line and refuse to prescribe." The important point in this dictum is that every pharmacist should clearly know where to "draw the line," and there is every temptation to extend the limit of counter-prescribing rather than to lessen it. To take an example. It is a daily event for a customer to enter a druggist's shop and to ask for a remedy against constipation. A pill or draught is given but unless some discrimination is used, serious results may follow. It would be impossible for the druggist to diagnose between simple constipation, intestinal obstruction in any form, or ambulatory enteric fever, and the careless use of purgatives might thus prove a great danger. We agree with Mr. WRIGHT that there is another side to the question—namely, the dispensing of drugs by medical practitioners. But we venture to suggest that he puts the case too strongly when he speaks about "the doctor who for complaints which he is supposed to be able to diagnose correctly administers drugs of the proper methods of exhibiting which he is totally, or almost totally, ignorant." We regret that he should have made such a condemnation in an address which was otherwise so moderately expressed. The medical student is now compelled to attend lectures on materia medica and to go through a course of instruction in pharmacy which gives him a fair knowledge of the subject. This is essential, for although, as has been ably argued in our columns,[1] it would be advantageous to the medical profession if medical men prescribed their medicine, leaving the making up of the formulæ to the dispensing chemist, yet such a course is not practicable. There are many neighbourhoods which are too poor and too sparsely populated to support a dispensing chemist and hence the practitioners residing in that district are obliged to dispense their own drugs.

Mr. WRIGHT expressed himself in no doubtful terms in regard to the sale of patent or quack medicines. He quoted figures which amply proved that notwithstanding the wide diffusion of knowledge, the spread of education, and the raising of the standard of intelligence among the people, the appeal of the quack and the charlatan to the credulity of the public meets with a readier response than ever. We have again and again protested against the exploiting of such preparations by the lay press but with very little success. Mr. WRIGHT was pessimistic in regard to the part which the pharmacist could play in helping to mitigate the evil, for he remarked: "What the public demands in the shape of medicine we ought, I think, unquestionably to supply." We doubt the propriety of this remark; nevertheless, he is probably correct in thinking that the dispensing chemist can do but little and that the real and only effective remedy lies with the legislature, and he indicated the direction which he considered such legislation should take. He suggested that the cost of the patent burnt. (It is far better to take the pans to the surface to be emptied rather than to empty them in the far parts of the mine.) Mr. Salt tells me that the closets are largely used not only by the men working at the pit bottom and along the roadways but also by miners working at distant parts of the mine who use them either before commencing work or when they are waiting at the pit bottom to return to the surface. Previous to the erection of these closets the men had to relieve themselves in cross-cuts and disused roadways, with the result that the ground in these places was contaminated with fæcal matter. Under the present conditions the men use the conveniences provided for them and from the conversations I had with them they very much appreciate this accommodation. The plan shows the position of these closets and the distribution of the men in the mine at those points. On the surface there are two closets and three urinals provided.

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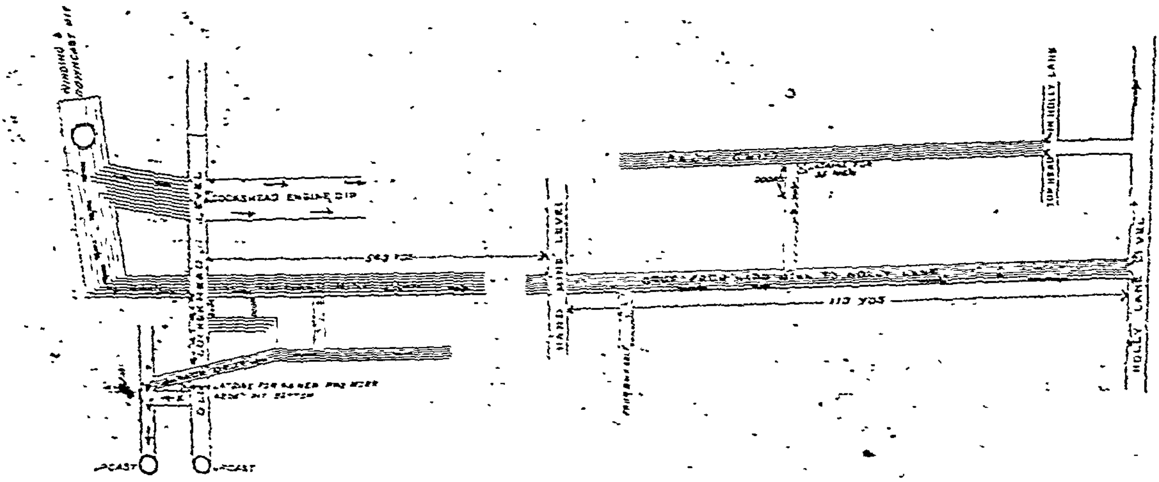
[1] THE LANCET, April 1st, 1905, p. 878.



Plan of sanitary arrangements at Norton Colliery, Stoke-on-Trent.

Sanitary arrangements are not necessary for men employed at the working face because the face is continually moving and the men can retire into the goaf where *no one* can come in contact with the motions. The ventilating air is not contaminated under these conditions. An exception, however, must be made to this general statement. Where the dips are so steep that the men are obliged to reach the working face by ladders, *portable pails* should be provided because the goaf is always above the men, and if the men relieved themselves in the roadway at the top of the dip they would get their hands contaminated with fæcal matter in ascending and descending the ladders.

The evidence already given before the Royal Commission on Mines shows that in some districts there is an entire absence of sanitary arrangements underground. At some isolated collieries in Yorkshire, Lancashire, and North Staffordshire sanitary arrangements have been instituted, but in other districts no provision is apparently made in this direction. I do not believe that in either Scotland or Wales, where there are large mining communities, there is a single colliery possessing any sanitary conveniences underground.

It is said by some that were closets universally provided in mines the men would not avail themselves of these arrangements, but I do not think this is true. As far as my experience goes in North Staffordshire the men appreciate these sanitary improvements. I have never heard of a single case of a miner refusing to take advantage of them. As long as the closets are well looked after and the seats kept clean so long will the men use them. I have spoken to miners working in mines where no sanitary arrangements are made and they would gladly welcome the introduction of closets.

I believe it should be made compulsory for all mine-owners to make suitable sanitary provisions at each colliery, both underground and on the surface, on the lines which I have described exist at the Norton Colliery. The best way this could be brought about would be by the extension of the Special Rules made by the Secretary of State and applied to mines in Cornwall during the outbreak of ankylostomiasis in that district to the whole of the mines in the country. These rules require that:

> The owner, agent or manager shall cause a sufficient number of suitable sanitary conveniences to be provided above and below ground in suitable and convenient places for the use of the persons employed, and to be constantly kept in a cleanly and sanitary condition, and no person shall relieve his bowels below ground elsewhere than in those conveniences. [An exception would have to be recognised to this section of the rules in the case of those miners who work "at the face," and who are able to retire into the goaf.] No person shall soil or render unfit for use in any way any convenience or sanitary utensil or appliance provided for the use of the persons employed. Pump cisterns, sumps and water accumulations in the mines shall not be directly or indirectly used as sanitary conveniences. It shall be the duty of the owner, agent or manager to see that all plant, material and other things necessary to enable the above rules to be carried out are provided and maintained in working order, and to appoint sufficient competent officials to enforce the requirements of the rules, and for this purpose to assign to each his respective duties. It shall be the duty of the officials so appointed to see that the rules are observed by all persons employed in the mine and to carry out the duties assigned to them. It shall be the duty of all persons employed in the mine to comply with the requirements of the rules and with such instructions as may be given to them by the officials with a view to such requirements being carried out.

In conclusion, I consider that this subject is of sufficient importance to receive the attention of mine-owners, and that it should be dealt with by professors of mining in the universities, by county council lecturers in their classes, and that the men's leaders should not neglect to instruct the working miners to coöperate with their employers so as to make the sanitary conditions of mines more satisfactory in the future.

Newcastle-under-Lyme.

THE FORMIC ACID DERIVATIVES IN THE TREATMENT OF CANCER.

By J. HOWELL EVANS, M.A., M.B., M.CH. OXON., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND, 1907; ASSISTANT SURGEON TO THE PRINCE OF WALES'S GENERAL HOSPITAL, N.; ASSISTANT SURGEON TO THE CANCER HOSPITAL, S.W.

I WISH to record for the readers of THE LANCET the details of some work systematically carried out since October, 1906, in connexion with formic acid and its derivatives. As topical applications or internal medications I have employed the following preparations: 1. Formalin; formamint lozenges. 2. Formic acid; formates: glyceroformates. 3. Infusio A.F. (formula of the Cancer Hospital Pharmacopœia): an infusion of the common nettle either grown under glass or plucked from its beds, according to the season of the year, so that the fresh herb has been regularly used. 4. Nettle fomentations. 5. Douches, irrigations, and rectal injections of formaldehyde and nettle preparations. We may here briefly consider some of the derivatives of the lowest member of the paraffin or methane series.

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Europe. The great protective barrier formed by the 800 miles of barren desert between Medina and Damascus has now been annihilated, and a four days' journey by train has been substituted for a six weeks' march on camel-back or on foot. The greatly increased danger of the carriage of cholera or other disease by returning pilgrims is too obvious to need dwelling on at length. And at the present moment the danger is no imaginary one. Cholera is spreading rapidly and widely in Russia, as our columns have recently shown, and it is scarcely to be hoped that the coming Haj will escape infection. The measures to be applied this year on the Hedjaz railway are, we gather, to be of an improvised character, though they will show a great advance on those applied last year. We are only expressing an opinion very widely held in saying that it is of real necessity that the permanent sanitary defence of the line should be provided for without too long a delay, and that the measures of defence should be adequate to meet the risk and should be applied on a scale proportioned to the number of pilgrims who may be expected to use this new and convenient mode of returning from the Holy Cities of Islam.

The Nature of Menstruation.

IN all ages—ancient, mediæval, and modern—the process of menstruation has been regarded with much interest by students of nature, whether physicians or philosophers. Among the early Greek writers it was thought that the menses represented the seed of the woman and that the union of the female seed with that of the male was necessary for conception to occur. The saying usually attributed to ARISTOTLE, "The blood of the menses is the marble, the semen is the sculptor, and the fœtus is the statue," well expresses the views as to the importance of these two substances held by the thinkers of his day. It is not surprising, when such ideas as to the meaning of generation were current, that various explanations as to the origin of monsters should have been based upon the possibility of their being due to some alteration in the character or condition of one or other of the two seeds. From this it was but a short step to the conception that intercourse with a menstruating woman was likely to give rise to various forms of monsters, and such an idea was no doubt fostered by the various rules and prohibitives laid down in the Old Testament regarding coitus during, or immediately after the cessation of, the menses. As BALLANTYNE points out, in the non-canonical book of Esdras the following passage occurs: "Menstruous women shall bring forth monsters"; and according to the Talmud the infant conceived during the period of impurity was regarded as certain to be an epileptic, a drunkard, a cretin, or insane. AMBROSE PARÉ, too, considered intercourse between parents at such times as they ought to abstain by the command of GOD and the Church to be one of the causes of monsters. Not only did the old writers think that the menses played the chief part in the production of monstrous births but they also taught that the menstruating woman was unclean and to be shunned; thus PLINY tells us: "On the approach of a woman in this state, must will become sour, seeds which are touched by her will become sterile, grass wither away, garden plants are parched up, and the fruit will fall from the tree beneath which she sits." He also says that menstruating women in Cappadocia were made to perambulate the fields to preserve the vegetation from worms and caterpillars.

Such curious notions as these with regard to the nature of the menses prevailed until the latter part of the seventeenth century, when the researches of HARVEY, DE GRAAF, and LUDWIG HAMM of Dantzig, who first discovered living spermatozoa, threw a new light on the real nature of generation and the structures concerned therein. It was still, however, thought that the discharge of the menses formed a monthly cleansing process and many customs founded upon this view, such as the isolation of menstruating women, can be traced among the inhabitants of all parts of the world, even up to quite recent times. Since the discovery of the process of ovulation the theory that there must be some relation between the discharge of an ovum from the ovary and the occurrence of menstruation has always been held; and one of the most interesting problems connected with pregnancy is the relation of these two processes to one another, whether we consider merely the time of their occurrence or their possible causal relationship. The researches of LEOPOLD and others have proved beyond doubt that ovulation can occur without menstruation and menstruation without ovulation; at the same time there is an increasing tendency amongst most of the writers who have made a special study of this subject to believe that there is some relationship between them—that the occurrence of ovulation favours the onset of menstruation or *vice versâ*. The fact that pregnancy puts a stop to the appearance of the menses leads naturally to the hypothesis that if impregnation fails to occur the ovum is cast off with the mucous membrane of the uterus and that menstruation is therefore an abortion of an unfertilised ovum. Of late years most authorities are inclined to accept the views so ably put forward by HEAPE, and to regard the menstrual cycle in man and monkeys as homologous with the œstrus cycle of the lower mammals, menstruation being represented by the pro-œstrus, while the period of œstrus or rut is thought to correspond in the human female to the days immediately following the cessation of menstruation, when as a rule sexual desire is at a maximum. It may well be that at the present time menstruation should be regarded as equivalent to the pro-œstrus stage in animals, but since there are many women in whom the sexual feelings are most highly developed during and not after menstruation, is it not possible that in the course of many generations the teaching that intercourse at this period was harmful and the fact that it was interdicted by the Church may have led to an involuntary suppression of her natural feelings on the part of the modest woman, and so to the gradual development of the idea that menstruation and rut are not in reality the same thing?

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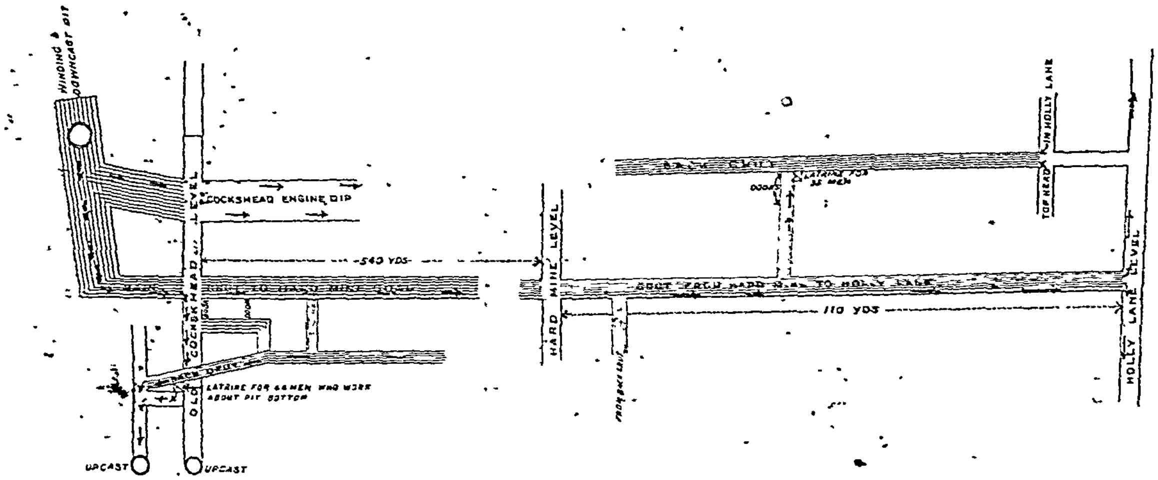

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[1] See p. 941 of the present issue of THE LANCET.

Dr. Agnes C. Scott, of St. Stephen's Hospital, was called in in consultation. The patient's pulse had improved and was full and strong. She was not vomiting unduly and seemed fairly comfortable, so it was decided to push the ergotinin and to place her in Fowler's position; this was done. She gradually improved and was kept on albumin water and white wine whey at first and then began taking milk. Her pain had disappeared and when she had been six days in hospital she felt well enough to want to go home. Meanwhile she was kept in Fowler's position except for a short time on the fifth and sixth days, when her bed was lowered and she was allowed to be raised on pillows. She was having no discharge and no pain; her temperature was normal and the pulse was good. On the night of the seventh day the night nurse noticed a discharge on the diaper. It was slightly yellow and had a faint odour of digestive fluid. Some pain was felt by the patient in the right iliac region; she was otherwise doing well. A laparotomy was decided on as the discharge continued and made us suspect a rent in the intestine. The patient's pulse on the eighth evening was not very satisfactory. On opening the abdomen it was found that the omentum was closely adherent all round the lower part, which was completely shut off. It was attached to the brim of the pelvis and, indeed, was so firmly held down that it was decided not to risk opening it. The abdomen was closed and the patient was put to bed. Her condition did not justify the extensive radical and plastic measures that were necessary. Her condition suddenly got worse two days after. The tenderness of which she had complained (before admission) in the right iliac region increased. She was unable to retain anything but albumin water; her pulse got very bad. On the twelfth day after admission she died.

It was discovered later that at her confinement she had an untrained Indian midwife who is one of a class that generally pull on the child and sometimes, to assist labour, *stand* on the fundus. The patient had been unable to recover her strength after the confinement and had had five attacks of extreme colic in four weeks. The pain was most severe in the right iliac fossa. She was doubled up with it and had vomiting and constipation. The pain lasted for from four to six days each time, being acute for about 36 hours.

No post-mortem examination was allowed but from what was seen and felt at the operation the case was one in which there had been a long transverse tear in the fundus (about two inches long at the date of operation). Lying on this tear and protruding into the uterus was a coil of intestine which the subsequent examination proved to have been shut off by the adherent peritoneum. The dislodging of this coil and the contractions of the uterus in which it was, perhaps, again caught may have produced the later symptoms which preceded death.

Delhi.

UNIVERSITY OF OXFORD.—Mr. H. C. Bazett, B.A., Wadham College, was the successful candidate in the recent examination for the Universities' scholarship at St. Thomas's Hospital. Mr. Bazett took a first class in physiology in the final schools last July.

DIFFUSE PAINFUL LIPOMA OF THE FOOT.

BY A. H. TUBBY, M.S. LOND.,

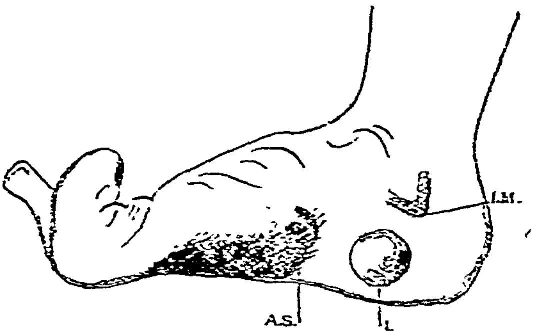
SURGEON TO WESTMINSTER HOSPITAL AND IN CHARGE OF THE ORTHOPÆDIC DEPARTMENT, ETC.

DURING the past ten years some examples of an affection which I believe to be hitherto undescribed have come under my notice. The trouble, although a slight one, yet causes considerable difficulty and pain in walking and from its position mistakes easily arise in diagnosis. I append notes of two cases.

CASE 1.—A hospital nurse, aged 25 years, was admitted to Westminster Hospital on May 24th, 1906. She had been nursing for nine months. Three months previously she first experienced aching pains in the soles and inside of the feet. The pain was worse on rising in the morning and for about an hour afterwards, but it continued to trouble her for the whole day. Almost instantaneous relief was obtained on lying down or resting the foot, but the pain came on again on walking. On examination, on looking at the feet on the inner side and just below the sustentacula tali, an oval swelling was visible on each foot. The growths encroached on the weight-bearing surface of the feet; in size they measured 1 inch by 1½ inches. Their characters were those of indolent growths, moderately well defined and without signs of inflammation over them. They were painful to the touch and particularly so to deep pressure. The feet were not flat in the ordinary sense of the word. The swellings were diagnosed as diffuse lipoma from an experience of similar cases. An operation was undertaken and when the swellings were incised they were found to be of a fatty nature. They were not encapsuled; but the globules of fat of which they were composed were considerably larger and lighter in colour than the surrounding normal fat, so that there was no difficulty in dissecting away the whole of the growths. It was noticeable that the tumours were highly vascular and bled considerably. The wounds were closed in the ordinary way and healed without difficulty.

Dr. R. G. Hebb, the physician-pathologist to the hospital, made a microscopical examination, and reported that no evidences of nerve endings or of nævoid tissue were found in the tissue, which consisted entirely of fat. The patient presented herself for examination at intervals but the growths did not recur.

CASE 2.—A girl, aged 16 years, was admitted to Westminster Hospital on Jan. 20th, 1906, complaining of pain on the inner side of the right foot which had troubled her for a year. The pain was at its worst after walking but not severe enough to prevent her from getting about. On examination, on the inner side of the right foot there was a round semi-cystic swelling about one inch in diameter. The highest point of it was one inch below the tip of the internal malleolus, and the lowest point half an inch above the heel. It presented the same physical characteristics as the tumours in the preceding case and was most prominent when the foot was forcibly dorsi-flexed. The swelling was removed and showed the same fatty and vascular character



To illustrate the appearances in Case 2. The position of the lipoma is clearly shown at L., and its relation to the inner longitudinal arch of the foot is evident. I.M., Internal malleolus. A.S., Astragalo-scaphoid joint. The great toe is in a state of temporary spasmodic dorsi-flexion.

was nobody to take his place. The number for May consequently failed to appear at the appointed time, but in due course the editor recovered and being still full of zeal he has now sent out a double number for May and June, 1908, which makes its appearance clad in a brilliant green cover. As may be supposed, the little journal produced under such elementary conditions does not attempt to enter deeply into the more abstruse topics of medicine. On the contrary its object is practical rather than theoretical. As the editor, who is himself a hospital assistant, puts it, the aims of his journal are twofold: to ameliorate the condition of his class and to stimulate their desire for knowledge. Medical papers are sufficiently abundant in India, but many of them consist of little else than advertisements, of a more or less objectionable description, and reproductions of articles from American sources. The *Hospital Assistant*, however, is not one of these. On the contrary, it contains a fair proportion of original matter, while its "*Department of Current Medical Literature*" is recruited for the most part from the European medical press. Hospital assistants, according to their own showing, are not very well treated by the Government which they serve so faithfully. They are silent sufferers, they say, who make no fuss over their wrongs, and the consequence is that they still occupy the same position as regards pay and other advantages which they did 25 years ago. Educational and professional requirements are much higher now than they used to be, but there has been no corresponding increase of remuneration for medical subordinates or improvement in their status. Thousands of human lives are intrusted to the care of hospital assistants all over India, but they remain the only class of subordinate officials who are miserably underpaid and shabbily treated as well in the matter of leave, transfers, allowances, and pensions. After a four years' course of study and the successful surmounting of several searching examinations a hospital assistant receives a starting pay of Rs. 25 per month; nor is that miserable pittance increased until he has spent the better part of his life in a heartbreaking endeavour to keep up a respectable appearance and, it may be, to support a wife and children with totally inadequate means. The foregoing recital of grievances is, of course, an *ex parte statement*, but it seems to be clear that in some respects, and especially as regards pay, the hospital assistants of India are not very well treated by their masters. The cost of living has gone up enormously of late years for all classes, and it would be only just and reasonable to treat this efficient and indispensable body of men with the same liberality that has been accorded to other public servants.

FOREST FIRES.

THE "irony of Providence" has seldom been more vividly in evidence than in these days, when, coincidently with a quickened sense of the need of "re-afforestation" to retrieve the damage wrought by reckless tree-felling, we read of forest fires in both the Atlantic and the Pacific territories involving New England and British America in desolation and ruin. In the Old World the phenomenon has equally been exemplified, though on a scale less widespread and appalling. The centres of antique civilisation—Greece and Italy—have long been the victims of their own improvidence in consuming their timber without concurrent and compensating tree-planting, having drawn down on themselves the Nemesis of injured Nature, whose "balance" they have disturbed by reducing the umbrageous hillsides to prairie, accelerating evaporation by the destruction of its detaining medium, and so incurring the torrential downpour of autumn, the overflow of rivers, and the consequent drought which for nine months of the year converts the watercourses into gravel-pits. So feelingly has the Italian Legislature been impressed with the results of this practice that its official reports and Parliamentary discussions on the theme constitute quite a storehouse of information and suggestion for other nationalities on whom the "retributive justice" of the sylvan deity has fallen less heavily. Rich in illustrations of the causal nexus between short-lived inundation and prolonged drought, these reports and debates are replete with warning as to the changes, meteorological and climatic, which have affected the peninsula disastrously within the memory of men now living. *No medium is more sensitive, more elastic, than the atmosphere; none responds more readily to altered conditions in the earth's crust*, whether these be due to the non-reclamation of waste-lands or to the wholesale destruction of forest growth. The Padre Denza's demonstration of the origin of the sirocco in the Sahara is an example of the former; the change for the worse in the climate of Italy, landward or littoral, is a proof of the latter. Italian meteorologists, indeed, extending their studies beyond their own frontier, see with dismay the annually *increasing* violence of the cyclone, caused, as they hold this to be, by the steady "clearing" of the earth's crust in Transatlantic latitudes, the accelerated evaporation, and the genesis of those "vertiginous storms" which combine to form the "nubifragi" (water-spouts) such as in Tuscany three months ago dealt destruction to the vineyards and olive-groves It is even proposed, in these days of international deliberation, to convene a congress of the Powers with a view to discussing and devising some combined effort to control that denudation of the terrestrial surface which affects the interests and the well-being of all.

> "Tua res agitur cum proximus ardet
> Ucalegon,"

and when the Ucalegontes of the world are realising that their neighbour's "forest fires" menace them individually and collectively, it is high time that common action should be taken to minimise and eventually to remove the "conditions precedent" of the danger thus courted and caused.

SPONTANEOUS EPIPLOPEXY.

EPIPLOPEXY, the production of adhesions between the great omentum and the abdominal wall, is an operation which was devised about 20 years ago by Talma of Utrecht in order to relieve the portal congestion in cases of cirrhosis of the liver attended with ascites by establishing a collateral circulation. In about half the cases the ascites has been cured or relieved. In one case recorded, reported by M. Le Gendre and M. Deglos to the Société Médicale des Hôpitaux of Paris in 1906, on exploratory laparotomy three years after the operation a large venous plexus was found between the abdominal wall and the great omentum which insured a considerable outlet from the portal circulation.[1] At a meeting of the society on July 17th last M. A. Siredey, M. Henri Lemaire, and M. J. Deroye reported a case of cirrhosis of the liver in which the ascites almost disappeared in consequence of the spontaneous establishment of such a collateral circulation. A man, aged 41 years, was admitted into hospital on April 13th, 1908, suffering from right pleural effusion. Paracentesis yielded a litre of pus containing numerous streptococci. It was noticed that the abdominal wall and thorax were covered with large veins running longitudinally and communicating with the epigastric veins below and the axillary and subclavicular veins above. At the level of attachment of the diaphragm were numerous little red vessels like those seen on the surface of a varicose leg. The abdomen was a little flaccid and there were no signs of

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[1] THE LANCET, Jan. 19th, 1907, p. 180.

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I may add that I am much indebted to Colonel E. Satterthwaite, V.D., the colonel commanding the brigade, for the continuous interest which he took and for the support which he gave me in carrying out my duties.

Gravesend.

appears to be evidence that the selection of patients who are allowed out is not always a judicious one. There are allegations of acts of indecency and of drunkenness on the part of patients which, if true, constitute a gross scandal. There is, we believe, no therapeutic justification for allowing abroad a patient who has so little control over himself that he is likely to behave with impropriety or even with marked eccentricity. Neither can we see any advantage which is likely to accrue to the advanced dement in a walk beyond the asylum grounds. Only too often such a patient is an object of unseemly derision on [illegible] and thoughtless from which he shou[illegible] than to which he should be exposed. That there do exist classes of patients who benefit enormously by occasional and, indeed, sometimes by frequent outings we emphatically affirm, but it is fortunate that the patients likely to be so benefited are the very last to be mistaken by the public for anything but sane, or, at the worst, mildly eccentric. We are of opinion that a large part of the present difficulty arises from the undermanning of the asylums with medical officers. The enormous number of patients renders a proper medical supervision out of the question, and that treatment should be applied to batches of patients without consideration of the individual requirements of the case is, of course, radically improper. But we fear that the day is still far off when the medical officer of an asylum will no longer be regarded as a mere keeper of lunatics and will be recognised as practising in one of the very highest branches of our profession. Perhaps, too, our system would be none the worse if the official guardians of the insane, the Commissioners in Lunacy, placed a little more confidence in the medical officers. To the requirements of the Commissioners this despatch of large unassorted parties of patients on walking parties is a direct response, even, as we have recently pointed out, as the neglect of certain therapeutic measures is seemingly due to a dislike on their part of finding patients in bed. We fear that so far as Epsom is concerned the initial error of placing so many large asylums in close contiguity cannot be rectified but we have little doubt that the more glaring nuisances may be abated.

THE EPIDEMIC OF CHOLERA IN RUSSIA.

RECENT reports from Russia do not indicate a diminution in the epidemic of cholera but it is not at present showing any likelihood of attaining the terrible proportions of the epidemic which ravaged that unhappy country in 1902. The medical authorities in St. Petersburg appear to be making strenuous efforts to cope with the situation in the face of a lamentable state of sanitary deficiency in the poorer quarters of that city. So far as regards London we understand that the London County Council is taking measures similar to those which proved quite effective when cholera broke out on the waterways of the Oder and Vistula in 1905. The main feature is a cooperation of the Metropolitan Asylums Board with the London County Council, the former body undertaking to receive persons suffering from actual or suspected cholera, and the latter to provide accommodation when necessary for persons who may have been in contact with cases of the disease. Great attention is being paid by the Council to the verification of addresses given by immigrants, whose movements are traced so long as they remain in London, the owners of the premises where they lodge being responsible under penalty for the notification of any change in their addresses. The medical officers of health in the various metropolitan and other boroughs in which they are lodging are kept informed of such movements. These precautions were satisfactory to the Local Government Board in 1905 and were fully justified by their success. There is scarcely need for the Board to impress the necessity of close watchfulness upon the various port authorities throughout the kingdom, for their constant and great responsibility as the country's first line of defence against disease becomes especially apparent at times such as the present. We trust that better reports from Russia may speedily arrive to remove finally any public anxiety as to the chances of cholera invading Great Britain. Our Paris correspondent sends an interesting account of the measures which are being taken in France to safeguard that country against the entry of the disease.

SOME AMERICAN DRUGS.

MANY plants are used for medicinal purposes in the United States which have not yet been used to any great extent in other countries. Owing to the fact that many drugs of American origin are being largely employed in Europe, notably hydrastis, senega, gelsemium, podophyllum, and euonymus, to name only a few examples, it is of interest to refer to some popular drugs indigenous to America which are described by Miss Alice Henkel in Bulletin No. 107, Bureau of Plant Industry of the United States Department of Agriculture. Wild turnip, arisæma triphyllum, is an acrid plant, of which the corm is used as a stimulant, diaphoretic, expectorant, and irritant. It was official in the United States Pharmacopœia from 1820 to 1870. The root of an evil-smelling herb known as skunk cabbage, spathyema fœtida, was official in the United States Pharmacopœia from 1820 to 1880. It has an objectionably fœtid odour and a sharp acrid taste and is used in affections of the respiratory organs, and in nervous disorders, rheumatism, and dropsy. Skunk cabbage loses its odour and acridity with age and should not be kept longer than a year. Beth root, trillium erectum, has a slight odour and when chewed causes a flow of saliva. The taste is at first sweetish and astringent and afterwards bitter and acrid. It was much esteemed among the Indians and early settlers. It is now used for its astringent, tonic, alterative, and expectorant properties. The root of lady's slipper, cypripedium pubescens, a beautiful member of the orchid family, is official in the United States Pharmacopœia. It is used as an antispasmodic and nerve tonic for the same purposes as valerian. Another orchid, crawley root, corallorhiza odontorhiza, is used as a sedative and in febrile conditions. It is said to be an effective diaphoretic. Canada snake root, ascarum canadense, which is used as an aromatic, diaphoretic, and carminative, was official in the United States Pharmacopœia until 1880. The yellow dock, rumex crispus, is largely used with other species of dock for "purifying the blood" and in the treatment of skin diseases. The root of pokeweed, phytolacca decandra, is used as an alterative, also to relieve pain and allay inflammation. It has purgative and emetic properties. The fully matured berries are also employed in medicine. The roots and leaves of soapwort, saponaria officinalis, have tonic, alterative, and diaphoretic properties. The Indians and early settlers esteemed the little root of goldthread, coptis trifolia, as a remedy for ulcerated mouth, and it is still used as a mouthwash or gargle and as a bitter tonic. It was official in the United States Pharmacopœia from 1820 to 1880. Oregon grape-root, berberis aquifolium, has long been used as a tonic and alterative and is now official in the United States Pharmacopœia. Blue cobosh, caulophyllum thalictroides, is used as a demulcent, antispasmodic, emmenagogue, and diuretic. It was official in the United States Pharmacopœia for 1890. Twinleaf, Jeffersonia diphylla, is used as a diuretic, alterative, antispasmodic, and diaphoretic. Large doses are said to be emetic and smaller doses tonic and expectorant. The root of Canada moonseed, menispermum canadense, was

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The Cadet Battalion of the Queen's Regiment was encamped at the top of the hill, next to the 5th Royal West Kent Regiment, during the second week. I was afforded the opportunity of planning out sanitary accommodation for them previous to their arrival. In this case the kitchens and ablution arrangements were kept separate. Covered soak-pits with intercepting traps filled with straw were dug. These soak-pits took up and absorbed all the waste water. The straw was burnt in the destructor when necessary and fresh straw put in the traps. These soak-pits lasted throughout the seven days of the training. A destructor was built. Covered refuse barrels were provided and notices were posted at each distinguishing the kind of refuse to be thrown into them. The latrines for the men were dug on the shallow trench pattern, the urinal on the wheel pattern. 15 of the former were dug in two rows measuring 3 feet long, 2 feet deep, and 1 foot across, and with an interspace of 2½ feet. The number using them would be about 200. Toilet paper was supplied in empty coffee tins. Notices were posted up, and scoops and heaps of earth supplied. The company officers were interviewed by me. The result was that this latrine was always clean. A few minutes' work twice a day sufficed to keep the place shipshape. A rail to hold on by was found to be unnecessary. The squatting position across the trench was used. The first series of trenches lasted three days; these were then filled in and fresh ones dug in the interspaces from 2 to 3 feet deep. These lasted the remaining four days and could have lasted a day longer. The deep trench system was used by the officers and non-commissioned officers and was not nearly so satisfactory. This camp was always found to be clean at whatever time it was visited.

I made some observations on the time taken to dig these trenches. One of the field ambulances had pitched a camp on one of the manœuvre areas. I found that three men with spades and picks could dig three of these trenches in half an hour. Given plenty of space and men who can handle spades it is obvious that these shallow trenches involve much less labour and are more satisfactory in every way than the old pattern deep ones. A uniform pattern of latrines and urinals should be used by all ranks. Screens should not be limited in number. Pockets to button up should be made in each screen. Into these the scoops referred to should be placed. There would be little addition to the weight or space when the screen was rolled up and these articles would be on the spot when wanted.

I may add that I am much indebted to Colonel E. Satterthwaite, V.D., the colonel commanding the brigade, for the continuous interest which he took and for the support which he gave me in carrying out my duties.

Gravesend.

himself or the public if he be allowed to drive an automobile." He would have the medical examination repeated at every second or third renewal of the licence. We should welcome the adoption of such a regulation as affording an ideal precaution but are not at all sure that it would yet be tolerated. It would be wise, however, for private employers to protect themselves by insisting on an authoritative certificate of health and fitness from those to whom they intrust their lives and limbs. The danger is by no means an imaginary one. There is now a very large body of men employed in driving motor-cars and it is almost certain that some amongst them are suffering from serious and perhaps unsuspected disease. A case is within our knowledge where a chauffeur who had suffered from sudd[illegible] syncopal and epileptic attacks proved to [illegible] a pronounced "Stokes-Adams syndrome." [illegible] of some ethical delicacy as to whether his employers should be informed of the gravity of the man's condition. Possibly unconsciousness or other sudden illness of a chauffeur might account for certain unexplained motor-car accidents. The case of the cocaine-taker is, we hope, unique, for the victim of the most dangerous of all drug habits would probably soon prove himseif so unfit to drive a motor-car, both mentally and physically, that the most casual employer could hardly fail to discharge him. The condition of the prisoner was described as "shocking" by the magistrate, and it is difficult to imagine with whom he had obtained employment.

THE GASTRO-INTESTINAL GANGLIONIC NERVOUS SYSTEM.

IN the Section of Physiology at the recent meeting of the British Association Sir James Grant, well known alike as geologist, physician, and man of affairs in Canada, drew attention to the remarkable effects in improved digestion and general restoration of health which he had observed clinically in a number of cases as the result of the application of electricity daily for two or three weeks over the abdomen by means of the instrument known as the "neurotone," of which he demonstrated the mode of use. He also gave the details of several clinical cases. To explain these effects he considered that the neurotone current applied to the abdominal ganglionic centres brings about a change in the axis-cylinders of the nerves supplying the intestines, thus restoring imperfect physiological continuity and re-establishing the free transmission of nervous impulses, with the result that digestion and general health are greatly improved. He believed that in many cases where there was no organic disease years might be added to life by the treatment which he had described. This, perhaps a little unguarded, expression of opinion led at once to the discovery by certain daily papers that Sir James Grant had unfolded the secret of the prolongation of life, a statement which lost no force by the fact that the distinguished physician's remarks had been made at a meeting of the British Association for the Advancement of Science. As many of our readers, like ourselves, may have been asked what Sir James Grant's views were we publish this brief note on his paper, but we cannot inform them where the instrument can be purchased.

DIAGNOSIS OF ROTHELN BY BLOOD COUNTS.

DURING an epidemic of "measles" occurring amongst the men in an Argentine cavalry regiment, which Dr. Javier Ponce De Leon was able to show was one of rötheln only, he made use of blood counts as one method of diagnosis. He and Dr. Pedro Labaqui have studied this method in other epidemics also and find that in rotheln there is a diminution of the leucocytes, more especially during the eruptive period, and that the number of mononuclear corpuscles is increased, the maximum occurring during th eruptive period. Dr. De Leon also found that eosinophi corpuscles decreased slightly in number during the eruptiv stage and slowly increased as convalescence progressed. H suggests that in doubtful cases a single drop of bloo treated by Hoffmann's stain and then by hæmatin and eosi will show a much larger number of mononuclear bodies tha would be seen in measles or scarlet fever, and thus will form a ready means of diagnosis.

THE MEDICAL AUTHORSHIP OF THE THIRD GOSPEL.

"REMORSELESS [illegible] pon of the Highe[illegible] its [illegible] That it can be [illegible] equal if not greater effect on the side of the defence is also manifest—nowhere more clearly than in the literature which has accumulated round the question as to who wrote the Third Gospel. That that book, pronounced by Renan to be "the loveliest ever written," had for its author a physician of Gentile, probably Greek, origin, whose name was Luke, was accepted not only by early Christians but by mediæval and modern divines down to the middle of last century, when the Tubingen School may be said to have brought it into court. Counsel *pro et contra* have since been heard—

> "Praeconis ad fastidium,"

and the summing up and verdict, for which the world has been waiting, may now be said to have been given, and that in favour of the traditional view. Professor Harnack demonstrates that those who collected the Gospels into a quartette shortly after the appearance of the Fourth Gospel gave the Third the title which it afterwards bore without challenge —to wit, "According to Luke (κατὰ Λουκᾶν)." "Anonymous compilations," he says, "in the course of tradition easily acquire some determining name, and it is easy to imagine an author writing under a pseudonym. But in the case of a writing determined by a prologue and a dedication we require some very definite reasons for a substitution of names, especially when this is supposed to occur only one generation after the date of publication" ("Lukas der Arzt," p. 2). The tradition, "so unvarying and so constant from the first, and becoming vocal and explicit by the time of Irenæus," adds Dr. Thomas Nicol, "is to be explained only by the fact that St. Luke was the writer. The book was ascribed to him, just as the 'Annals' are ascribed to Tacitus and 'Romeo and Juliet' to Shakspere." The able and accomplished theologian just named, whose "Baird Lectures"[1] delivered from the chair of Biblical Criticism in the University of Aberdeen last year contain a luminous exposition of the whole question, shows further that the Third Gospel and the Acts of the Apostles are from the same pen. "The language, style, and literary arrangement are identical. Characteristic words and expressions are found in both. The author of either book has skill in writing Greek and the Septuagint was *his* Bible more than St. Paul's. Again, assuming that the Gospel and the Acts are by the same hand, we learn from the 'we-sections' of the Acts that he was a companion in travel and a fellow-labourer of St. Paul. It is not enough to say that these 'we-sections' are interpolations or portions of a diary of travel belonging to some other person. The literary characteristics, the miraculous incidents, and other special phenomena show them to be of exactly the same texture as the rest of the work. Finally, the crowning proof of identity which fixes the authorship unmistakably upon Luke, the 'Beloved Physician,' is the indication of medical interest and the employment of medical phraseology which runs to the clot, and through this opening he tells us that the clot will extrude itself. He has performed this operation on three cases. A very useful chapter is that in which the technique of intracranial operations is described. The whole article extends to 276 pages and is a complete treatise on the surgery of the head.

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[1] The Four Gospels in the Earliest Church Histories. Blackwood, Edinburgh and London, 1908.

Dr. G. Wyllys Andrews of Chicago has contributed the section on the *Surgery of the Neck*; it is fairly inclusive, but it does not contain the surgery of the thyroid gland or the larynx or œsophagus. It deals with branchial cysts, torticollis, the lymphatic glands and blood-vessels of the neck, and the salivary glands. It contains a good account of the dissection of the glands of the neck in cases of carcinoma.

Dr. Albert Kocher has supplied the chapter on the Diseases of the Thyroid Gland. The most noticeable point is the strong approval expressed in favour of the surgical treatment of Graves's disease. He mentions that Professor Theodore Kocher has performed the operation of thyroidectomy 200 times for this condition, that the mortality has been 4·5 per cent., and that in 85 per cent. of the cases the patient has completely recovered. In severe cases Dr. A. Kocher considers that it is advisable to perform one or two preliminary ligations of the superior thyroid artery. The operation is, in his opinion, indicated in all cases that do not present degeneration of the heart muscle with irregular pulse, low blood pressure, or periodical attacks of what has been called "delirium cordis." Many surgeons in this country have hitherto objected to partial thyroidectomy for Graves's disease, but the opinion of Professor Kocher should count for much. No new ideas are expressed in the diagnosis or treatment of goitre, but an excellent account of this condition is given. Unfortunately, throughout the whole chapter the word "struma" is employed in the German meaning of the word; it is a pity to attempt to introduce this meaning into English, it can only lead to confusion.

Dr. Harmon Smith of New York has written the chapter on the Surgery of the Nose and its Accessory Sinuses. He considers that it is safest when using paraffin injections for a "saddle nose" to inject the paraffin in the solid form. A very good account is given of the surgery of the frontal sinuses.

The Surgery of the Larynx and Trachea is described by Dr. George Emerson Brewer of New York. He gives some very effective illustrations of the method of using Killian's bronchoscope. He has also supplied the account of the Surgery of the Thorax. We cannot agree with the writer when he says that in cases of tuberculous empyema it is better to wait until spontaneous rupture is imminent. The tuberculous cases require greater care to prevent septic infection but the results of timely careful operation are better than would be imagined from the account given here. In the description of the treatment of hydatid cyst of the lung aspiration is condemned on account of the danger of infecting the pleura, but the greatest danger comes from the risk of rapid death from rupture of the cyst into a bronchus at the moment of aspiration. Very brief accounts are given of the various forms of thoracoplasty; it would have been well to treat this subject more fully. The surgery of the chest is yearly becoming of greater importance and it seldom receives adequate treatment in text-books.

Dr. J. M. T. Finney of Baltimore gives a satisfactory account of the Surgery of the Breast, especially of its most important part the operation of excision of the breast for carcinoma. Mr. Edmund Owen writes very clearly on the Surgery of the Mouth, Teeth, and Jaws. We quite agree with him that harelip pins should never be used for harelip. He speaks favourably of Brophy's operation for cleft palate in small children. The method is hardly employed in this country as much as it deserves. Dr. J. Chalmers Da Costa of Philadelphia is responsible for the chapter on the Surgery of the Tongue. For the removal of small masses of malignant disease affecting the tongue he does not consider it necessary to remove the whole tongue, for, as he points out, local recurrence is much rarer than recurrence in the glands. He favours removal of the tongue through the mouth and then, after a short interval, removal of all the lymphatic glands of the neck on the same side and a little later on the opposite side.

The remainder of the book is devoted to abdominal surgery, but includes the œsophagus. Dr. J. C. Munro of Boston writes on the Technique of Abdominal Surgery, on the surgery of the abdominal wall and of the peritoneum and the retroperitoneal space. He is very much in favour of the semi-sitting or Fowler position for the limitation of peritoneal infection. He insists on the importance of the fact that the diaphragmatic peritoneum has much greater absorbing power than the peritoneum lining the pelvis. Dr. G. Gottstein of Breslau is responsible for the article on the Surgery of the Œsophagus, and it is very good indeed; it is especially full in the description of the methods of examination. Mr. A. W. Mayo Robson has written the account of the Surgery of the Stomach. His views on gastric surgery are so well known in this country that there is no need to discuss them here. He prefers the posterior operation for gastro-enterostomy and describes clearly the exact method which he prefers. He finds the "bobbin" which he devised very useful and he still uses it. Dr. W. J. Mayo and Dr. C. H. Mayo have written the chapter on the Surgery of the Liver, the Gall Bladder, and the Biliary Ducts, and it is hardly necessary to say that it is very good. The authors are not in favour of removing the gall-bladder in ordinary cases of gall-stones, though they acknowledge that it is as obsolescent as the appendix. They prefer the vertical incision of Bevan for exposing the gall-bladder and bile-ducts, enlarging it towards the middle line above and outwardly below if more room is needed. Mr. B. G. A. Moynihan is responsible for the chapter on the Pancreas and on the Spleen. The most important portion of the former chapter is that devoted to pancreatic cysts. In the case of wounds of the spleen Mr. Moynihan advises that the wound should be sutured when possible and that excision should only be performed when suture is impossible.

All the articles are adequately illustrated and a full index is appended.

Contributions to the Study of the Early Development and Imbedding of the Human Ovum. I. An Early Ovum Imbedded in the Decidua. By THOMAS H. BRYCE, M.A., M.D. Edin., Lecturer in Anatomy, University of Glasgow; and JOHN H. TEACHER, M.A., M.D. Glasg., Lecturer on Pathological Histology, University of Glasgow. *II. An Early Ovarian Pregnancy.* By THOMAS H. BRYCE, JOHN H. TEACHER, and JOHN M. MUNRO KERR, M.B., C.M. Glasg., Obstetric Physician to the Maternity Hospital and Gynæcologist to the Western Infirmary, Glasgow. With ten plates and 12 figures in the text. Glasgow: James Maclehose and Sons. 1908. Pp. 93. Price 12*s.* 6*d.* net.

THE opportunities for obtaining an early human ovum in a condition fit for investigation occur of necessity but rarely and Dr. J. H. Teacher and Dr. T. H. Bryce are to be congratulated on their good fortune in this respect. They have been able to examine carefully what is perhaps the very youngest human ovum which has been described, and the results of their work they have published in a monograph which also contains a description of a specimen of early ovarian pregnancy removed by operation by Dr. Munro Kerr. While it is true that recent work in comparative *shown by experiment* to be due to the fact that in presence of certain bacilli of the Bulgarian and other Oriental milk ferments they cease to multiply after a time. In Eastern Europe the milk of the cow, ass, goat, and buffalo is used to make various articles of food with ferments which contain, besides the useful Bulgarian *lactic-acid* bacillus, great numbers of objectionable yeasts, butyric acid-forming bacilli, and even dangerous pathogenic organisms, and yet the longevity and strength of these people are remarkable. It is desirable, before making empirical use of the lactic ferments or pure cultures of special bacilli in the treatment of diseases of the gastro-intestinal tract, that the practitioner [illegible] able to reason out for himself why lactic ferments [illegible] results rather than that he should lean on th[illegible] findings *of others, and the* [illegible] e question will explain in a great measu[illegible]

The formation of lactic acid must o[illegible] expense of nutritive material acting as [illegible] which *the* bacteria *proliferate*, whet[illegible] or within the human *alimentary tract. Pasteur in* 1859 showed that a diplococcus caused the *souring of milk* when exposed to the air by the transformation of the sugar (lactose) into lactic acid; later, however, he found this property *to* be shared by an *indefinite* number of micro-organisms, since hexoses are broken down by this process *of* fermentation into *the* [illegible] y lactic acid. The *staphylococcus* [illegible] albus, bacterium termo, bacillus subtilis, bacillus coli communis, bacillus putrificus, sarcina ventriculi, oidium lactis, bacillus pyocyaneus, bacillus lactis aerogenes, and hundreds of others change the chemical arrangement of the atoms in a molecule of *organic matter, producing* various odours, *colours, aromatic substances, modifying* their physical properties partially or entirely and giving rise to lactic acid amongst the other products. We have examples of these changes in cheese, koumiss, &c. In the therapeutic administration of *lactic*-acid-forming bacteria, however, we are *chiefly concerned with those which prevent secondary* decomposition of the proteids of food, and the whole question of their value depends on this point which has not in the writer's opinion been insisted upon sufficiently. We know how complicated the composition of food is; *our* knowledge of the chemistry of the proteids is *still* very incomplete, but we know *that* albumins and albuminoids are made up of complex groups derived from the benzine ring, carbohydrates, amides, and groups in which the elements sulphur, phosphorus, and nitrogen have an important place, and that under the influence of the various micro-organisms a process of hydration, dehydration, and splitting up of these groups into simpler groups occurs. The slow process by which our knowledge *of lactic ferments* has been evolved has become further complicated by the facility with which various culture media modify the products of fermentation.

In order to reach an intelligent classification necessary *to* this question we must understand that a true lactic acid bacillus exists only in theory, since at least 150 species of the lactic-acid-forming type are known which give very nearly the theoretical yield of lactic acid from a given amount *of saccharine matter* under suitable *conditions*, which will prevent the lactic acid formed from arresting the fermentation, just as the ethylic alcohol formed by yeast arrests fermentation of a saccharine solution. The *living* cells *of* these bacilli *are* unable *to resist* indefinitely the anti-fermentative action *of* the acid, which is precisely the preservative of sourkrout, butter-milk, &c.

Certain Bulgarian bacilli found in the butter-milk *of* Eastern Europe, *however, are not only the most active yet* studied, but they resist longer the increasing amount of lactic acid produced through their agency; hence the Bulgarian bacilli are usually preferred for therapeutic purposes. Most of the lactic ferments belong to the class known as para-lactic and the pseudo-lactic ferments. The pseudo-lactic ferments are those which give rise to comparatively little acid but give the aromatic and *peptonising products to* cheese, *modify sourkrout*, and other preserved *vegetables* and prevent their putrefaction. The para-lactic ferments are those which attack other substances besides the carbohydrate groups and decompose saccharine *fluids with* the production of *alcohol*, acetic, *formic, malic*, and other acids with variable amounts *of lactic acid*. These para-lactic and pseudo-lactic ferments should not predominate in those employed in the treatment of disease, and preference should be given to pure cultures of bacilli which give rise to little else but lactic acid. It is unnecessary to discuss fully the stereo-chemistry of the varieties of lactic acid *formed* by these bacilli, although it has a *somewhat direct* bearing on the question, since the various lactic acid *bacilli give rise* to dextro-, lævo-, inactive, &c., lactic acid according to the culture media employed. We can understand therefore how condition must of necessity be modified in the intestinal tract by the quality of the food ingested. The best clinical *data*, therefore, *will be obtained* when [illegible] lerations *are* taken into account, and from such [illegible] alone can practical deductions be obtained. For [illegible], the bacillus coli communis gives rise to inactive lactic acid with lævulose, while with glucose we obtain a *dextro-lactic acid. Kayser, moreover, has shown that the* presence or absence of peptone affects the *proportions of the* acids formed. Since the lactic ferments act best on the carbohydrates in the presence of the peptones derived from proteids ingested, and secondary changes of these peptones are prevented by the lactic acid *bacilli*, we may *hope for a* scientific solution *of the problem of prolonging life by a study* of these conditions. There appears to be no doubt that while saccharine matter is essential to the life of the lactic acid bacilli these bacilli are *also able to* utilise, *partially* at least, the carbohydrate groups of the proteids, and this is the most reasonable explanation of the prevention *of* putrefaction which we recognise by the presence of indicanuria. That the proteids are broken up by *these lactic acid bacilli* is proved by the fact that the casein of *milk* is peptonised to the extent of 38 per cent. and that we obtain 68 per cent. of the albuminoid phosphorus as soluble calcium phosphate by *their action* on milk.

By the power of a lactic ferment we do not mean merely the quantity of lactic acid produced but the capacity of the living cell to resist the action of the acid. The therapeutic value of lactic acid *bacilli* therefore must not be *considered from the standpoint of* lactic-acid production only. We realise this better when we consider that the proliferation of new cells is effected by the conversion of sugar and that the conversion of this saccharine matter cannot *serve two purposes* at the same *time—i.e., furnish* new cells and lactic acid from the *same* material. Briefly, therefore, *and* without *entering* into the detailed bacteriological considerations of Rist and Khoury, Foucard, Metchnikoff, Massol, Duclaux, *Maze*, Herter, Cohendy, Dybowski, and other investigators who have foreshadowed the clinical findings of Brudzinsky, Tissier, Combe de Lausanne, Hayem, Bouchard, *Beidenham*, Morax, Hoppe-Seyler, Ewald, Hershler, Stern, and numerous authorities, there is good ground for using lactic acid bacilli either in the form of butter-milk or in the dry form of the bacilli themselves in order to prevent, or at least to *diminish*, intestinal *intoxications and the formation of such products of secondary fermentation* as give rise to tyrosin, the conjugated etherial sulphates, and xanthin compounds in excess. Pure cultures of desirable bacilli can be isolated from the Bulgarian ferments and *not only resist gastric digestion and reach* the *intestine alive but proliferate* freely and establish themselves as a part of the intestinal flora by adapting themselves to the more or less anaerobic environment and thrive in the culture media provided by *ordinary food*. These bacilli prevent the breaking-up of the peptone *into excremental products* which diminish the *amount of* nutritive *material* required for the rebuilding of the sero-*albumins* and sero-*globulins* which are elaborated by the *epithelial* cells of *the* villi during the passage of the peptones to the portal vein. The mere splitting-up of the sugar *into lactic acid* is no advantage, *since* lactic *acid* is eliminated chiefly as carbonic acid and water. *The useful* rôle of the lactic acid bacilli therefore appears to consist in preventing changes in the proteids beyond a certain point. As long *as there is* a supply of saccharine material *the bacilli multiply rapidly*, and once *established as a part* of the intestinal flora they counteract the action of such bacteria as the colon bacillus which splits up the proteids beyond the desired *limit, with* production of toxins, gases, &c., *and diminishes the* amount of nutrition supplied *to the blood*. Laboratory experiments have been confirmed by clinical observations showing that the lactic bacilli once established within the *alimentary* canal prevent putrefaction and that this *only begins* again when the *lactic acid* bacilli die and salicylic acid, as it is very unirritating to the kidneys. For injections he prefers a ½ per cent. solution of protargol. The treatment of chronic urethritis is given fully and the author speaks highly of Goldschmidt's urethroscope which was introduced last year. Several chapters are devoted to the complications of gonorrhœa, and for gonorrhœal rheumatism he advises the employment of the hyperæmic treatment of Bier. A valuable chapter is that on the question of marriage for patients who have lately suffered from gonorrhœa. The author maintains that even if no gonococci can be found the presence of pus cells in the "threads" justifies the suspicion that the gonococcus is lurking somewhere in the urethra.

The Physiology of Alimentation. By Dr. MARTIN H. FISCHER, Professor of Pathology in the Oakland College of Medicine, U.S.A. London: Chapman and Hall, Limited; New York: John Wiley and Sons. 1907. Pp. 348. Price $2, or 8s. 6d. net.

THIS work—and it is an excellent one—is not a complete review of the physiology of the alimentary tract; it is rather a series of monographs dealing with various phases of physiology and embodying the more modern physiological investigations on the subjects with which it deals. Its scope will be best understood by grouping the subjects discussed—viz., the mechanical phenomena of alimentation; the juices poured out upon the food and their chemical constituents; ferments and fermentations; the actions of enzymes and bacteria found in the human alimentary tract; regulation of the salivary, gastric, pancreatic, biliary, and intestinal secretions; and the alimentary canal as an absorptive and excretory organ. A very full and interesting account is given of the movements of the stomach and intestines as revealed by the x rays and several full-page x ray photographs by Cannon of the movements of the food in the intestine are reproduced. The intestinal movements are usually classified as swaying or pendular and peristaltic. The investigations of Cannon, however, have shown that those known as "rhythmic segmentation" movements are the most common. Cannon has calculated that a slender string of food may commonly undergo division into small segments more than a thousand times without changing its place in the intestines. The purpose subserved by these movements is obvious, for in the large intestine the commonest movement is antiperistalsis—i.e., the contents in the middle of the cæcum are moved towards the stomach and away from the rectum. There is a full discussion on the various conditions and mental states which influence intestinal movements and a final chapter deals with saline cathartics.

The new nomenclature is adopted for the naming of ferments—i.e., adding the ending *ase* to the root of the Latin or Greek name of the substance upon which the ferment acts—e.g., amylase and lactase; for pepsin we have acid-proteinase and for trypsin alkali-proteinase, while for the ferment discovered by Weinland, which prevents the proteolytic ferments from acting on intestinal worms, and it may be on the walls of the intestine itself, we have the term anti-proteinase; erepsin becomes protease and invertin sucrase; the ferment which splits up arginin into ornithin and urea is arginase, and so on. The chapter on ferments and fermentations is excellent, and in it are set forth the views of Ostwald and Cohen. A ferment does not initiate a chemical reaction but only alters its velocity, so that in infinite time the amount of chemical change brought about by a ferment is independent of the concentration of the ferment. The ferments are usually characterised by a great sensitiveness to comparatively low temperatures. The reactions which are catalysed by a ferment are rarely, if ever, complete, unless the products of the reaction are removed as soon as formed. The reason for the incompleteness of the chemical reaction lies in the fact that "the ferment is continually reforming from the products of the reaction, the substance or substances with which the ferment was mixed originally." This *reversibility* of the action of an organic ferment is one of its fundamental characteristics. A full account is given of the specific actions of the several alimentary ferments. There is an interesting account of the views of Conradi and Loevenhart on the coagulation of milk (p. 117). The views of Emil Fischer and Abderhalden on the polypeptides and the reconstruction of the protein molecule are discussed and there is a valuable section on the old question as to why the alimentary canal does not digest itself, a question as old as the one propounded by the veteran cynic as to the universal solvent:—What kind of a vessel will be needed to hold it?

In the chapters devoted to regulation of the alimentary secretions naturally full attention is given to the work of Pawlow, Bayliss and Starling, Delezenne, and others. The chapters on absorption and excretion are particularly interesting and suggestive; for they deal with membranes, permeable and semi-permeable, van't Hoff's laws of osmotic pressure, lipoidal absorption, and Overton's work on this subject.

We have said enough to show how interesting, instructive, and useful this small but comprehensive work is. We commend it most cordially and with perfect assurance as to its value to the advanced student of medicine and physiology, as well as to practitioners of medicine.

LIBRARY TABLE.

Die Lehre von der Krebskrankheit von den ältesten Zeiten bis zur Gegenwart. (*The Study of Cancer from the Earliest Times up to the Present*). By Sanitätsrat Dr. JACOB WOLFF, of Berlin. With 52 figures in the text. Jena: Gustav Fischer. 1907. Pp. 747. Price 20 marks.—The thoroughness of this historical study of malignant diseases is evident when we mention that the author commences with the Ebers Papyrus which is supposed to have been written about 1500 B.C. The history is continued through the succeeding ages until it reaches the Renaissance; from the Renaissance the author takes the chief countries in turn and treats of the work on cancer which has been accomplished in each. Then he considers the various theories which have been held to explain malignant disease. The lymph theory was accepted mainly during the eighteenth century. Then arose the cellular theory, and in various modified forms that theory exists to-day. Cohnheim's embryonic theory was received with much enthusiasm, but it has at the present day lost the position which it once held. It may undoubtedly serve to explain some non-malignant growths but it will not avail to explain malignant tumours. A very full account is given of the parasitic theories of cancer, for it occupies nearly 200 pages. All these questions are carefully discussed by the author who holds that the conclusion of the whole matter is that the cause of cancer is still an unsolved riddle. This volume contains certainly the most complete exposition of the study of cancer from the historical point of view with which we are acquainted.

Health at its Best versus Cancer. By ROBERT BELL, M.D. Glasg., F.F.P.S. Glasg., formerly Senior Physician to the Glasgow Hospital for Women. London and Leipsic: T. Fisher Unwin. 1908. Pp. 320. Price 5s. net.—In so far as this book is an appeal for more hygienic living, for more fresh air, for a simpler diet, and for a more natural life, we cannot but agree with it, but when the author maintains that surgery "in no instance can …… possibly hold out the remotest prospect of conferring any benefit whatever" in cases of malignant disease we must dissent entirely.

mentally defective but only the worst, for there are many mentally defective who are considered to be fit for penal discipline. The prison commissioners, to whom all these facts have long been familiar, have already made regulations for dealing with the weak-minded in local prisons but the regulations, good as they are, do not suffice. It has been suggested that on conviction mentally defective persons should be committed to feeble-minded homes or colonies, places of the nature of a half-way house between a prison and a lunatic asylum. In regard to those committed to convict prisons the same evils obtain. At Parkhurst, where there are a considerable number of weak-minded convicts, they are brought together and treated as if they were in a labour-colony. Under this *régime* the convicts behave much better than under the ordinary prison rules and are more easy to manage. From the [illegible] that many competent observers a[illegible] the constantly recurring and fatuous crimes of mentally defective persons are to be prevented long and continuous detention of such persons will be necessary. "From the earliest age when they appear before the magistrate as children on remand or as juvenile offenders, until and throughout the adult period of their lives the mentally defective, at first reprimanded and returned to their parents, then convicted and subjected to a short sentence and returned to their parents, and then later continually sentenced and re-sentenced and returned to their parents or friends till for crimes of greater gravity they pass to the convict prisons, are treated, as this reiterated evidence shows, without hope and without purpose, and in such a way as to allow them to become delinquents of the worst type and to propagate a feeble progeny which may become criminal like themselves." With a view to coping with these problems it is recommended that a central authority should be responsible for the supervision of all cases of mental defect; that local authorities should be responsible for making provision for such cases; that there should be a statutory obligation imposed on the police and all prison authorities to report all these cases to the local authority; and that all courts of justice should have power to order the detention of a mentally defective person in a suitable institution instead of pronouncing a sentence of imprisonment.

That there is a large number of mentally defective persons among those who are to be found in the casual wards, common lodging-houses, and refuges is certain. Many of these are physically and morally dangerous and the Commission has reached the conclusion that there should be some system by which these persons should be brought under an authoritative control by which they could be detained and made to labour according to their ability. So, too, experience has shown that many cases of habitual inebriety are associated with mental defect, and the Commission suggests that the powers of the county committees and of the Board of Control should extend to mentally defective inebriates as well as to other classes of the mentally defective. Other recommendations with reference to this subject are that the county councils should be placed under legal obligation to provide accommodation for mentally defective inebriates and that the Inebriates Act should be amended to facilitate the committal to suitable institutions of persons who are shown to the satisfaction of a criminal court to be mentally defective inebriates.

A large mass of evidence has come before the Commission indicating that, in addition to those who are certified as lunatics, there is another large class of persons who can be with difficulty distinguished from the "certifiably insane" who are socially dangerous and who from weakness of mind are not wholly responsible, and accordingly the question arises whether the condition of being irresponsible should not also attach to other mentally defective persons besides certified lunatics. In the trial of such persons the Commission suggests the adoption of the important principle that the question of the committal of an alleged offence should be separated from the question of alleged mental defect in the accused person and his consequently relative responsibility and from the problem as to his appropriate treatment. On this principle it is proposed that in a court of summary jurisdiction the justices should, prior to conviction, remand the accused to a suitable receiving house, and subsequently, if the medical certificates justified such a course, order the reception of the accused in an institution considered suitable by the committee for the care of the mentally defective. On the same principle, after the conviction of the offender he might be bound over to come up for judgment on the surety of a representative of the committee. The same procedure is suggested for use at assizes and quarter sessions. If any sentence be imposed by the court it is suggested that it should have such reference to the fact of the committal of the offence as the court may decide to be just, but that afterwards, where necessary, a reception order should be made which would be renewable from time to time and which would lead to such treatment and care as from the point of view of mental defect the committee might think necessary.

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THE following are the main portions of a lengthy scientific report on the use of disinfectants in connexion with plague addressed by Captain W. Glen Liston, I.M.S., Acting Director of the Bombay Bacteriological Laboratory, to the Sanitary Commissioner with the Government of India and now published by the latter. The experiments on the pulicidal powers of the disinfectants enumerated below have been carried out by Captain T. H. Gloster, I.M.S., with much labour and care. It will be well at the outset properly to appraise the value of disinfection in connexion with plague. It is an axiom to state that a disinfectant can only be useful when applied directly to the micro-organisms which it is required to kill. In order, then, that a disinfectant may be usefully employed to combat the spread of plague, it is necessary to know where and to what extent plague germs may exist in nature.

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Successful Disinfection.

The most successful disinfectant will be the one which is capable of destroying both rats and their fleas. The fact that rats and fleas are generally to be found in places inaccessible to the application of the ordinary disinfectants materially handicaps the use of these substances; indeed, it may be said that the occasions when the common disinfectants may be used with advantage are few and far

new arsenical compounds, the application of the opsonic index to diagnosis, the use of lactic acid organisms for suppressing the growth of the colon organisms, the ophthalmic method of diagnosing tuberculosis, the modern methods of estimating the germicidal value of disinfectants, and so on. In order to meet the demand thus made on the pages of the new edition a large amount of the matter to which experience shows reference is less frequently made has been reset in small type. Lastly, in spite of the addition of 128 pages more than was contained in the previous edition, the use of a different paper has enabled the authors to produce in the present issue a thinner volume than the last.

JOURNALS AND MAGAZINES.

Annals of Tropical Medicine and Parasitology, University of Liverpool. Vol. II., No. 1, pp. 51; No. 2, pp. 92; No. 3, pp. 122. London: Williams and Norgate. Price 7*s.* 6*d.* net.—In No. 1 Sir Rubert Boyce and Dr. Anton Breinl contribute a communication on Atoxyl and Trypanosomiasis. They begin by giving a sketch of the early observations of the use of arsenic in the treatment of diseases caused by flies. They deal with the employment of the aniline colours in the combined treatment with arsenic and colours and then with atoxyl. The atoxyl treatment is dealt with at very considerable length. With regard to the existence of a second phase in the life cycle of the trypanosome stated so definitely as existing, we should have been more satisfied had reference been made to some of the recent work on blood platelets. The figures illustrating various forms of platelets in normal blood are similar to the figures of some of the stages in the life cycle of trypanosomes by Moore and Breinl, but some evidence appears to be necessary to show that no mistakes exist. Another paper on Trypanosomiasis and its Treatment by Atoxyl and other Drugs is contributed by Sir Patrick Manson. He describes his own personal observations in the treatment of this disease and ascribes great success to the atoxyl treatment. The first contribution to No. 2 is formed by the reports of the "Sleeping Sickness" Expedition to the Zambesi for the years 1907–08, by Dr. Allan Kinghorn and Mr. R. Eustace Montgomery, M.R.C.V.S. The first part forms an introduction to the actual reports themselves. The objects of the expedition from the Liverpool School of Tropical Medicine were to determine to what extent sleeping sickness had invaded British South African territory, to map out the distribution of tsetse flies, and to advise on means for checking the spread of sleeping sickness. Trypanosomiasis in animals as well as in man was dealt with on this expedition. This introduction consists very largely of correspondence between members of the expedition and various officials which deals mainly with the relation between the existence of the tsetse fly and game. The first interim report of the expedition is concerned with the incidence and prophylaxis of human trypanosomiasis in north-eastern Rhodesia. This report includes a discussion of preventive measures. The major measures suggested are: control of native movements; segregation of cases; and removal of villages from dangerous zones. The minor measures are: clearing; education of the natives; personal prophylaxis; and the destruction of tsetse flies, their larvæ and pupæ. The same authors' next report is on Trypanosomiasis of Domestic Stock in North-Western Rhodesia. It shows that trypanosomiasis in cattle and other domestic animals is very prevalent in the northern area of Western Rhodesia and that it is due to trypanosoma dimorphon, trypanosoma vivax, and another morphologically allied to trypanosoma Brucei. It is strongly suggested that these trypanosomes may be transmitted by glossina morsitans, stomoxys calcitrans, and a species of lyperosia. The authors also conclude that the treatment, as detailed in previous reports, shows certain indications of success, and they urge for facilities for a continuation of the work on this disease, which tends to stagnate the proper development of a wealthy mineral and agricultural country. The number also contains a report on the work of the Greek Anti-malaria League during the year 1907, by M. Hadjimichalis, President, and Jean P. Cardamatis, general secretary. It is shown that in 12 principal towns in Greece the average number of deaths from malaria is 287, or 9·8 per 10,000 inhabitants. It is pointed out, however, that these figures do not give any exact idea of the prevalence of malaria throughout the country, as this disease is much less frequent in the towns than in the rural districts. For instance, an examination of the school children held at Marathon in October, 1906, showed that enlargement of the spleen was to be found in every pupil. A detailed account of the work done by the League during the year 1907 is given. The Government has been induced to pass some laws with regard to the sale of quinine which will appear somewhat curious to us in this country. The plain of Marathon was taken in hand particularly by the League, and the reports of the local medical men showed that the number of cases of malaria in this district averages between 80 and 90 per cent. of the population. Considerable work was done in getting rid of the larvæ of mosquitoes. No. 3 of these annals contains the following papers. 1. A Peculiar Intralobular Cirrhosis of the Liver produced by the Protozoal Parasite of Kala-Azar, by Major Leonard Rogers, M.D. Lond., F.R.C.P. Lond., I.M.S. The author in this paper shows that the most chronic cases of kala-azar not infrequently terminate their course with ascites due to cirrhosis of the liver. The cirrhosis is of a peculiar intralobular type of uniform distribution and with a smooth surface to the organ. It is due to the protozoan parasite of kala-azar which may be found in the liver and other organs after death. This form of cirrhosis of the liver is much commoner in Lower Bengal than a "true natural cirrhosis," with which it has probably hitherto been confused. It is, however, much less common than atrophic cirrhosis due to unknown causes. 2. What is "Schistosomum Mansoni" Sambon 1907? by Dr. A. Looss. This contribution is a highly controversial one. The author seeks to show that a species of blood fluke, which was described by Dr. L. W. Sambon in 1907 as being a new species and called by him "Schistosomum Mansoni," is not a new species at all but is schistosomum hæmatobium. The author, Dr. Looss, certainly brings very weighty arguments in favour of his view. It is impossible to deal with this lengthy communication in detail. 3. The Prevention of Dengue Fever, by E. H. Ross, M.R.C.S. Eng., L.R.C.P. Lond., medical officer of health, Port Said. In this very brief communication the author puts forward a plea for the extension of the campaign against mosquitoes in Egypt. 4. The Life History of Trypanosoma Lewisi, by J. E. Salvin-Moore, Anton Breinl, and Edward Hindle. The authors in this communication deal with the life cycle of trypanosoma Lewisi in the same way as they previously dealt with trypanosoma Gambiense and trypanosoma equiperdum. 5. Notes on the Effects of Therapeutic Agents on Trypanosomes in respect to (*a*) Acquired Resistance of the Parasites to the Drug, and (*b*) Changes in Virulence of the Strains after Escape from the Drug, by Benjamin Moore, M.A., D.Sc. R.U.I., Maximilian Nierenstein, Ph.D. Berne, and John Lancelot Todd, B.A., M.D. McGill. The acquirement of resistance to various toxins and parasites by man and other animals has been much studied. In th present communication a less known, but allied, subject is dealt with. This is the acquirements of resistance to poisons mentally defective but only the worst, for there are many mentally defective who are considered to be fit for penal discipline. The prison commissioners, to whom all these facts have long been familiar, have already made regulations for dealing with the weak-minded in local prisons but the regulations, good as they are, do not suffice. It has been suggested that on conviction mentally defective persons should be committed to feeble-minded homes or colonies, places of the nature of a half-way house between a prison and a lunatic asylum. In regard to those committed to convict prisons the same evils obtain. At Parkhurst, where there are a considerable number of weak-minded convicts, they are brought together and treated as if they were in a labour-colony. Under this *régime* the convicts behave much better than under the ordinary prison rules and are more easy to manage. From the evidence it appears that many competent [illegible] if the constantly recurring [illegible] mentally defective persons are to be prevented long and continuous detention of such persons will be necessary. "From the earliest age when they appear before the magistrate as children on remand or as juvenile offenders, until and throughout the adult period of their lives the mentally defective, at first reprimanded and returned to their parents, then convicted and subjected to a short [illegible] returned to their parents, and then lat[illegible] sentenced and re-sentenced and returned to their parents or friends till for crimes of greater gravity they pass to the convict prisons, are treated, as this reiterated evidence shows, without hope and without purpose, and in such a way as to allow them to become delinquents of the worst type and to propagate a feeble progeny which may become criminal like themselves." 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The following are the main portions of a lengthy scientific report on the use of disinfectants in connexion with plague addressed by Captain W. Glen Liston, I.M.S., Acting Director of the Bombay Bacteriological Laboratory, to the Sanitary Commissioner with the Government of India and now published by the latter. The experiments on the pulicidal powers of the disinfectants enumerated below have been carried out by Captain T. H. Gloster, I.M.S., with much labour and care. It will be well at the outset properly to appraise the value of disinfection in connexion with plague. It is an axiom to state that a disinfectant can only be useful when applied directly to the micro-organisms which it is required to kill. In order, then, that a disinfectant may be usefully employed to combat the spread of plague, it is necessary to know where and to what extent plague germs may exist in nature.

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Successful Disinfection.

The most successful disinfectant will be the one which is capable of destroying both rats and their fleas. The fact that rats and fleas are generally to be found in places inaccessible to the application of the ordinary disinfectants materially handicaps the use of these substances; indeed, it may be said that the occasions when the common disinfectants may be used with advantage are few and far

aptly terms "the bane of Irish mortality statistics," has been specially discussed in several of his recent reports. From an instructive diagram showing the relative mortality from the principal causes in Ireland we note that the column representing tuberculosis stands highest in the list. The deaths from all forms of this disease amounted to 15 per cent. of the mortality from all causes and to a rate of 2·7 per 1000 of the population. From another diagram it appears that since the year 1864 the rate of mortality from tuberculous diseases in Ireland has *increased* from 2·4 to 2·7 per 1000, whereas in England it has *decreased* in the same interval from 3·3 to 1·6 per 1000. From yet another diagram we learn that whilst in Ireland the age of highest mortality from tuberculosis is from the twenty-fifth to the thirty-fifth year, when it is fatal to 4·5 per 1000 of the population living at that age, in England, on the other hand, the age of the highest mortality is ten years later—viz., from the thirty-fifth to the forty-fifth year, when it is fatal to only 2·0 per 1000 of the population.

In Ireland, as elsewhere, tuberculous phthisis is by far the most fatal member of the tuberculous group. The deaths there attributed to this disease in 1907 accounted for a mortality at the rate of 2·02 per 1000, as compared with 1·15 in England and Wales. The sex incidence of tuberculous phthisis in the two divisions of the kingdom differs materially, for whilst in England the disease is considerably more destructive at all ages to males than to females in Ireland the sexes succumb to it in practically equal proportions. When, however, account is taken of the ages of those who die we find that from the fifteenth to the twentieth year women die faster than men from this disease, whilst at most subsequent ages the reverse holds good. We have before mentioned that the reports of the Registrar-General for Ireland have an advantage over the reports of the Registrars-General of England and Scotland in that the former alone show the variations of mortality among the several social grades of the community. The report before us contains a chart showing the behaviour of tuberculous phthisis in four "general classes" of the Irish people in the course of the last seven years. In the "general service class" the mortality is highest, 2·4 per 1000; the "artisan class" comes next with a rate of 2·1 per 1000; whilst the mortality of the "professional and independent class" is the lowest and does not exceed 0·8 per 1000. The "middle class" is the only one of the four which has shown no decrease in phthisical mortality during the last seven years.

At a later stage in the report the Registrar-General has some interesting remarks on the connexion of tuberculous phthisis with bronchitis, as well as with pleurisy and empyema. "In a certain sense," he observes, "bronchitis may, from a public health point of view, be considered as a preventable disease, and the reduction of its death-rate may be regarded as one of the indices of improvement in the social conditions under which our people are living." From a comparison of the death-rates from bronchitis in England and Ireland it appears that the mortality from that disease in the latter country exceeds that in the former by 43 per 100,000 living. The disparity is still more strongly marked if the death-rate from tuberculous disease be taken into account, for in that case there is a difference against Ireland of 142 per 100,000. In other words, if the death-rates from tuberculous disease and from bronchitis had been only the same as in England, the mean mortality from all causes together in Ireland in the decennium 1897–1906 would have stood at 16·48 per 1000, instead of at 17·90 per 1000 as it appears in the tables. Adverting to the instruction contained in the official nomenclature of the Royal College of Physicians of London to the effect that "when pleurisy is known to be tuberculous the fact should be stated," Sir Robert Matheson reports that in the year under notice 34 deaths were certified to be due to empyema without mention of probable cause. In each of these cases a query for further information was issued from his office, with the result that more than one-third of them were found to have a tuberculous origin. In the course of the last decennium inquiry was made respecting 121 deaths from empyema, the result being that as many as 53 of the patients were believed to be suffering from tuberculosis in one or another of its varieties.

With respect to the behaviour of cancer or malignant disease in Ireland, the Registrar-General's statistics are commendably complete. In the course of the ten years ending with 1900 the rate of cancer mortality increased from 46·2 per 100,000 living to 60·8. In the year 1901 it further increased to 65·1, and to 79·3 in 1906. In the year under present review, however, it fell slightly, being equal to 76·2 per 100,000 of the population. In the case of tumours stated in the medical certificates to be the cause of death, the system of inquiry from the medical certifier is adopted as in England, and as a result the death from tumour is in a large number of instances removed from that indefinite heading and referred to malignant disease. Even in the year 1907 alone not less than 75 deaths were removed from causes of a more or less doubtful nature and classed in one or another of the diseases of malignant nature. In order to ascertain the relative sex incidence of malignant disease it has been the custom to exclude the deaths of persons under the age of 35 years and to calculate the death-rates in the male and female population estimated to be living at ages above 35 years. Computed in this way the cancer death-rate was 2·02 per 1000 for men and 2·22 per 1000 for women. In the previous year the male rate in Ireland had been 2·07 per 1000 and the female rate 2·36 per 1000, the English rates for that year being 2 and 3·04 per 1000 respectively. From the above figures it would appear as though malignant disease were more disastrous to the female than to the male sex. From a table it appears that of 3338 deaths in all 1530 were those of men and 1808 those of women; but of the latter total 262 deaths were caused by cancer of the uterus and 287 by cancer of the female breast (against seven only from cancer of the male breast). If from the total female deaths the 549 deaths last mentioned be omitted, it will be seen that the male sex is considerably more liable to fatal cancer than is the female. In both sexes the organ most frequently affected by malignant disease is the stomach, 434 males and 396 females having died from affections of this organ in the year under notice. Excluding affections of the mammary and generative systems, the liver and gall-bladder are the organs coming next in frequency of attack, but of the deaths thus caused the majority occurred among women.

The Registrar-General reports with regret that in the year under notice not less than 14,299, or 18 per cent., of the deaths registered were referred to causes so imperfectly defined as to be useless for statistical purposes. The deaths under this heading comprise those referred to atrophy, old age, dropsy, tumours, abscess, hæmorrhage, sudden death, and other ill-defined or unspecified causes. In this connexion the Registrar-General makes the following appeal: "I may mention that I am now issuing suggestions to each member of the medical profession in Ireland, whose name appears in the Register, regarding certificates of causes of death, and I most earnestly ask for help from one and all, to enable me to produce the mortality statistics of Ireland in as perfect a condition as possible." Of the total deaths registered in Ireland last year not less than one-fourth part were uncertified, as compared with 2·3 per cent. for Scotland and 1·5 per cent. for England. Sir Robert Matheson attributes this large proportion of uncertified deaths to the custom which prevails in some of the rural parts of Ireland of not seeking medical advice, especially for the aged. The very large area of most of the dispensary districts also involves special geographical difficulties in procuring timely medical help in the hour of sickness. In these circumstances the Registrar-General has found it necessary from time to time to issue circulars to all medical registrars impressing upon them the importance of certifying causes of death in the case of their own patients. The Irish Local Government Board has also been requested to exercise its influence in this matter on the dispensary medical officers who act under its direction. Although the proportion of uncertified deaths is still very high it is satisfactory to note that it is steadily though slowly falling.

We heartily congratulate Sir Robert Matheson on the general excellence of the forty-fourth annual report and for the promptness with which it has been issued; and we are sure that the medical profession in Ireland will appreciate the graceful terms in which the Registrar-General acknowledges the services of Dr. Ninian McIntire Falkiner in its production.

HOSPITAL SATURDAY AT NEWTON ABBOT (DEVON).—£274 were collected recently in Newton Abbot for the Hospital Saturday fund. This is £54 in excess of any previous Hospital Saturday collection.

mentally defective but only the worst, for there are many mentally defective who are considered to be fit for penal discipline. The prison commissioners, to whom all these facts have long been familiar, have already made regulations for dealing with the weak-minded in local prisons but the regulations, good as they are, do not suffice. It has been suggested that on conviction mentally defective persons should be committed to feeble-minded homes or colonies, places of the nature of a half-way house between a prison and a lunatic asylum. In regard to those committed to convict prisons the same evils obtain. At Parkhurst, where there are a considerable number of weak-minded convicts, they are brought together and treated as if they were in a labour colony. Under this *régime* the convicts behave much better than under the ordinary prison rules and are more easy to manage. From the evidence it appears that many competent observers are of opinion that if the constantly recurring and fatuous crimes of mentally defective persons are to be prevented long and continuous detention of such persons will be necessary. "From the earliest age when they appear before the magistrate as children on remand or as juvenile offenders until and throughout the adult period of their lives the mentally defective, at first reprimanded and returned to their parents, then convicted and subjected to a short sentence and returned to their parents, and then later continually sentenced and re-sentenced and returned to their parents or friends till for crimes of greater gravity they pass to the convict prisons, are treated, as this reiterated evidence shows, without hope and without purpose, and in such a way as to allow them to become delinquents of the worst type and to propagate a feeble progeny which may become criminal like themselves." With a view to coping with these problems it is recommended that a central authority should be responsible for the supervision of all cases of mental defect; that local authorities should be responsible for making provision for such cases; that there should be a statutory obligation imposed on the police and all prison authorities to report all these cases to the local authority; and that all courts of justice should have power to order the detention of a mentally defective person in a suitable institution instead of pronouncing a sentence of imprisonment.

That there is a large number of mentally defective persons among those who are to be found in the casual wards, common lodging-houses, and refuges is certain. Many of these are physically and morally dangerous and the Commission has reached the conclusion that there should be some system by which these persons should be brought under an authoritative control by which they could be detained and made to labour according to their ability. So, too, experience has shown that many cases of habitual inebriety are associated with mental defect, and the Commission suggests that the powers of the county committees and of the Board of Control should extend to mentally defective inebriates as well as to other classes of the mentally defective. Other recommendations with reference to this subject are that the county councils should be placed under legal obligation to provide accommodation for mentally defective inebriates and that the Inebriates Act should be amended to facilitate the committal to suitable institutions of persons who are shown to the satisfaction of a criminal court to be mentally defective inebriates.

A large mass of evidence has come before the Commission indicating that, in addition to those who are certified as lunatics, there is another large class of persons who can be with difficulty distinguished from the "certifiably insane" who are socially dangerous and who from weakness of mind are not wholly responsible, and accordingly the question arises whether the condition of being irresponsible should not also attach to other mentally defective persons besides certified lunatics. In the trial of such persons the Commission suggests the adoption of the important principle that the question of the committal of an alleged offence should be separated from the question of alleged mental defect in the accused person and his consequently relative responsibility and from the problem as to his appropriate treatment. On this principle it is proposed that in a court of summary jurisdiction the justices should, prior to conviction, remand the accused to a suitable receiving house, and subsequently, if the medical certificates justified such a course, order the reception of the accused in an institution considered suitable by the committee for the care of the mentally defective. On the same principle, after the conviction of the offender he might be bound over to come up for judgment on the surety of a representative of the committee. The same procedure is suggested for use at assizes and quarter sessions. If any sentence be imposed by the court it is suggested that it should have such reference to the fact of the committal of the offence as the court may decide to be just, but that afterwards, where necessary, a reception order should be made which would be renewable from time to time and which would lead to such treatment and care as from the point of view of mental defect the committee might think necessary.

RECENT EXPERIMENTS ON PLAGUE DISINFECTANTS IN INDIA.

THE following are the main portions of a lengthy scientific report on the use of disinfectants in connexion with plague addressed by Captain W. Glen Liston, I.M.S., Acting Director of the Bombay Bacteriological Laboratory, to the Sanitary Commissioner with the Government of India and now published by the latter. The experiments on the pulicidal powers of the disinfectants enumerated below have been carried out by Captain T. H. Gloster, I.M.S., with much labour and care. It will be well at the outset properly to appraise the value of disinfection in connexion with plague. It is an axiom to state that a disinfectant can only be useful when applied directly to the micro-organisms which it is required to kill. In order, then, that a disinfectant may be usefully employed to combat the spread of plague, it is necessary to know where and to what extent plague germs may exist in nature.

Channels of Plague Infection.

It has recently been conclusively proved that the plague is communicated to man from rats by means of rat fleas. The disease is seldom, if ever, except by accident, transmitted directly from sick persons to healthy individuals; in other words, contact with the excreta of sick animals or man is rarely the means by which the disease is acquired. Excreta, if they contain plague bacilli, are, as a rule, harmless. The plague bacilli when present in excreta rapidly disappear from them; the excreta become disinfected by natural processes, a few hours sufficing in the Indian climate to bring about the destruction of any plague bacilli in them. This natural disinfection is accomplished either by exposure of the plague bacilli to desiccation or in moist conditions is brought about by the development and multiplication of saprophytic bacteria which are inimical to the existence of plague bacilli. Plague is communicated from rats to rats and from rats to man by means of the rat flea. In the body of this insect the plague bacilli are protected from the above-mentioned natural disinfectants. Here they are protected from desiccation and from the action of saprophytic bacteria. In the stomach of the flea, too, they find a suitable food-supply in the blood which is sucked by the insect from its host. The digestive processes going on in the stomach of the flea appear to cause little injury to the plague bacilli. As long as the flea remains alive the bacilli are protected and preserved. On the death of the flea the natural disinfection processes referred to above quickly destroy any plague bacilli which may have been present in its body. We are thus in a position to know that plague bacilli exist in nature either in the body of a plague-sick animal (chiefly the rat) or in the stomach of a rat flea which has fed on such an animal. Any disinfectant to be useful must be directed against the plague bacilli in these situations. The destruction of infected rats and fleas will bring about the destruction of the plague bacilli within their bodies. The bacilli only retain a successful existence in the living bodies of these creatures.

Successful Disinfection.

The most successful disinfectant will be the one which is capable of destroying both rats and their fleas. The fact that rats and fleas are generally to be found in places inaccessible to the application of the ordinary disinfectants materially handicaps the use of these substances; indeed, it may be said that the occasions when the common disinfectants may be used with advantage are few and far

medicine licence should be raised very considerably, a proposition which we heartily endorse. He further proposed that a board of control, consisting largely of recognised authorities in the different branches of medicine, should be constituted, to which it should be made compulsory for the composition of every secret remedy to be submitted for registration before permission could be given for its public advertisement or the imprimatur of the Government stamp. This proposal, however, would have to be considered carefully, for we doubt both its advisability and practicability. We have from time to time published analyses of many of the quack medicines which are on the market and have demonstrated how useless they are, but a certain section of the public appears to enjoy being victimised and nothing short of stringent legislation will diminish the profits of the patent medicine vendor. Mr. Wright's remarks on the various matters connected with pharmacy are well worth careful consideration; the pharmacists working loyally with the members of the medical profession, as he urged them to do, can perform inestimable service to the public. There are much room and need for pharmaceutical research but this can only be successfully accomplished if those engaged in that undertaking are willing to give themselves unselfishly to the work and to [illegible]r diligently for the good of the community.

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The Sanitary Defence of the Hedjaz Railway.

THE present situation in the East, whether Near East, Middle East, or Far East, is one of absorbing interest. No publicist, be his sphere of activity never so specialised, can stand by unconcerned, unmoved by the spectacle of the dramatic series of events that have unrolled themselves in the last few years in one Oriental country after another. The volcanic upheaval of Japan as a first-class "European" power, the domestic troubles in the vast Russian empire, the "unrest" in India and in Egypt, the reign of anarchy in Persia—these events have succeeded each other with almost breathless rapidity. And now, most recent in this closely linked chain, has come the peaceful revolution in Turkey, where, after 30 years of Palace rule, the people have forced their ruler to grant them liberty and a constitution, have put to ignominious flight the Palace clique, and are now rejoicing in their newly acquired freedom. No one can withhold his meed of admiration at the manner in which this tremendous change has been brought about by the Turkish people themselves and at the wonderful restraint and self-control which they have shown in circumstances such as, in other countries in the past, have too often led to anarchy and bloodshed. That the occurrences briefly enumerated above, which have marked the recent history of so many eastern countries, are closely inter-connected, each with the others, it is impossible not to believe; and they afford abundant material for the philosopher anxious to find in them some guiding and connecting principle, and endeavouring to draw from them conclusions that may help to raise, be it by ever so little, the veil that hides the near future. Is the East really waking from its age-long sleep? Are we on the eve of great secular events, where East and West shall at last "meet"? Shall that meeting take the form of a friendly rivalry and a treading side by side the paths marked out by "western" civilisation, or will it end in the shock of arms and the ghastly carnage of a modern Armageddon? Or, finally, will another and a different form of civilisation be ultimately evolved, face to face with which that particular form of it which we call "western" may find it hard to hold its own and may have to yield and to modify itself beyond recognition?

Almost simultaneously with the granting of the constitution in Turkey the railway which unites Damascus with Medina has been completed and formally opened. This alone would at any other time have appealed irresistibly to the imagination and have justified speculations almost as far-reaching as those in which we have just ventured to indulge. Coming as it does at this particular moment it acquires an added significance and appeals with increased force to the imagination of all thinking people. In this brief column, however, we cannot follow further the fascinating lines of speculative thought which such an event as this inevitably opens up. The completion of the Hedjaz railway may, indeed, be considered from so many different aspects that it could well furnish themes for innumerable articles, but we must content ourselves here with considering it from one aspect only—the influence which the line must inevitably have on the spread of disease and the means by which this new danger will have to be met. We publish to-day the first of a short series of articles on this subject which has been sent to us by the British Delegate on the Constantinople Board of Health. The writer has recently returned from a journey down the Hedjaz Railway as far as Medaini-Salih, only some 180 miles north of Medina. As perhaps the first English medical man who has ever visited those regions (to which, indeed, few Europeans of any kind have hitherto penetrated) his articles offer a special interest. The journey was accomplished as member of a Commission sent by the Constantinople Board of Health, with the general mandate to study on the spot the sanitary defence of the line, and the special mandate to select the best site for a lazaret, in which pilgrims returning from Mecca and Medina will undergo disinfection, and if necessary quarantine, before reaching Damascus. The results of the Commission's labours are set forth at length in the articles in question. Tebuk, a place about half-way between Damascus and Medina, but rather nearer the latter, has been chosen as the site for the quarantine station; and a series of definite proposals hav been made by the Commission for the sanitary defence of the line, the execution of which is now seriously occupying the international sanitary board above referred to. The question of "ways and means" is also, we gather, being considere in the proper quarters and will sooner or later form the subject of a new agreement between the Porte and the Powers interested.

To the measures proposed by the Commission in question we may perhaps refer again and in more detail in a later issue. We would only say now that a thorough scheme of defence of this new channel of communication is of first-rate importance in the interests of the public health of all

Public Health Acts being inserted in the local Act legalising the measure. Since the beginning of voluntary notification 872 cases have been notified and during the whole of this period, 1902–07, there have been multiple cases in 25 houses only. The corporation has now secured four additional beds at Meathop sanatorium in Westmorland, this making eight beds in all. Of the total 15 cases discharged from the sanatorium between July, 1906, and the end of 1907, three are regarded as "cured," four as fit for light work, three as improved in general health but unfit for light work, and five show no improvement.

County Borough of Warrington.—Dr. J. C. Hibbert, the successor to the la [illegible] alth, treads cautiously in his first [illegible] no hesitation in condemning the [illegible] at present obtains and in advoc [illegible] tem. As he observes, it is a [illegible] majority of houses [illegible] hard by their back-doors and polluting the air of the [illegible] larders. It is remarkable that in the north [illegible] the people suffer these accumulations of [illegible] refuse in much more docile fashion than would be the case in the south, although there is [illegible] change for the better is steadily passing northwards. In discussing the subject of tuberculosis Dr. Hibbert fully recognises the impossibility of isolating notified cases of pulmonary tuberculosis, but he thinks, nevertheless, that much may be done educationally without interfering with the liberty of the sufferers. He proposes that the small-pox hospital when not needed for small-pox should be used for an educational course of instruction and also for accommodating such advanced cases as cannot be properly cared for in their own homes. He thinks, too, that the isolation hospital for ordinary infectious diseases might in part be utilised for educational purposes. There is no doubt that if the patients did not contract other diseases there would be advantage to them in this temporary sojourn. There would be some improvement in their condition and by being taught how to conduct their lives they might live longer than would otherwise be the case. As regards the spread of the disease through tuberculous milk Dr. Hibbert deplores the slowness of the machinery at present available for stopping the supply of tuberculous milk, even with the help of the powers bestowed by the Liverpool milk clauses, owing largely to the long interval necessary to demonstrate the presence or absence of the tubercle bacillus. The Warrington town council seems, however, to have acted wisely in stopping the supply of milk on suspicion and compensating the farmer for the loss. But, as Dr. Hibbert observes, a tuberculous cow turned out of one cowshed may find its way into another and thus continue its supply of tuberculous milk. What is wanted is uniform systematic action all over the country and the same type of action is necessary with regard to the meat-supply. An abattoir is built in a town and all the animals slaughtered there are perhaps duly inspected, as well as the meat of such animals after slaughter. But in the meantime the meat of animals slaughtered elsewhere is introduced under very imperfect supervision.

The Borough of Wimbledon.—Mr. Evelyn Pocklington reports that during the year 1907 15 patients were found to be peeling from scarlet fever at the time when the medical attendant was called in, and he concludes that unrecognised cases of this disease are among the most potent causes of the spread of scarlet fever. Mr. Pocklington thinks that the Metropolitan Asylums Board is quite right in pressing for an inquiry as to the causes of scarlet fever and as to whether any further means can be taken to control the malady. He interprets the attitude of the Asylums Board as indicating that in its opinion notification and isolation have not had the desired effect of keeping the disease in control. During the year under review the medical officer presented a report to the local sanitary authority relative to the question of establishing a municipal milk depôt, but the council, after considering the report, decided that the establishment of such a depôt was not desirable at the present time. Apparently it is more in favour of promoting a pure untreated milk-supply.

County Borough of Ipswich.—Dr. A. M. N. Pringle gives population of this East Anglian town at nearly 73,000, he increase during the last intercensal period has been p in no inconsiderable degree by immigrants. He also sets out the death-rate figures since 1840 and these show, approximately speaking, a fall from 23 to 15 per 1000. During 1907 14·6 per cent. of all the deaths registered in the borough occurred in institutions, there having been, as in many other places, an increasing use made of public institutions during recent years. In Ipswich during the quinquennium ending 1898 only 9·6 per cent. of the total deaths took place in institutions. Dr. Pringle furnishes a good illustration of the manner in which scarlet fever spreads and, incidentally, of the reason why isolation hospitals, dealing as they do with recognised cases alone, have produced less effect in promoting the control of scarlet fever than was anticipated by their founders. A child was treated for a mild attack of sore-throat and three weeks afterwards the child returned to school, where it remained 10 days, after which the mother noticed that the child's hands were peeling. While the child was at home, and presumably before it commenced to peel, it played with several companions in the street and at home, and four of them developed scarlet fever. Two of these cases were at once recognised, but the remaining two were not diagnosed until three and five weeks respectively after attack, and each of these cases infected another member of the family. Here then was an unrecognised case responsible for at least six other cases. Two of the nurses at the isolation hospital contracted enteric fever and in nine cases the medical officer of health attributed infection to the consumption of cockles taken from the river Orwell, all the cases occurring at about the same time—i.e., from the middle of June to the end of the first week in July. The best attested group of cases is the following. Five persons out of a family of six partook of cockles and one was attacked with diarrhœa and vomiting on the next day, complete recovery rapidly ensuing. That member of the family who did not eat cockles—a child, aged six years—remained well. Some three weeks afterwards two of the family were removed to hospital with enteric fever and both yielded Widal's reaction. Two other members of the family also yielded typical Widal's reaction and they, too, were removed; the remaining two members, the child who ate no cockles and the member who had vomiting and diarrhœa, had their blood examined with negative results. At the same time two other cases from another town were taken to hospital with enteric fever and both had eaten cockles. No cases during the remainder of the year could be traced to cockles. The series is an interesting one and we agree that in all probability the cockles were the cause of the disease. As a result of the outbreak posters were exhibited in the district and we believe that similar precautions were taken after an outbreak described by the late medical officer of health which was also ascribed to shellfish taken from the Orwell. Dr. Pringle is hopeful as regards the future of tuberculosis. The disease has, he points out, fallen 50 per cent. during the last 50 years without any special efforts, and he thinks that it is well within the realms of possibility that the disease will share the same fate that has overtaken such diseases as typhus fever and relapsing fever and will practically disappear. He regards the infectivity of the disease as low and not to be ranked with scarlet fever and diphtheria. The public have, in his opinion, arrived at a totally erroneous conception of the degree of infectivity with the result that the ignorant are likely to convert the patient into a social pariah. If progress against the disease is to be maintained the sanitary authority of Ipswich must, he says, wage increasing warfare against the whole of the conditions summed up in the expression "insanitary property."

The Municipality of Shanghai.—The frontispiece of Dr. A. Stanley's annual report is the reproduction of a photograph of the interior of the municipal laboratory, an institution which is doing admirable work in Shanghai. We have already noticed certain aspects of this report but we desire now to draw attention to other points of interest. Some of the figures as regards disease are instructive. For example, small-pox during 1907 claimed 21 deaths among the foreign population and 863 amongst the Chinese. Dr. Stanley states that the Chinese are beginning to appreciate the benefits of vaccination as opposed to inoculation, which they have practised, he adds, with little benefit for hundreds of years. Apparently inoculation is still not illegal in Shanghai and it would be of interest to students of the vaccination question if Dr. Stanley would tell us something as to hypothesis as to the nature of menstruation. They base their conclusions on the study of a specimen which came under their own notice, and on the descriptions of a series of young ova recorded in the literature, the ages of which they have determined from the age and degree of development of the early ovum described by themselves as to which very accurate data are forthcoming. They consider that the menstrual decidua is not in the old sense of the words a preparation for the reception of an ovum, that it does not represent an abortion of an unfertilised ovum, and that menstruation does not necessarily coincide with ovulation. They regard it as a cyclical process which provides for the maintenance of the endometrium in a suitable condition for the production of the decidua of pregnancy. The observations of GRAF VON SPEE and others on the mouse and guinea-pig have demonstrated that the endometrium does not show the slightest trace of alteration from the non-pregnant state until its epithelium has disappeared and the ovum has begun to attack the deeper tissues in the process of imbedding itself, when decidual development rapidly follows. The imbedding of the ovum and the development of the decidua may be concluded in all probability to take place in the same manner in the human subject, and the uterine mucous membrane may be considered as capable of producing a decidua of conservation whenever its integrity is threatened by the young ovum. The observations of TEACHER and BRYCE tend to show that the imbedding of the ovum can take place at any time during the month, even during the quiescent period of the endometrium, and their view therefore that by the recurrence of the menstrual cycle the uterine mucous membrane is maintained in a condition of immaturity most favourable for the development of a decidua seems eminently rational; it is certainly borne out by the arguments which they put forward. At the same time they believe that the most favourable circumstances for successful impregnation are the occurrence of ovulation about the period of menstruation and of insemination shortly before or after the period of discharge.

Annotations.

"Ne quid nimis."

THE MOTOR PROBLEM: A TIMELY CIRCULAR.

THE Local Government Board has recently issued an important circular to county councils and town councils of boroughs dealing with the regulation of motor traffic, in which the grave nuisances and abuses which have resulted from its development are fairly faced. The object of the circular is to remind local authorities of the powers which they already possess to deal with reckless driving under Sections 1, 8, 9, and 11 of the Motor-car Act of 1903. The first of these is the most important, for it provides that—

> If any person drives a motor-car on a public highway recklessly or negligently or at a speed or in a manner which is dangerous to the public, having regard to all the circumstances of the case, including the nature, condition, and use [illegible] amount of traffic which actually is at the [illegible] expected to be on the highway, [illegible] sonably be under the Act. Offences under this section are by Section 11 punishable on summary conviction by a fine not exceeding £20, *or in the case of a second or subsequent conviction* by a fine not exceeding £50, or in the discretion of the court to imprisonment for a period not exceeding three months.
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> Any police constable may apprehend, without warrant, the driver of any car who commits an offence under Section 1 within his view, if he refuses to give his name and address or produce his licence on demand, or if the motor-car does not bear the marks of identification.

The circular points out that this clause, which bases the consideration of each case upon its own special circumstances, should afford a check upon reckless driving sufficient to obviate the necessity of further legislation in the direction of a drastic speed limit, the disadvantages of which are fully recognised. With regard to the present regulation limiting motor-cars on any public highway to a speed of 20 miles an hour and in certain localities, the authorities of which have made a special application to the Local Government Board, to a speed of 10 miles an hour, it is clearly stated that even where the lower speed limit is not imposed there are innumerable places where the speed should be much less than 20 miles an hour. The Board is anxious that local authorities should enforce this principle rather by applying their powers under the section which we have quoted than by extending the operation of the 10-mile limit, but it acknowledges itself ready to give prompt consideration to applications for powers to make such a local order where circumstances justify it. The circular very rightly strongly discountenances anything in the nature of racing on public roads by motor vehicles. It further observes that "whilst motorists should be required to obey the law it is of importance that the road authorities should use every effort to diminish the risk of accidents from a form of traffic the existence of which cannot be ignored." It suggests the widening of streets, the rounding of corners, the avoiding of central road-posts for tramways, the pruning of hedges near crossways, and the erection of danger signals by local authorities whenever a fair opportunity presents itself, and that the prevention of dust by watering and other treatment, "to mitigate what is undoubtedly a serious cause of complaint," should be systematically undertaken. The gist of the document may be summed up by saying that the Board considers that the steady and systematic enforcement of present powers would largely prevent the wanton abuse of the highway by inconsiderate and reckless drivers. We believe that certain societies interested in the welfare of motorists are using their endeavours to purge their ranks of that class which has brought discredit and even execration upon a vehicle which must inevitably become the chief form of road conveyance of the future. Motor-cars can be, and often are, driven with consideration and even with courtesy, but the remembrance of six well-mannered drivers is swept out of the mind of a pedestrian furious at the insults of a "road-hog" who has charged down upon him in the furious exercise of all the abominable customs of his tribe. Such persons must be repressed in the interests both of the public and of decent drivers, and we trust that local authorities will be stimulated by this timely circular to use the full powers to that end with which they are invested. The dust question presents a harder problem. Of its urgency none can doubt who use any country road upon a rainless day. It does not seem that any material help to its solution has come from various suction devices affixed to the cars. If the Local Government Board is unable to make grants for the treatment of roads it seems that the local authorities must see to it at their own expense, in the interest both of the health and temper of their residents and visitors.

"THE HOSPITAL ASSISTANT."

THE above is the title of a periodical published at Kolhapur (India) and devoted to the interests of that numerous, intelligent, and deserving body of men in the employment of the Government of India who are known officially as hospital assistants. Hitherto the *Hospital Assistant*, to which we have already directed attention,[1] has been issued monthly but, being literally "a one-man journal," when its editor unfortunately fell sick there fell to 35 in the week under notice; of these, 27 occurred in Glasgow and two both in Aberdeen and in Paisley. The 10 fatal cases of whooping-cough, of which nine were recorded in Glasgow, showed a marked decline from recent weekly numbers. The deaths referred to "fever," however, which had been but four and five in the two previous weeks, further rose last week to nine, including five fatal cases of cerebro-spinal fever, three of enteric fever, and one of typhus fever; five of the nine fatal cases of "fever" occurred in Glasgow and one each in Edinburgh, Dundee, Paisley, and Greenock. The seven deaths from diphtheria exceeded recent weekly numbers, and included six in Glasgow and one in Dundee. The fatal cases both of measles and of scarlet fever were below the average. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 75, 57, and 44 in the three preceding weeks, rose again to 73 in the week under notice, and exceeded by five the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·6 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·0 per cent.

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[1] THE LANCET, August 3rd, 1907, p. 309.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had declined in the four preceding weeks from 24·1 to 20·[illegible] per 1000, further fell to 19·3 in the week ending Sep[illegible]19th. During the first 12 weeks of the current quarter the death-rate in Dublin averaged, however, 19·8 per 1000; the mean rate during the same period did not exceed 12·5 in London and 13·0 in Edinburgh. The 146 deaths of Dublin residents during the week under notice showed a further decline of ten from the high numbers returned in recent weeks, and included 21 which were referred to the principal epidemic diseases, against numbers declining from 44 to 28 in the four preceding weeks. These 21 deaths were equal to an annual rate of 2·8 per 1000; the rate during the week from the same diseases did not exceed 2·1 in London and 0·4 in Edinburgh. Of the 21 deaths from these epidemic diseases in Dublin during the week under notice, 16 resulted from diarrhœa, three from measles, and one each from whooping-cough and "fever," but not one from scarlet fever, diphtheria, or small-pox. The deaths attributed to diarrhœa, which had ranged from 39 to 20 in the four preceding weeks, further declined last week to 16. The three fatal cases of measles also showed a marked decline from recent weekly numbers. The 146 deaths from all causes during the week included 31 of infants under one year of age and 36 of persons aged upwards of 60 years; the deaths of infants showed a further considerable decline, while those of elderly persons were somewhat more numerous. Four inquest cases and four deaths from violence were registered; and 56, or 38·3 per cent., of the deaths occurred in public institutions. The causes of two, or 1·4 per cent., of the deaths registered during the week were not certified; in London the causes of all but three of the 1280 registered deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was 2·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: W. W. Keir to the *Albemarle;* and W. E. Gribbell to the *Shearwater*, additional, and on recommissioning. Surgeons: A. J. MacDiarmid to the *Indomitable;* and D. G. Addison-Scott to the Portsmouth Division R.M.L.I.

ARMY MEDICAL SERVICE.

Colonel Charles A. Webb retires on retired pay (dated Sept. 19th, 1908).

Lieutenant-Colonel John R. Dodd, from the Royal Army Medical Corps, to be Colonel, vice J. J. La Vettée de la [illegible]beterre Morris (retired) (dated Sept. 9th, 1908).

ROYAL ARMY MEDICAL CORPS.

[illegible]ant-Colonel Arthur M. Davies is placed on retired [illegible]

Major M. P. C. Holt, D.S.O., has been appointed to th medical charge of the troops who will embark at Southampto on board the transport *Plassy* on Sept. 29th for Bombay. Captain J. W. West has been appointed to Dublin a specialist in operative surgery. Captain J. Tobin, from th Northern Command, has been appointed to the Iris Command, to take charge of the Military Families' Hospita at the Curragh. Major M. P. Corkery has been appointe medical officer in charge of the Military Families' Hospita at Woolwich.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions amon officers of the Indian Medical Service:—Lieutenant t be Captain (dated Feb. 1st, 1908): Hugh Clive Buckley To be Lieutenants (dated Feb. 1st, 1908): Rober Knowles, Wilfrid Edward Brierley, James Burne Lapsley James Alfred Shotten, Robert Beresford Seymour Sewell Charles Henry Fielding, William Linton Watson, Franci Romney Coppinger, Arthur de Courcy Cranstoun Charles Wilfrid James Simpson, Frederick Stevenson, James Willian [illegible] Madan Lal Puri, Saty [illegible] Townsend.

[illegible] retirement of the following officers:—Colonel Thomas James Hackett Wilkins (date June 30th, 1908); Lieutenant-Colonel Robert Pemberto [illegible]ated July [illegible], 1908); Lieutenant-Colonel George Henr Bull (date[illegible] July 1st, 1908); Lieutenant-Colonel Henr Armstrong (dated June 30th, 1908); Lieutenant-Colone Frederick Fitzgerald MacCartie, C.I.E. (dated June 30th 1908); and Lieutenant-Colonel John William Unthank Macnamara (dated July 12th, 1908).

TERRITORIAL FORCE.

Royal Army Medical Corps.

The undermentioned officers, from the Adjutancies of units of the Royal Army Medical Corps (Volunteers), to be Adjutants of Schools of Instruction for the residue unexpired of their tenures (dated April 1st, 1908): Major Alexander James MacDougall, Captain Harold Percy Waller Barrow, Captain Edgar Thomas Inkson, V.C., and Captain Langford Newman Lloyd, D.S.O.

DEATHS IN THE SERVICES.

Brigade-Surgeon Robert Lidderdale, late Bengal Medical Service, on Sept. 9th, at Torquay, aged 73 years. He entered the service in 1858, was promoted surgeon in 1870, surgeon-major in 1873, and brigade-surgeon in 1885. He was appointed superintendent of the Vaccination Department for Bengal in 1869 and sanitary commissioner for the Dependency in April, 1880. He retired in 1889.

IMPERIAL YEOMANRY.

Berks: Surgeon-Major John H. Waters resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant Thomas Woodman *resigns his* commission (dated March 31st, 1908). 4th Volunteer Battalion, The Royal Fusiliers (City of London Regiment): The undermentioned officer resigns his commission (dated March 31st, 1908:—Surgeon-Lieutenant Henry C. Nicholls. 2nd (Berwickshire) Volunteer Battalion, The King's Own Scottish Borderers: Surgeon-Lieutenant James Marr resigns his commission (dated March 31st, 1908). 3rd (The Buchan) Volunteer Battalion, The Gordon Highlanders: Surgeon-Lieutenant-Colonel Andrew Mitchell is granted the honorary rank of Surgeon-Colonel (dated March 30th, 1908). The undermentioned officer resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908): Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Andrew Mitchell. 26th Middlesex (Cyclist) Voluntary Rifle Corps: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Captain Percy J. Edmunds.

WESTON-SUPER-MARE HOSPITAL.—The annual house-to-house collection by members of the local friendly societies, which was recently held at Weston-super-Mare, resulted in £52 being raised for the funds of the Weston-super-Mare Hospital.

ascites. The liver was large and hard and the spleen was slightly enlarged. The patient's medical attendant supplied the following history. He first saw the patient on July 20th, 1906, when he found considerable ascites and a slightly developed collateral circulation. The patient admitted that he took two or three litres of wine daily. Paracentesis yielded 12 litres of citrine fluid. An absolute milk diet and iodide of sodium were prescribed, but the ascites recurred and repeated paracentesis was necessary. Up to January, 1907, this was performed nine times; the quantity of fluid obtained varied from 13 to 18 litres. After that the fluid was more slowly reproduced, paracentesis was performed at longer intervals, and the quantity of fluid obtained diminished. At the same time the subcutaneous abdominal veins gradually enlarged. At the period when the ascites was great an umbilical hernia appeared, but when the ascites diminished the hernia nevertheless continued to increase. On May 28th the hernia became strangulated. The sac was opened and the hernia was reduced. The patient completely recovered his health. When seen again, in November, 1907, the liver was large and the subcutaneous abdominal veins were still more developed but there was no trace of ascites. He returned to work but resumed his intemperate habits. In March, 1908, he had acute bronchitis which was followed by the pleural effusion mentioned above. The operation for empyema was performed but the patient was in an exhausted and infected condition and succumbed on April 18th. At the necropsy the veins forming the collateral circulation in the abdominal wall were found for the most part to be larger than the radial artery. They almost all seemed to converge to two large varicose trunks which originated in the epigastric region and ran obliquely upwards to terminate in the first part of the axillary veins. In the sheaths of the recti muscles were numerous orifices from which large veins emerged. A huge vein ran from the suspensory ligament of the liver and emptied into the left side of the subcutaneous plexus. The posterior wall of the sheaths of the recti also showed numerous orifices for the passage of veins which traversed the muscles to the subcutaneous plexus. The omentum was adherent to the abdominal wall for a considerable extent. This union was intimate in the umbilical region above and below the cicatrix of the herniotomy, for a surface 15 centimetres broad and 12 centimetres long. The omentum contained numerous varicose veins which were found to be those which traversed the recti muscles. There was a much developed subphrenic venous plexus which received veins from the phrenico-colic and phrenico-splenic ligaments and œsophagus, and which terminated in two large trunks opening into the vena cava. At the same meeting M. Chauffard also related two cases of spontaneous epiplopexy which he described as a "physiological justification" of Talma's operation.

SPORT AND MEDICATION.

THE "doping" of racehorses, a subject discussed in these columns in July, 1901, is said to be better understood in America than in England. It is regarded here as dishonourable and is indeed a criminal offence, but it is sufficiently known among us to have inspired a sporting author to write fully on the subject. Mr. Nathaniel Gubbins's book, which appeared some seven years ago, described two kinds of "dopes," according to one of which a horse is drugged with opiates or even purgatives to lose a race, and according to another is so treated sometimes with subcutaneous injections of from 10 to 12 grains of cocaine as to run at an abnormally accelerated pace. This latter kind of "dope" is perhaps the descendant of an ancient theory, according to which all animals connected with sport were liable to be medicated in order to fit them for the better performance of their duties. Hawks and falcons, for instance, were anciently the victims of ferocious drugging from the effects of which they frequently fell ill or died. Sir Thomas Browne, in his "Tract of Hawks and Falconry, Ancient and Modern," gives curious details of the treatment of these birds. Down to his times, if not later, it seems to have been a common practice to bleed them or treat them to vapour baths. To improve their sight they were seared "under the inward angle of the eye," and pepper and nettles were administered in order to enhance the hunting instinct, just as Spanish bulls are given hot mashes or otherwise excited before a bull-fight, and as cocks, where cock-fighting is prevalent, are specially prepared for the fray. A hawk or an owl to Sir Thomas Browne was evidently a *corpus vile* on which to make experiments in medication at large. For scab, he says, I have safely given six or eight grains of *mercurius dulcis* unto kestrils and owls, as also crude and current quicksilver, as well as pellets of silver and lead for the cure of worms. Quite recently it was proposed that athletes should be "doped" with oxygen before running or diving, and during the latest attempt to swim the Channel the performer at the end of his great effort is reported to have been receiving administrations of oxygen every quarter of an hour. The propriety of this sort of thing has been much discussed and we believe that the feeling of English sportsmen is hostile to it. An athletic feat achieved under medication cannot be compared, at any rate, with one performed without such accessories. It is a question, however, whether in certain contingencies "doping" of a kind is not permissible. An Englishman in India, for instance, who finds that his syce has sponged a horse's nose with opiated water in order to enhance the creature's endurance during a long journey is confronted with a very nice question in ethics. Sir Thomas Browne would have commended the syce.

THE EXERCISING OF INSANE PATIENTS.

PUBLIC attention has of late been drawn to an unfortunate state of affairs at Epsom and one of which the inhabitants of that pleasant town bitterly complain. During the last few years it has so happened that the vicinity of Epsom has afforded sites which, coming into the market, have been acquired and utilised by the London County Council for the purpose of the erection of the enormous asylums made necessary by the large increase in the insane population which has been one of the most perturbing features of the last few decades. We have always regretted this massing of insane patients in a comparatively small area and felt no surprise when Lord Rosebery in a letter to the *Times*, not long since, uttered a protest against the erection of yet another huge institution. The spectacle of suffering is never an agreeable one, and we have little doubt that if the patients in any general hospital were turned out for an occasional airing in large numbers we should hear that the spectacle was a ghastly one and calculated to scare the women and children of the neighbourhood. But in the case of mental disorder there is in addition to the painful spectacle of disease the added horror which attaches itself in the popular imagination to the idea of the "raving lunatic" and his supposed dangerous character. That in fact any member of a "walking party" is a dangerous lunatic we find it impossible to believe. No superintendent, however anxious to satisfy the proclivities of the Commissioners in Lunacy for a *minimum of restraint*, is in the least likely to permit a patient who is addicted to homicide or to assault and battery to go out with a walking party or to be without the strictest surveillance even while in the asylum itself. But apart from the idea of possible danger to the public, there

practically a teetotaller. I am, Sir, yours, &c.,
Wimpole-street, Sept. 21st, 1908. CHAS. MERCIER.

ON CHRONIC MORPHINISM AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—The article which appeared in your issue of Sept. 12th on Chronic Morphinism by Professor Gamgee is highly instructive and is certainly the best contribution on that subject which I have read. Several theories have been propounded as to the cause of the distressing phenomena which follow abstinence from morphine in cases of chronic morphinism, but in my opinion Professor Gamgee's is by far the most sound. In regard to these symptoms and their treatment there are a few remarks I would like to make. During the last seven years I have treated for chronic morphinism 52 cases and therefore have some little knowledge of the subject. In regard to the symptoms that affect the nervous system I agree with Professor Gamgee, but in regard to the circulatory, respiratory, and gastro-intestinal my experience compels me to differ slightly. The intense cardiac dyspnœa which he speaks of I have not met with except in one case where the patient had been taking 80 grains of morphine per day before coming to me, and it took six months before the drug was entirely stopped. In regard to the gastro-intestinal symptoms, nausea, vomiting, and gastro-intestinal catarrh, these I have not found common, and when they have arisen I have found no difficulty in treating them, except when the patient has been in the habit of taking the morphine by the mouth. Constipation is as a rule present while the patient is taking the drug, and this may persist for some time after the drug has been cut off; strong purgatives may have to be used whilst the patient is taking morphine, but it is unwise to give these when the morphine is stopped. Enemata and mild laxatives are safer methods, bismuth subnitrate may also be given; with careful management I have always found these symptoms disappear.

In regard to treatment Professor Gamgee designates the sudden withdrawal of the drug as the English method. I do not admit that this is the English method; it may be the method adopted by English asylums, but certainly not by the different sanatoriums or retreats which make the treatment of morphinism, narcomania, or inebriety their special branch of medicine. I myself have invariably treated chronic morphinism by the slow reduction method. Professor Gamgee gives the time of from six to ten weeks in effecting this. This as a rule is too short, the average time being 13 to 16 weeks, and I have had cases which have taken over 20 weeks before the drug was abolished so as to avoid severe suffering and mental distress. I am quite aware that there is such a thing as syringe mania, but I find it far more satisfactory to continue the use of the hypodermic syringe till the last dose is given and even afterwards, when only a saline solution is injected. Giving it by the mouth and leaving off the syringe I have found adds to my difficulties. In regard to the nervous system symptoms—(*a*) Insomnia. After the drug has been cut off there is no doubt insomnia is one of the commonest symptoms complained of by the patient. I agree with Professor Gamgee in finding veronal extremely useful but seven grains is of little use; double that dose is required as a rule to combat this symptom and this drug must be slowly reduced or else insomnia is apt to return. (*b*) Uncontrollable restlessness. This is by far the most common symptom and I think the most trying to the patient, the constant twitching of the legs or arms, or as Professor Gamgee more aptly calls it the "fidgets" in the extremities are very trying and distressing to the patient. I have used for the treatment of this with marked success a preparation containing acetanilide two grains, caffeinæ citras five grains, sod. bicarbonate three grains. This remedy has succeeded when everything else has failed. (*c*) Maniacal and suicidal symptoms are rare but delirium and delusions are common; these as a rule pass off with ordinary treatment.

Professor Gamgee does not lay sufficient stress on the danger of administering alcohol either when the quantity of the drug taken by the patient is being reduced or has been cut off. In my experience I find that alcohol aggravates all these symptoms, and I would like to add [illegible] recovered alcohol as a beverage ought to be avoided. In nearly every case in which relapse has occurred, after having been successfully treated, I find that the use of alcohol started the craving for morphine.

I quite agree with Professor Gamgee in strongly condemning any attempt to cut off the patient suffering from chronic morphinism from the drug at once. It is almost criminal treatment, and I also agree with him that these patients should only be dealt with in a place where treatment can be thoroughly carried out—that is to say, where the hygiene is good, the air bracing, a proper nursing staff kept, and the patient is under the supervision of a medical man who has made a special study and has practical experience of this subject. Professor Gamgee does not refer to the after-treatment to prevent relapse. If patients, after their chronic morphinism is cured, would remain under supervision for a considerable time, say six to 12 months, there would be fewer relapses. A long period would not only give them time to build up their physical strength and establish their general health but would also give them more brain power in resisting [illegible] habit.

I [illegible]

JOHN Q. DONALD, L.R.C.P., L.R.C.S. Edin.,
Colinsburgh, Fife, N.B., Sept. 17th, 1908.

TO MEDICAL FREEMASONS.

To the Editor of THE LANCET.

SIR,—May I once again, through the medium of your widely read columns, appeal to medical men, and medical Freemasons in particular, for votes for the Masonic schools? At the forthcoming elections in October there is only one medical candidate for the Royal Masonic Institution for Boys, William Henry Collins, son of William C. G. Collins, formerly physician and surgeon, Bath. As there is no medical candidate for the Royal Masonic Institution for Girls votes for that institution can be exchanged and are equally valuable. Votes for either institution will be gratefully received and acknowledged by me.

I am, Sir, yours faithfully,
WILLIAM WILSON,
Secretary, St. Luke's Medical Lodge of Instruction.
184, Goldhawk-road, W.

RHUS TOXICODENDRON AND ARNICA.

To the Editor of THE LANCET.

SIR,—Your annotation on the subject of rhus toxicodendron in THE LANCET of Sept. 19th, p. 887, interested me, because during the last 12 months I have had under my care two cases of dermatitis which were caused by the climbing variety of this plant. Application of a lotion, containing acetate of lead and tincture of opium, gave so little relief that I resorted to a solution of picric acid (picric acid, grs. 4; sp. vini meth., min. 60; aq. destill., ad 1 oz.).

Some years ago I was called to see a woman who was suffering from a most severe form of dermatitis. She had sprained her wrist and her hostess, a keen amateur homœopath, had applied bandages soaked in arnica lotion, with the result that the patient's hands, wrists, and forearms were inflamed and covered with blisters. Not knowing an antidote for the local effects of arnica we decided to treat the case as a severe scald and used picric solution with very good result. The skin lesions produced by rhus toxicodendron and arnica resemble one another very closely, and the remedy which had acted well for arnica proved equally efficacious for rhus toxicodendron. The solution was applied in the form of compresses, where these could be easily kept in position by a light bandage, and to the parts where this was inconvenient the lotion was applied frequently with a very soft camel-hair brush. It quickly relieved the pain and hastened the healing of the blistered surfaces. The only drawback is its vivid yellow stain which takes a few days to fade away. Some chemists are unwilling to keep picric acid in stock because of its dangerous explosive properties; the solution, however, is perfectly harmless.

As for the therapeutic uses of rhus toxicodendron I have found it of some value in the treatment of that troublesome symptom, nocturnal incontinence of urine. I have given the tincture in five-minim doses, combined with nux vomica and buchu, to a number of young school boys who were suffering from this weakness. It has certainly failed in a few very official until 1890 and is still used as a tonic, alterative, and diuretic. Blood-root, sanguinaria canadensis, is tonic, alterative, stimulant, and emetic, and was formerly official in the United States Pharmacopœia. The root of hydrangea arborescens has diuretic properties and was employed by the Cherokees and early settlers for urinary calculi. The root of Indian physic, porteranthus trifoliatus, was a popular remedy with the Indians on account of its emetic properties. This drug was official in the United States Pharmacopœia until 1880 and its action is said to resemble that of ipecacuanha. The root of wild indigo, baptisia tinctoria, is emetic and cathartic and may prove dangerous in large doses. It has stimulant, astringent, and antiseptic properties and has been used as a local application to sores and ulcers. The entire plant was official in the United States Pharmacopœia from 1830 to 1840. Crane's-bill root, geranium maculatum, is now official in the United States Pharmacopœia and is used as a tonic and astringent. The root of stillingia sylvatica, also official in the United States Pharmacopœia, has occupied a prominent position for more than a century as an alterative. The water-eryngo, eryngium yucci folium, is an old remedy for snake-bite and was official in the United States Pharmacopœia from 1820 to 1860. It is now employed as a diuretic, expectorant, and diaphoretic. In large doses it acts as an emetic and the root when chewed excites the flow of saliva. It is said to resemble senega in its action. American angelica root, archangelica atropurpurea, which was official in the United States Pharmacopœia until 1860, is used for its aromatic, tonic, stimulant, diuretic, and diaphoretic properties. The seeds are also employed medicinally. The root of black Indian hemp, apocynum cannabinum, is official in the United States Pharmacopœia and possesses emetic, cathartic, diaphoretic, expectorant, and diuretic properties. Pleurisy root, asclepias tuberosa, was much esteemed by the Indians and is official in the United States Pharmacopœia. It is used in some forms of disordered digestion and possesses diaphoretic properties. In affections of the lungs it promotes expectoration, relieves pain in the chest, and induces easier breathing. The leaves of stone-root, Collinsonia canadensis, are used by country people as an application to bruises. The root is employed for its tonic, astringent, diuretic, and diaphoretic properties. Culver's root, leptandra virginica, is official in the United States Pharmacopœia and is used as an alterative and cathartic and in diseases of the liver. The root of queen of the meadow, eupatorium purpureum, has astringent and diuretic properties and was official in the United States Pharmacopœia until 1840. It is interesting to note that elecampane, which was formerly grown in large quantities in England, is much used in the United States in affections of the respiratory organs, disorders of the digestion, hepatic troubles, catarrhal discharges, and in skin diseases. The root of echinacea augustifolia is said to be alterative, diaphoretic, and sialagogue. The Indians used the freshly scraped roots for the cure of snake-bite. Echinacea came into notice in England about seven years ago in the treatment of tuberculosis but it failed to justify the hopes that were entertained of it. The roots of comfrey and burdock, plants common in England, are also used medicinally in the United States. Many of these drugs are very largely used in the United States, both officially and otherwise.

STRICTURE OF THE URETERAL ORIFICE.

IN the *Australasian Medical Gazette* of July 20th Dr. H. C. Hinder has reported a curious case of ureteral obstruction which shows the value of cystoscopy in doubtful urinary conditions. A healthy man, aged 33 years, went to hospital complaining of left-sided attacks of abdominal pain which occurred at varying intervals and were at times accompanied by diarrhœa. The pain came on suddenly and was very severe and often accompanied by vomiting. It was felt most intensely in the left groin and extended thence into the renal region and down to the testicle which was drawn up. The pain was paroxysmal and gradually ceased after a few hours. During the attack no blood was observed in the urine but it was often very turbid immediately after it was passed. There was never pain on micturition until the last attack, when there was a considerable amount. The patient never observed that he passed a calculus. There was some frequency of micturition during the attacks but this symptom was not marked. When he went to hospital there was neither sign nor symptom. Ureteral calculus, which had been passed at the last attack, was diagnosed. A skiagram was twice taken with negative result. As the patient felt quite well he was about to be discharged when another attack occurred. Cystoscopy then showed that while the clear urine was spouting from the right ureter nothing was emitted from the left, which for a distance of three-quarters of an inch was distended and of a dull red colour. Per rectum this swelling could just be felt. Suprapubic cystotomy was performed. The swollen end of the ureter in the relaxed bladder was not well marked and without previous information might easily have been overlooked. But bimanually the swelling could easily be felt; it was so tense and hard that it was thought to contain a stone. The ureter was slit up and to Dr. Hinder's surprise about half a drachm of foul pus escaped and was followed by some turbid urine. The flaps of the incised ureter were stitched back to the bladder wall to keep the opening patent and the bladder was closed except for a suprapubic drain. Recovery was uneventful. About four months later another attack of renal colic occurred, after which a calculus of the size of a grain of wheat was passed. It is hard to say why the orifice of the ureter became blocked. Dr. Hinder thinks that it was probably injured during the passage of a sharp stone and that the resulting cicatrisation caused a constriction at the ureteral orifice.

A CHAUFFEUR AND THE COCAINE HABIT.

AN interesting and somewhat disquieting side-issue arose in a case recently heard before Mr. Francis at the Westminster police court, the defendant being charged with obtaining food and lodging under false pretences. It was stated that he had been addicted to the cocaine habit for years and a supply of that drug and two hypodermic syringes were found upon him at the time of his arrest, when, according to medical evidence, he was under its influence. Police evidence proved that in spite of his wretched condition he had taken out a motor-driver's licence during the past year and had had two serious accidents while driving. Mr. Francis expressed his surprise and hoped that information would be given to the authorities which would prevent the renewal of the licence. Mr. Titterton (the chief clerk) remarked that in the present state of the law he did not know how the licence could be refused. The case presents an obvious parallel to that of an engine-driver being taken suddenly ill on the foot-plate which was discussed somewhat freely at the beginning of the year. In this instance it is even harder to suggest an adequate remedy. In a recent letter to the *Royal Automobile Club Journal and Motor Union Gazette* Dr. H. E. Bruce-Porter called attention to the facts that the Competitions Committee has decided that all the drivers in the "Four-Inch" Club race shall be medically examined before being allowed to compete, and that all the drivers of the Motor-cab Company are examined for physical fitness. He hopes that ultimately all bodies issuing licences to drive will require a certificate to the effect "that the applicant is not suffering from any disease which renders it dangerous to and now three kitchens are in existence in Chelsea at which dinners are provided, not only for nursing but also for expectant mothers. One of these is in the Salvation Army hall in Denyer-street; another in St. John's Mission Hall, World's End; and the third and central kitchen in Sydney-street, whence it was removed from its former quarters in Arthur-street. It has been found from experience that it is more convenient for the mothers that the kitchen should be near their homes. It is therefore proposed as the scheme develops not to move into larger central premises, but rather to multiply the small centres. Suitable cases to benefit by the scheme are selected by responsible persons—i.e., by a nurse, a district visitor, or a lady inspector. The dinners consist of meat and vegetables with cocoa, with occasional interludes of fish, soup, or pudding. The meals are provided on five days of the week, the exceptions being Sunday and Monday, because the poor nearly always contrive to provide a good meal on Sunday, enough of which will be left to feed the family on Monday also. The dinners are served from 12 to 1.30 and women can attend two or three months before their confinement and up to the time that the baby is nine months old if they continue nursing. A short time ago I paid a visit to the central kitchen in Sydney-street, Chelsea, during the dinner hour and found 15 women, for the most part young and with infants, enjoying an excellent meal in a good-sized room in the basement next to the kitchen. At this kitchen an average of 30 dinners were provided daily in July and at the St. John's Mission kitchen about 15 dinners were supplied daily. The kitchen in Denyer-street was closed during the summer months. The following summary of the work done will show the value of Mrs. Gordon's labours and those of her collaborators. There were served 6697 dinners during the year 1907, while between Jan. 1st and June 30th, 1908, 4936 dinners were provided. The cost of the undertaking for 1907 was £150 and the cost of each dinner was approximately 4½*d.* The mothers and infants whom I saw seemed healthy and I was informed that in several instances the mother was not able to suckle the child when she first attended, but that after she had received good nourishment for a time she was able to do so. I was also told that in Chelsea the difficulty met with so frequently of persuading mothers to suckle their infants was greatly lessened owing to the fact that there are no large factories in the borough in which women are employed. Consequently the majority of the women are at home all the day, or if they do go out to work it is only to perform some light labour which will not keep them long from their homes. The infants of the mothers who are being fed are inspected by a medical man and weighed every week, and the mothers take the greatest interest in the weight of their infants. The main differences between the Coullet restaurants in Paris and Mrs. Gordon's kitchens in Chelsea are that at the latter the meals are not free, though the price is so very moderate as 1*d.*, that the women must be recommended as fit cases, and that they must attend regularly having once been recommended. This comes to mean that the women assisted in Chelsea will be of a respectable class, while in Paris a helping hand is given to any woman who applies for it, pregnancy or nursing being the only qualifications.

The next and most ambitious scheme in aid of the proper bringing up of infants in London was inaugurated in St. Pancras parish in the early part of 1907 and has already been alluded to in THE LANCET.[1] Dr. J. F. J. Sykes, medical officer of health of St. Pancras, has laboured long and hard to encourage the natural feeding of infants in the district under his sanitary supervision and the St. Pancras School for Mothers is a philanthropic attempt to further the efforts now being made by the municipality. The St. Pancras School for Mothers is based partly upon the principles of the School for Mothers at Ghent but modified and adapted to the needs of the St. Pancras district, embracing as well the system in force in Chelsea of feeding expectant and nursing mothers. The municipal and philanthropic schemes in St. Pancras for the reduction of infantile mortality and sickness are worked in unison to some extent. The official lady health visitor of St. Pancras, having access to the notifications and registrar's returns of all births occurring in the borough, is able to select cases within easy distance of the school which in her opinion might be benefited by the advice and treatment given there. The parents are informed by her of the objects of the school and she tells them when to attend. The school for mothers has its quarters on the ground floor and basement of a good-sized building in Chalton-street, Euston-road, N.W. I visited the school and I saw expectant and nursing mothers at dinner, and inspected the whole premises and received all the information which I asked for in regard to the working of the scheme from the lady superintendent. The work is divided into the following departments: 1. Infant consultations. 2. Dinners for nursing and expectant mothers. 3. Educational classes for mothers. 4. Provident maternity club. 5. Home visiting. 6. Fathers' evening conference. The titles indicate the kind of work done under each heading.

1. The infant consultations form a medical department for the treatment of infants under 12 months of age. Miss Dora E. L. Bunting, M.B., B.S. Lond., who acts as honorary medical officer to the charity, attends at the school on two afternoons of the week to examine babies and to give advice as to the feeding, clothing, and general management, as well as to assist the mothers in any medical matters.

2. To come to the dinners, the rules are the same with regard to the feeding of expectant and nursing mothers as are in force at Chelsea, except that the charge for the dinner is 1½*d.* instead of 1*d.* The dinners at St. Pancras are provided at an average cost per head for actual food of less than [illegible]½*d.*, and this is probably much the same as the cost at Chelsea, where the 4½*d.* covers all the expenses and not only the actual food. The mother pays 1½*d.* per meal when able; in some cases private individuals or charitable associations bear the cost, while in a few other cases meals are provided gratuitously if after investigation the cases are found to be deserving ones. Many of the expectant or nursing mothers are said to be almost starving when admitted to the meals, and the lady superintendent informed me that the results to mothers and children from substantial and nourishing food have been most gratifying. The cleanliness of the building, the plentiful supply of food, and the general well-being of the regular attendant, can hardly fail to strike every visit

3. The educational classes for mothers have more or less succeeded in their object, but exactly how far it must be always difficult to say. The diffusion of information among uneducated persons is difficult and disappointing, and too much must never be expected from it. The knowledge is being diffused, but the actual results may not be appreciable for some time. On Thursday afternoon of each week a cookery class is held at the school, at which women are taught how to prepare and to cook simple nourishing dishes. It is well known that this kind of teaching is greatly needed in all parts of England; in many provincial and country districts county and municipal authorities have been trying to supply it. The result is that the poor housewives of London are more behindhand in domestic economy than many of their country compeers. A knowledge of the manner in which to prepare and to cook cheap and nourishing food has been found generally absent in St. Pancras, and this is a matter which the school is trying to alter. Simple dressmaking is also taught. On Tuesday evenings women are invited to practise cutting out at the school and on Wednesday afternoons, while mothers make garments for their children, elementary lectures are given inculcating the value of fresh air and cleanliness; the meaning of economy with respect to food; and the various lessons to be learnt for the management of pregnancy and the care of infants. This class is said to be most successful in its results; the mothers manifest great interest in the proceedings and willingly undergo catechism on the previous lesson, showing that they certainly absorb a large amount of extremely valuable information. This information spreads. The women of the working class are gregarious in their habits—is it not considered by them a mark of gentility "to keep yourself to yourself"?—and while they are slow to learn, when once they become impressed with certain simple truths—as the good effects of the open window, the healthfulness of the daily bath, the injurious influence of "comforters," and the importance of breast-feeding—they come to regard these things as articles of faith and to disseminate the gospel throughout the area in which they and their acquaintances live.

4. A provident maternity club has been instituted in connexion with the school, by the agency of which money is laid

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[1] THE LANCET, June 15th, 1907, p. 1665.

right through the Acts, and are found in the Acts and the Gospel equally." This last line of argument might be strengthened by consideration of the treatment applied by the Good Samaritan to the man wounded by brigands—to wit, the bandage saturated with wine and oil, a practice for which more than a century later than St. Luke there is the authority of Galen. *Sed haec hactenus.* It will, indeed, tax the resources of the Higher Criticism to shake the conclusion of latest finding of the orthodox that "we are fully warranted in affirming that the evidence of the books themselves entirely coincides with the verdict of early Church history regarding the authorship and that there are few facts in literature better established than this—that St. Luke, the Beloved Physician, the companion and fellow-labourer of St. Paul, is the author of our Third Gospel and the Acts."

LUMBAGO OR RUPTURED MESENTERY.

Dr. De Busscher and Dr. Schoenfeld at a recent meeting of the Ghent Medical Society mentioned several cases where injuries followed by pain in the loins which was apparently of the nature of ordinary lumbago proved to be due to a rupture of *the mesentery, this being made evident by* effusion into the hypogastric region. In one case this effusion was thought to denote tuberculous peritonitis, and tuberculin was injected for diagnostic purposes. There was no reaction and the patient ultimately recovered under rest and an abdominal belt. Mesenteric injury is occasioned by violent exertion, such as lifting a heavy weight, the patient having previously filled his lungs by a very deep inspiration, thus fixing the origins of the shoulder muscles, and at the moment of supreme effort involuntarily contracting the diaphragm and abdominal muscles, thus tearing the mesentery. Probably operative measures are rarely required, the effusion becoming reabsorbed with the help of an abdominal bandage, the patient being, of course, kept at rest. These cases are of considerable interest as questions of prognosis as well as of diagnosis frequently occur in connexion with the insurance of workmen, and disputes as to the nature and duration of cases of "lumbago" are by no means uncommon. Of course, in examining them care must be taken that the bladder and sigmoid flexure are empty.

THE autumn meeting of the South-Eastern Division of the Medico-Psychological Association will be held, by the courtesy of Dr. F. A. Elkins, at the Metropolitan Asylum, Leavesden, on Tuesday, Oct. 6th. Dr. Elkins will entertain the members to luncheon, after which the meeting of the divisional committee will be held, followed by the general meeting. The members will dine together after the meeting at the Café Monico, Piccadilly-circus, London, W., at 6.45 P.M., provided that a sufficient number agree to dine. (Dinner 5*s.*, exclusive of wine. Morning dress.)

A TELEGRAM from the Governor of Mauritius received at the Colonial Office on Sept. 18th states that for the week ending Sept. 17th there were 7 cases of plague reported and 5 deaths from the disease.

THE discussion upon Human and Bovine Tuberculosis at the International Congress on Tuberculosis at Washington is to be opened by Professor Robert Koch.

BRISTOL MEDICAL SCHOOL.—The annual Bristol medical students' dinner will be held at the Royal Hotel, Bristol, on Oct. 1st. Major H. C. Thurston, C.M.G., R.A.M.C., will be the president and Sir Rubert Boyce, F.R.S., the guest of the evening. Tickets (5*s.* each) may be had on application to the honorary secretary, Bristol Royal Infirmary.

NOTE ON FRENCH AND GERMAN FOR MEDICAL STUDENTS.

BY WILLIAM OSLER, M.D. OXON. & McGILL, F.R.S.,
REGIUS PROFESSOR OF MEDICINE, OXFORD.

AT the beginning of each academic year I am in the habit of sending to the undergraduates in medicine a memorandum on the importance of the study of French and German. A good working knowledge of these languages may be very easily obtained. The plan recommended is: 1. The student provides himself with elementary text-books in French and German on the subjects at which he is working. With a very slight knowledge of grammar and with the aid of a dictionary he can very quickly learn to read such books intelligently. 2. For the senior student reading classes are formed, particularly in physiology, and of these Miss Florence Buchanan, at The Museums, has had charge, and she has been most helpful. 3. In the long vacation students are urged to spend a semester at one of the French or German medical schools. Through the courtesy of the professors in charge I have found it very easy to get places for men in the laboratories. Lastly, the senior students are recommended to get into the habit of looking over one of the French or German journals each week. With a little persistence and with a very slight expenditure of time a medical student should have both these important languages at his command before graduation.

The following list of books kept by Messrs. Blackwell and Co. and Messrs. Parker and Son, Oxford, may be useful:—E. Aubert: "Phénomènes de la Vie," 1*s.* 8*d.*; "Premières Notions de Chimie," 1*s.* 6*d.* J. Joubert: "Traité d'Électricité," 6*s.* 4*d.* H. de Meric: "Dictionnaire des Termes de Médecine," Part I. (English-French), 5*s.*; Part II. (Français-Anglais), 4*s.*; Two Parts in one volume, 7*s.* 6*d.* F. Schenck and A. Grueber: "Leitfaden der Physiologie," 5*s.* 5*d.* Kienitz-Gerloff: "Physiologie und Anatomie des Menschen mit Ausblicken auf den ganzen Kreis der Wirbeltiere," 3*s.* E. Cohen: "Vorträge für Aerzte über physikalische Chemie," 8*s.* J. E. Reynolds: "Leitfaden zur Einführung in die Experimentalchemie," four vols.: (1) Einleitung, 1*s.* 5*d.*; (2) Metalloide, 2*s.*; (3) Metalle, 2*s.*; (4) Chemie der Kohlenstoffverbindungen oder organische Chemie, 2*s.* 8*d.* P. Blaschke: "Medicinisches Wörterbuch in deutscher, französischer und englischer Sprache in einem Alphabet," 6*s.* Hugo Lang and B. Abrahams: "German-English Dictionary of Terms used in Medicine and the Allied Sciences," 15*s.* H. G. Fiedler and F. E. Sandbach: "A First German Course for Science Students," 2*s.* 6*d.*; "A Second German Course for Science Students," 2*s.* 6*d.* W. A. and E. E. Osborne: "German Grammar for Science Students," 2*s.* 6*d.*

Oxford.

NOTES ON THE LACTIC FERMENTS AS THERAPEUTIC AGENTS.

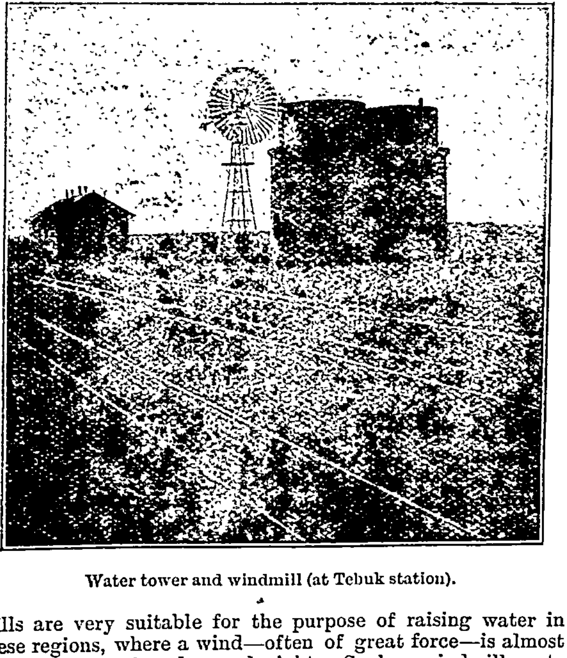
BY FRÉDÉRIC S. MASON, B.Sc. (FRANCE), M.P.S.

SINCE Metchnikoff began to publish his investigations and the butter-milk theory became popular much clinical evidence has been forthcoming. The object of this paper, however, is not to question or to affirm the truth of the lactic-acid theory but to point out some of the fundamental principles which underlie Metchnikoff's reasonings and which appear to have been overlooked in the enthusiasm with which the medical profession and the general public are taking to the buttermilk craze. Neither is there any intention to specify any particular bacteria for curdling milk, since it is well known that the property of producing lactic acid is common to a vast number of micro-organisms. As a matter of fact, many saprophytes and pathogenic bacteria which fall into milk on exposure to the air are just as capable of giving rise to lactic fermentation under favourable conditions as the ferments maya, kephir, leben, &c., which have been so long in use amongst Oriental races. The latter, however, contain sufficient useful lactic-acid-forming bacilli to counteract those which give rise to toxins and secondary alkaline fermentation. The slight danger of even such pathogenic bacteria as the streptococcus, staphylococcus, typhoid bacillus, the spirillum of Asiatic cholera, &c., has been beyond Dat-el-Haj, the solitary station-building is constructed on almost the same plan though on a much smaller scale.

Meissner Pasha, the chief engineer for the construction of the railway, resides at Ma'an in a stone house built close to the station. He was unfortunately absent when the Commission passed through on its downward journey, having gone to the head of the line. On the return journey, however, two of our number separated here from the rest of the Commission who proceeded directly to Damascus; we made a rapid excursion to Petra and on returning to Ma'an we found that Meissner Pasha had come back. He was good enough to furnish me then, and since by correspondence, with much valuable information on many points connected with the problems which the Commission was called upon to solve.

The water-supply in the neighbourhood of Ma'an station is derived from a spring called Ain-el-Kelbé and from numerous wells. The [illegible] yards from the station; the water here [illegible] small stone cistern [illegible] This has no parapet round and [illegible] undoubtedly takes place. The spring yields about 25 tons of water a day; some of the water is carried from the spring by a conduit to a well close to the station. The soil here [illegible] to be composed of a mixture of calcareous stone and clayey earth below the surface of sand. The well is 18 metres deep; by the side is a steam pump which raises the water to two reservoirs of 100 tons each on the top of a stone tower close by. The pump can also be worked by a light metal windmill of what is called the American pattern, though this (and most of those elsewhere along the line) is of German origin. Similar water towers with steam pumps and windmills are found at many of the principal stations on the railway. These light windmills are very suitable for the purpose of raising water in these regions, where a wind—often of great force—is almost constantly blowing day and night. Such a windmill costs about £100, or, including the cost of putting up, about £120.

Fig. 2.

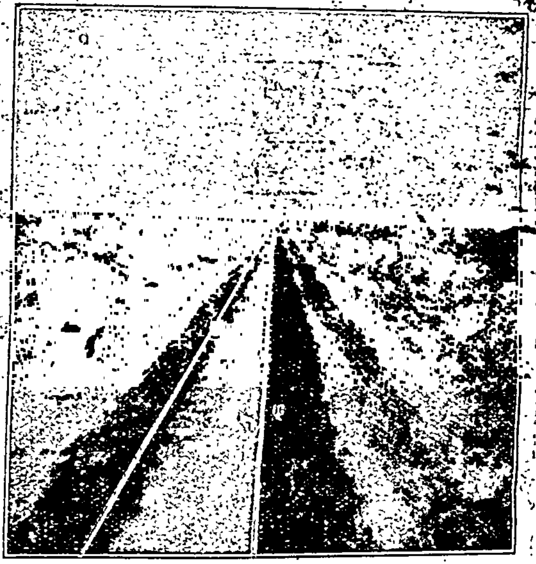


Water tower and windmill (at Tebuk station).

The well just described yields about 30 tons of water per day, to which must be added about 10 tons brought from Ain-el-Kelbé. There is a second well being dug 24 metres away from the first; here a layer of water was found at 10½ metres depth. A third well exists about 150 metres away in another direction; its depth is 15 metres and its yield about 50 tons. A fourth well has been sunk in the garden of Meissner Pasha's house; its depth is also 15 metres and it yields about 24 tons of water per day. Finally, a kilometre to the north of the station and about 100 metres from the line is a fifth well; it is said to be only 5 metres deep and to yield 50 tons per day.

It will be seen that there is no lack of water at Ma'an; but its quality is less satisfactory than its quantity. The water from the Ain-el-Kelbé springs gave the following results on analysis: Colour, faintly yellow; smell, faintly earthy; chlorine, 15·4; nitrogen—as nitrates 0·029, as free ammonia 0·003, as organic ammonia 0·005, total 0·037; oxygen absorbed by the permanganate process in three hours at 27° C., 0·0648; total hardness 15·08, permanent hardness 14·06; total solids, 56·4. All the preceding figures represent grammes per 100 litres, or parts per 100,000. The well waters of Ma'an were not analysed; they are said to be better than the spring water, but they contain much calcareous matter, tend to cause gastric disturbance, and are shunned by some officials on the line, who import their water from Amman 237 kilometres away.

Fig. 3.



The line across the desert.

The climate of Ma'an is cooler than is that of places further south; the thermometer never rises there, it is said, above 40° C. (104° F.). I noted there, at 1 P.M. on June 7th, a temperature of 33° C. (91·4° F.). Unfortunately no meteorological records exist at present for any of the places along the Hedjaz Railway, with the single exception of certain pluviometer readings kept by Meissner Pasha for the last year or two at Ma'an. He has kindly furnished me with the following readings, which show how scanty the rainfall is here:—

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,,	,,	18th	2·5
1906.	Jan.	4th	1·75
1906.	Jan.	5th	0·50
,,	,,	14th	0·75
,,	,,	15th	5·75
,,	,,	28th	4·50
,,	Feb.	1st	5·00
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	Total ...	... ...	80·45

It will be seen from these figures that in two years only some three inches of rain fell at Ma'an. Sand storms, which are very frequent and severe at some places on the line, are not common here; they occur perhaps three or four times in the year.

Ma'an had been suggested as a possible site for the future pilgrims' lazaret. There would be abundance of land suitable for the construction of such lazaret. Good building stone is found in considerable quantity; it occurs in large nummulitic lumps. The station buildings are extensive, and are mostly, if not all, built of this stone. There is a buffet and even an hotel at the station. I had occasion to stop a night

From a practical standpoint the dried bacilli are preferable to butter-milk, since they can be obtained by evaporation at a low temperature and their activity indefinitely preserved in hermetically sealed tubes. The economy of implanting milk from day to day with old butter-milk is not desirable, because of the possibility of the culture degenerating into a mixed culture, and since a 30 centigramme tablet of pure cultures will curdle a litre of boiled milk (when cooled to 40° C.) in about 12 hours, besides partially peptonising the milk proteid; the economy therefore is uncalled for. Equally good results, however, are claimed by the administration of the tablets of dry bacilli with or without milk. The amount of lactic acid obtainable with lactic ferments is only limited by the amount of saccharine matter present in the culture medium, for if the lactic acid formed is neutralised from time to time by calcium carbonate the bacilli continue to grow.

The lactic acid therapy has still some opponents on account of the somewhat sensational statements made and the literature on the subject leaves too much to the imagination; the writer hopes therefore that these considerations will explain the possibilities of the lactic acid bacilli in the treatment of many difficult gastro-intestinal diseases, the prevention of gout and rheumatism, and the long train of sequences leading up to nephritis, arterio-sclerosis, and pre-senility.

Paris.

REPORT OF THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE-MINDED.

II.[1]

THE next series of problems dealt with by the Commission is that connected with mental defect and crime, and the after-school life of feeble-minded persons in prisons, workhouses, casual wards, common lodging-houses, and shelters is considered. Dr. J. Scott, in an able *résumé* of the problems, states that during his connexion with the London houses of detention he has dealt with many feeble-minded persons who could not be certified as insane but who could not be fairly held responsible for their misdeeds. Many of these are such as have not been kept in any control by their parents and who have had but scanty education owing to the undesirability of their presence in the ordinary schools. They are only fit for unskilled labour and even for it are often too stupid or too wanting in application. They are frequently in trouble for breaking the law and being sent to prison, usually for short periods only, soon return to their mischievous ways. In prison they are not amenable to penal discipline or to reforming influences. They have but little self-respect and home ties do not weigh much with them, so that to many of them prison is a harbour of refuge where they are spared the trouble of getting food and lodging. Dr. Scott further adds that when such persons are at liberty their friends do not as a rule welcome them nor are they fit to take part in the struggle for existence. By their proneness to commit larceny, arson, indecent assaults on children, &c., they are a constant source of annoyance, expense, and danger. Many are unfit, without care and discipline, to lead inoffensive lives, and it is important to consider if any means can be taken to prevent these undesirables from producing their like. The evidence that came before the Commission is unanimously in favour of segregation or detention, in a large number of cases of mental defect, after the period of childhood. Such detention as is now practised is neither preventive nor reformatory. It has relation to the fact that an offence has been committed, but none to the fact that the offence was committed by a mentally defective person. Miss Dendy, honorary secretary of the Lancashire and Cheshire Association for the Permanent Care of the Feeble-minded, gave evidence to show how horribly disastrous are the results of leaving the feeble-minded at large, and quoted cases to show the evil uses to which such persons are put by unscrupulous relatives. Mr. Allen, chairman of the Special Schools Committee of the London County Council, thought that probably the bulk of the children who would go to the custodial homes never ought to go out into the world at all, and on leaving school should be drafted into colonies where they may be efficiently segregated. Dr. Ashby was of opinion that the large, unguarded, and unprotected class of idiot and imbecile children and older people for whom no supervision exists tend to an increase of the criminal and immoral classes. Dr. Whitwell said that the feeble-minded who were capable of a considerable degree of education were usually retained at home, at least until after puberty, but that at that time physical evolution taking place, in the absence of intellectual control, development was apt to result in acts of theft, cruelty, incendiarism, homicide, and various offences of a sexual or perverted sexual nature, and that under existing conditions education on the usual lines was so entirely erroneous as to result in the feeble-minded spending their lives alternately in the prison, the workhouse, and the asylum. Such as have had the advantage of having been in asylums for the feeble-minded lose on their discharge all the advantages of their training and sink by degrees to the workhouse. Dr. E. Marriott Cooke points out how those who have benefited most by the care and training which they have received and who seem to be the most promising are those for whom detention is especially required. While in the asylum they present a bright and intelligent appearance and perhaps have become, under supervision, to some extent self-supporting, but attempts to place such persons out in the world generally meet with failure and the individuals ultimately gravitate to the workhouse. Dr. T. S. Clouston in his evidence said he had come to the conclusion that feeble-minded young women in a large city were subject to overwhelming temptations and pressure towards sexual immorality. He found that it was the exception among a certain class for any of them not to have been sexually tampered with. Many of them had illegitimate children and at a very early age. He is of opinion that when illegitimate children are borne by such young women the chances are enormously in favour of their turning out to be imbeciles, or degenerates, or criminals. Mr. Legge, then inspector of reformatory and industrial schools, thought that every feeble-minded person should, on reaching a certain age, be examined, and if found to be suffering from mental deficiency such as might render him unfit to protect himself or not fully responsible for his actions, be segregated for an indeterminate period. Sir Edward Fry pointed out that in a ruder state of society little heed was taken of feeble-minded children and that many of them probably died at a comparatively early age, but that as we learn to think more tenderly of the inferior members of our race we seek to protect them from their calamities and to preserve their lives to the utmost. But in so doing we incur the responsibility of preventing the perpetuation of a low class of humanity, for otherwise the beneficence of one generation would become the burden and injury of all succeeding ones.

In the three years 1902 to 1904 3119 juvenile offenders passed through remand homes in London. Of these there were taken at haphazard 109 boys and 28 girls. Of the boys 37 were graded between "backward, slightly mentally deficient, and mentally deficient," and of the girls 16 were similarly classed. If these figures are fairly representative it may be said that a large number of juvenile offenders, in whom the connexion between mental defect and criminality may be observed in the earliest stages, come before the magistrates. But unfortunately no advantage is at present taken of this opportunity of dealing with the evil at its first manifestation. At a little later stage these unfortunates are sent to prison or are "bound over" or discharged. Unless certified as insane they cannot be detained. Even if treated as insane, which they can hardly be under the present law, on discharge to the workhouse the Poor-law medical officer and the magistrate at the workhouse may refuse certification and order of detention. There is no institution intermediate between the prison and the lunatic asylum to which they may be admitted. Of the prisoners at Pentonville it appears that about 100 a year were so far mentally affected as to be quite unfit for prison discipline. These represent the extreme cases which mostly drift to asylums. Besides these not less than 20 per cent. of the prisoners show signs of mental inefficiency. In the various local prisons of England and Wales the same state of affairs is to be found. In the year ending 1904 there were 145 prisoners who, although not certainly insane, were unfit for ordinary penal discipline by reason of mental deficiency. These did not represent the total number of the beyond Dat-el-Haj, the solitary station-building is constructed on almost the same plan though on a much smaller scale.

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[1] No. I. was published in THE LANCET of Sept. 19th, 1908, p. 880.

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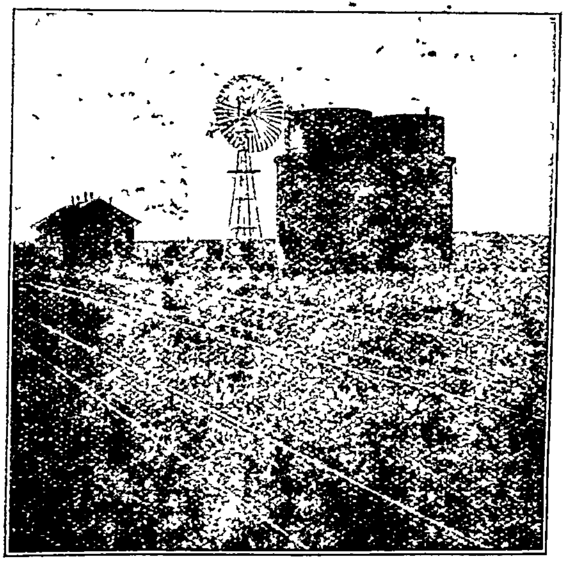

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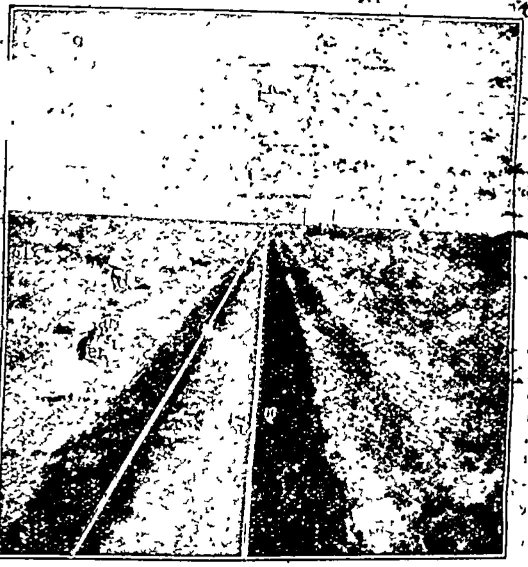

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between. Some good may perhaps be done by the application of a pulicide to a room when, for example, a rat is found dead in it and the inhabitants of the room are compelled to live or to work in it. The pulicide must, however, be applied within 24 hours after the death of the rat, and it should be remembered that the room is always liable to reinfection by the advent of fresh plague-infected rats carrying fleas with them into the room. From what has been said above it is obvious that a gaseous disinfectant which is alike poisonous to rats and fleas and which is capable of penetrating into the inaccessible places frequented by these creatures is the only one which offers much hope of success in combating the plague.

Experimental Disinfection.

At present experiments are being carried on in the Bombay Laboratory with a machine (Clayton gas machine) which can produce a large volume of gas, poisonous alike to rats and to fleas. The advantage of this machine is found in a mechanical device which forces the gas into the room to be disinfected and so brings about a greater concentration and diffusion of the disinfectant than have ever before been accomplished. Apart, however, from these experiments, which have not yet been completed, certain experiments have been carried out with liquid disinfectants. These latter experiments prove that the ordinary disinfectants used for destroying bacilli are of little use in destroying plague bacilli which are protected from the action of the disinfectants within the bodies of the fleas which are capable of withstanding immersion without harm in the majority of the most powerful bacteria-killing disinfecting fluids. Thus, for example, Captain Gloster has shown that fleas will emerge unscathed from an exposure of ten minutes in a solution of so powerful a bactericide as a 1 in 500 dilution of acid perchloride of mercury. On the other hand, he has shown that fleas exposed to the action of an emulsion of kerosine oil in a dilution of 1 in 1000 for two minutes are almost always killed, while this substance failed to kill bacteria even in a dilution of 1 in 10. The experiments detailed above were carried out in test tubes, the disinfectants being thus brought intimately in contact with the fleas. It was necessary, therefore, to test the efficiency of these disinfectants in actual plague-infected rooms. On the one hand, the Plague Research Commission has shown that infected rooms still retain their infection after thorough disinfection with so powerful a germicide as 1 in 750 acid perchloride of mercury. Of 31 observations infection remained in the houses after this form of disinfection in 13 cases, or 29 per cent., of the houses examined, a percentage which was almost exactly the same as those found in houses which had not been disinfected at all. On the other hand, Captain Gloster has been able to prove that plague-infected rooms can be readily disinfected by the application of an emulsion of kerosine oil.

Experiments on Animals.

The following further experiments were carried out. A small room or godown was infected with plague. A guinea-pig which had been placed in it was found dead from plague on Feb. 24th. The dead guinea-pig was removed and replaced by a healthy one. This guinea-pig died from plague on Feb. 27th. Another healthy guinea-pig was placed in the godown; it died from plague on March 6th. A fourth guinea-pig was placed in the godown and it died from plague on March 9th. A fifth guinea-pig was then introduced and being sick of plague on the 4th it was chloroformed to death. The godown was thus proved to be thoroughly infected on the 11th. The floor of the godown was washed out with kerosine oil emulsion, 1 in 20, and on the following day a healthy guinea-pig was introduced. This guinea-pig remained healthy and lived in the godown till April 9th. The experiment was repeated in the case of another godown. Three successive guinea-pigs having died from plague in it the godown was then disinfected with 1 in 20 dilution of kerosine oil emulsion. On the following day a healthy guinea-pig was placed in the godown. The guinea-pig lived for days in the godown and remained well in both the above instances. A very badly infected godown was rendered safe by the floor being washed out with a 1 in 20 dilution of kerosine oil emulsion. The majority of the substances tested were patent products and the tests were made with the samples sent for trial.

Kerosine Oil Emulsion Recommended.

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It is a curious fact that until the present year Wells has been free from enteric fever for some years, or possibly we should have heard of these layings before now. As Dr. Nash pointed out in his report, "the danger is of course accentuated when typhoid fever exists in the town." After his visit to Wells the county medical officer of health press too far forward they go under this guard and lift it. This action at once stops the machine and the hand cannot be carried forward and crushed. Also only women are employed, and no "young person," therefore it is only natural that there are no accidents on record. If this or any other machine is overloaded there is a fly back switch which at once stops the electric current and it cannot be set on again till the machine is sufficiently unloaded. There is a great advantage in employing electric power to work a laundry. It is very clean and the machinery can be set going any time either night or day, w[illegible] present or absent. It sometimes [illegible] ships with all that they need it [illegible]undry open all night as well as all day. From 55 to 60 laundry workers are employed and the premises are large enough to hold 290 workers without exceeding the limits in regard to space laid down in the Factory Act. [illegible] plenty of breathing room but there [illegible] to pump the air out of the ironing room. On both sides of this vast and lofty department there are high windows with louvre openings at the top and French openings—that is, an opening like a double door—for the lower part of the window. All these are opened in summer, while the openings that are above the heads of the workers are more especially useful in winter. The entire premises are scrubbed out every week and thus all is kept bright and clean. Also many fly-catchers are used, so that the linen shall not be fly-blown or contaminated by these at times dirty insects.

After thus examining the latest improvements affecting the sanitary problem involved in the washing of ship's linen I boarded the *Caronia*. This and her sister ship the *Carmania* represent a new departure in ship building that is of special interest from the health point of view. The only difference between these two ships is that the *Caronia* has reciprocating engines and the *Carmania* has turbine engines. The idea was to try which of the two sorts of engines was the best by applying them to ships that were in every other respect built in the same way, but though these two ships have been running since 1905 it does not seem as if the experiment has as yet supplied an answer to the question. Leaving engineers to decide this matter the point interesting as regards the sanitary aspect of ship building may be stated as follows. To build a high-speed ship—that is, a ship going 16 or more knots per hour—a great deal of room has to be devoted to place large-sized machinery on board, together with the casing of the big funnels and the numerous large ventilators that have to be carried below to supply enough air to the furnaces. All this results in taking up so much space that it has seriously interfered with the size of the cabins. Consequently, from the health point of view, we should advocate slow boats where the machinery does not take up much room, for there would then be a better prospect of plenty of space in the cabins. To-day, however, we have in the *Caronia* and *Carmania* a new type of ship—namely, fast boats with high superstructure. This was obtained by a design and system of balancing which assured an unprecedented stability. In consequence of this stability a large amount of structures could be erected above the main decks or body of the ship. Here, then, was found the means to give large rooms to the passengers in spite of the fact that these are swift ships, for they travel at the average rate of 18 knots an hour; indeed, I have just crossed in the *Caronia* and our average speed was 18·30 knots. The fact is, however, that it was not expected that these ships would travel so fast; they were built for comfort, for freedom from sea-sickness, and not for speed. The rapidity at which they travel has come as an agreeable surprise. From personal experience I can vouch for steadiness. Nevertheless, we had two "moderate gales," a fair allowance of ground swell, and the Atlantic roller came lazily along as usual to try the ship. So steady is this ship that it has become known as the ladies' boat and is patronised by the worst sailors; yet in spite of this fact there were very few people ill during the crossing.

Nowhere have I seen such spacious cabins. The cabin which I occupied, which very rarely holds more than two passengers, though a third bed might be made up on the sofa, measured 10 feet by 12 feet; there are rooms in hotels that are not any larger. There are a large wardrobe in which to hang clothes, a chest of drawers, with a writing-desk that pulls out, and also a folding table that can be placed in any part of the cabin. There are also numerous little shelves and little drawers for holding toilet knick-knacks, &c., and even an arm-chair is provided. This latter certainly was made of light cane work, so that if it should fly about in the cabin during a storm it would not hurt anybody, but the ship is so steady that nothing seems to move. At times I felt inclined to doubt if the ship itself was moving and the ingenious devices which I had brought with me to test motion and vibration had to remain at the bottom of my trunk. This sort of room gives on to the promenade decks. It will be noted that they are called rooms and not cabins, among other reasons because they have windows instead of portholes. Above the window there is a ventilator, which by turning a handle can be opened more or less widely according to the strength of the wind blowing against it, and it is very useful when the wind is too violent to have the window open. Also, if it is very cold the rooms have each a small electric stove and this can be used or not just when required. On the inner side, in the passages there is not only much natural ventilation but air trunks provided with power act as extractors, notably in all the lavatories and bathrooms. If a passenger should close both his window and the ventilator above it there are several openings on the opposite side which he cannot close and he is thus supplied with air in spite of himself. Below, where there are no windows in the third-class and [illegible]w's quarters, the ventilation is assured by powerful fans revolving within thermotanks and patent port-holes that let air in even when they are closed. In all there are 11 machines and they are used sometimes to pump air in and sometimes as extractors. Experiments were made when these ships were constructed and it was found possible to change the entire atmosphere within the ship in four minutes. There is no common department in the steerage, where the passengers sleep side by side; it is divided into compartments with generally only four berths in each.

The stewards' quarters are sometimes satirically denominated the "glory hole." In old ships and some modern ships it is barely fit for human habitation. On the *Caronia* the stewards' quarters are supplied with mechanical ventilation, extensive lavatories, and a bath. My steward, in expatiating to me on these advantages, concluded by saying, "and that is why we stick to the ship." The firemen's quarters I also visited and was pleased to note that they are not allowed to put any food in their lockers, as this is a dirty and dangerous practice which attracts rats and other vermin. Of course, there was the usual prevalence of coal dust, though their quarters are constantly scrubbed out. Descending into the engine room the sense of size and power is quite overwhelming, but when looking over the details of the machinery there also comes the impression of the fallibility of man and the modesty of engineers. Whether it was a simple water gauge or a complex piece of machinery I had hardly been explained its purpose than I was shown a duplicate or some other contrivance that would do the work as well if what was actually in use broke down. Naturally, this adds greatly to the security of travel. Then again, and even if we struck a rock and had a big hole knocked into the bottom of the ship, there is another bottom at a higher level that would in all probability escape injury and prevent the water penetrating to the interior of the ship. Of course, there are also the automatic bulkheads that can isolate an injured section of the ship from all the rest of the structure. Reaching finally the much-dreaded coal-hole, where the stokers pile the fuel into the furnaces, I found the heat not so great as when visiting other parts of the machinery. There is here also probably more fresh air than in any other part of the ship. This must be the case, if not for the sake of the men, then for the coals that could not burn but for an ample supply of oxygen. Undoubtedly, stoking is hot work, requires great muscular effort, and should only be attempted by men of strong constitution, and the hours of labour must be short. But it is a great advantage for the firemen of the *Caronia* to possess ample space and unlimited hot and cold water to wash themselves with after they have done their work. It was a pleasure for me to watch several of them evidently enjoying a good splash. Thus it may be said that both for the crew and for the passengers this ship affords a great measure of comfort, of space, and of air, and consequently provides the essential conditions for insuring good health to all on board. Nor can I quit this subject without

between. Some good may perhaps be done by the application of a pulicide to a room when, for example, a rat is found dead in it and the inhabitants of the room are compelled to live or to work in it. The pulicide must, however, be applied within 24 hours after the death of the rat, and it should be remembered that the room is always liable to reinfection by the advent of fresh plague-infected rats carrying fleas with them into the room. From what has been said above it is obvious that a gaseous disinfectant which is alike poisonous to rats and fleas and which is capable of penetrating into the inaccessible places frequented by these creatures is the only one which offers much hope of success in combating the plague.

Experimental Disinfection.

At present experiments are being carried on in the Bombay Laboratory with a machine (Clayton gas machine) which can produce a large volume of gas, poisonous alike to rats and to fleas. The advantage of this machine is found in a mechanical device which forces the gas into the room to be disinfected and so brings about a greater concentration and diffusion of the disinfectant than have ever before been accomplished. Apart, however, from these experiments, which have not yet been completed, certain experiments have been carried out with liquid disinfectants. These latter experiments prove that the ordinary disinfectants used for destroying bacilli are of little use in destroying plague bacilli which are protected from the action of the disinfectants within the bodies of the fleas which are capable of withstanding immersion without harm in the majority of the most powerful bacteria-killing disinfecting fluids. Thus, for example, Captain Gloster has shown that fleas will emerge unscathed from an exposure of ten minutes in a solution of so powerful a bactericide as a 1 in 500 dilution of acid perchloride of mercury. On the other hand, he has shown that fleas exposed to the action of an emulsion of kerosine oil in a dilution of 1 in 1000 for two minutes are almost always killed, while this substance failed to kill bacteria even in a dilution of 1 in 10. The experiments detailed above were carried out in test tubes, the disinfectants being thus brought intimately in contact with the fleas. It was necessary, therefore, to test the efficiency of these disinfectants in actual plague-infected rooms. On the one hand, the Plague Research Commission has shown that infected rooms still retain their infection after thorough disinfection with so powerful a germicide as 1 in 750 acid perchloride of mercury. Of 31 observations infection remained in the houses after this form of disinfection in 13 cases, or 29 per cent., of the houses examined, a percentage which was almost exactly the same as those found in houses which had not been disinfected at all. On the other hand, Captain Gloster has been able to prove that plague-infected rooms can be readily disinfected by the application of an emulsion of kerosine oil.

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It is a curious fact that until the present year Wells has been free from enteric fever for some years, or possibly we should have heard of these layings before now. As Dr. Nash pointed out in his report, "the danger is of course accentuated when typhoid fever exists in the town." After his visit to Wells the county medical officer of health attend any patient who lives beyond two miles from his residence. It is suggested provisionally that 70 per cent. of the application fees and subscriptions shall be divided amongst the members of the medical staff, that 20 per cent. shall be paid to the general dispensary to cover the cost of drugs, dressings, &c., and that the remaining 10 per cent. shall be allotted to the secretary to cover the cost of his services, staff, office, &c. It is a far better scheme than that which was put forward about a year ago by the General Medical Practitioners' Union and the central division of the British Medical Association, and which was subjected to such severe criticism that it was abandoned. It has already aroused great interest, and although it is obvious that it will not satisfy everyone there is no doubt it will receive careful consideration when it is submitted to the annual meeting of the General Medical Practitioners' Union.

The Women's Hospital.

The need for an increased income if the Women's Hospital is to continue and to extend its useful work has led to the formation of a Women's Hospital League the object of which is to raise £1000 per annum for the Birmingham and Midland Hospital for Women, and when this object has been attained to give assistance to other hospitals of the city. The necessity of the Women's Hospital is urgent and there are plenty of people who can afford to give it support, but the difficulty is to induce them to give money. Mr. Neville Chamberlain, who moved that the league should be formed, was undoubtedly correct when he stated that there were many people in Birmingham who had learned how to make money but who had not yet learned how to spend it. It is quite possible that women may be more efficient instructors in the latter art than men, and it is suggested that each district and subdistrict of the city should have its divisional committee and officers. If the scheme is carried out on these lines and energy is thrown into it success seems certain.

The Health of the City.

Now that the most trying period of the summer is over it is interesting to note the gradual rise and fall of the death-rate and its association with the increase and decline of diarrhœa. The death-rate for the week ending July 11th was 11·7 per 1000, and in the published report there was no particular mention of diarrhœa. By the end of the following week the death-rate had risen to 13·3 per 1000 and there had been 11 deaths from diarrhœa. During the week ending August 1st the death-rate fell to 12·1 per 1000 and the deaths from diarrhœa were 14. The following week the death-rate rose to 13·8 per 1000 and the deaths from diarrhœa to 25. The rise continued during the next two weeks and in the week ending August 22nd the death-rate reached 20·1 per 1000 and the deaths from diarrhœa were 69. By August 29th the death-rate had fallen to 17·9 per 1000 and the deaths from diarrhœa to 52. By Sept. 12th the death-rate had reached 13·9 per 1000 and the deaths from diarrhœa were reduced to 24, and during the week ending Sept. 18th the death-rate was 14·1 per 1000 and the deaths from diarrhœa numbered 17.

Sept. 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Prevalence of Scarlet Fever and Diphtheria.

THE medical officer of health reported at the meeting of the health committee held on Sept. 17th that 117 cases of scarlet fever were notified during the week ended Sept. 12th, compared with 86 in the previous week; and 28 cases of diphtheria, against 13 in the previous week. There are at present 687 patients under treatment in the city hospitals for scarlet fever and 59 for diphtheria.

Bootle and the Provision for Small-pox.

The scheme of the Bootle corporation to erect a small-pox hospital on the boundary of Maghull, Lydiate, and Aughton has met with opposition by the West Lancashire rural council. The scheme includes the provision of 20 beds, medical man's house, nurses' administrative block, and other accessory buildings; to put down concrete foundations for a building providing another 20 beds and an observation pavilion containing four beds; and to provide for the treatment of the sewage from the institutions. Altogether the land that Bootle proposes to acquire amounts to about 16 acres. The Bootle corporation has already a small-pox and general infectious diseases hospital in the borough itself, but the Local Government Board will not sanction the borrowing of money for a further enlargement until the small-pox cases have been removed from their present position. The rural council at its recent meeting unanimously resolved to oppose the proposal of the Bootle corporation and appointed five members of the council as a subcommittee to deal with the matter and to arrange for representation at the inquiry by the Local Government Board to be held at Bootle to-day.

Sept. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Hospital for Sick Children, Glasgow.

ABOUT a year ago the directors of the Sick Children's Hospital in Glasgow issued an appeal for £100,000 to purchase a site and to rebuild the hospital and to extend the existing branch in the country. This important movement was rendered necessary by the fact that the premises in Garnethill, which had been converted into a hospital with 74 beds a quarter of a century ago, were utterly inadequate to meet the increasing and urgent demands for admission. The hospital itself also in many essential respects fell far short of modern requirements. When the rebuilding fund amounted to £50,000 the directors, being assured that the necessary funds would be provided, felt justified in proceeding with the selection of a site which would comply with the various requirements specified in the appeal. After careful inquiry and consultation with experts and the leading medical and surgical authorities, a square of ten acres has been secured on the best and highest parts of the estate of Yorkhill. The site is the best that could be obtained in the city in respect of its exposure, openness, and elevation. It is accessible from all parts of the city by rail, tramway, and ferry, and is in close proximity to the University. It is proposed to proceed with the new hospital at once, the intention being to erect a building with accommodation for 200 beds in the meantime, leaving ample room for extension in the future as occasion requires. It is intended that the hospital shall be constructed as simply and cheaply as possible, consistent with the greatest efficiency. Up to the present subscriptions have been received to the amount of £68,000. In the existing hospital over 1000 children, all under 12 years of age, are treated annually in the 74 cots and over 11,000 are treated at the dispensary. Further, there are always on the books awaiting admission, often for considerable periods, from 150 to 200 cases, many of which are urgent.

Govan Lunacy Board.

The new pavilions which have been erected by the Govan parish lunacy board at Hawkhead Asylum were formally opened last week. The necessity for the erection of these additions was caused by want of accommodation, especially on the male side. The new pavilions will provide special accommodation for aged and infirm patients up to the number of 120. Additional accommodation has also been provided for 40 attendants. The cost of the new buildings and furnishings is £25,884, which works out at something like £154 per head. The institution now affords accommodation for 688 patients and the grounds attached to it extend to 340 acres.

The Glasgow Cancer and Skin Institution.

This institution continues to wage war against the surgical treatment of cancer. At the annual meeting the chairman, who is a layman, referred in his speech to the cases of cancer treated during the year. Apart from the continued cases, there were, he said, 65 new patients, 55 of whom were turned out well and were no more heard of, so that, according to the chairman, there was no recurrence of the malady in any of these cases. In most cases there had been one, two, or more surgical operations before they came to the institution, where the cancer was eliminated by medical treatment. Dealing with the details of certain cases, in one instance the cancer arose in the cheek of a fireman from a spark from a locomotive engine. The man was restored to health. The chairman went on to say that cases like that should convince

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The following further experiments were carried out. A small room or godown was infected with plague. A guinea-pig which had been placed in it was found dead from plague on Feb. 24th. The dead guinea-pig was removed and replaced by a healthy one. This guinea-pig died from plague on Feb. 27th. Another healthy guinea-pig was placed in the godown; it died from plague on March 5th. A fourth guinea-pig was placed in the godown and it died from plague on March 9th. A fifth guinea-pig was then introduced and [illegible] formed to [illegible]. The godown was thus proved to be thoroughly infected on the 11th. The floor of the godown was washed out with kerosene oil emulsion, 1 in 20, and on the following day a healthy guinea-pig was introduced. This guinea-pig remained healthy and lived in the godown till April 9th. The experiment was repeated in the case of another godown. Three successive guinea-pigs having died from plague in it the godown was then disinfected with a 1 in 20 dilution of kerosene oil emulsion. On the following day a healthy guinea-pig was placed in the godown. This guinea-pig lived for days in the godown and remained well. In both the above instances a very badly infected godown was rendered safe by the floor being washed out with a 1 in 20 dilution of kerosene oil emulsion. [illegible] substances tested were patent products and the tests were made with the samples sent for trial.

Kerosene Oil Emulsion Recommended.

Captain Liston strongly recommends the use of kerosene oil emulsion, for disinfection of this sort can with advantage be carried out. The kerosene oil emulsion can be readily prepared. Three parts of Sunlight soap are dissolved by boiling in 15 parts of water. Warmed kerosene oil is added to this soap solution gradually up to 100 parts. The oil and soap water should be mixed together, shaking or stirring the while. Hydrocarbon emulsion is prepared in a similar way to kerosene oil emulsion, but in this case the hydrocarbon need not be warmed. This substance makes a better emulsion in water than kerosene oil does, and it has a bactericidal power slightly greater than that of carbolic acid, the carbolic acid coefficient being about 20.

THE MUSSEL INDUSTRY AT WELLS: AN INTERESTING STORY IN EPIDEMIOLOGY.

The city of Norwich has this summer suffered from a considerable amount of enteric fever, which the medical officer of health, Dr. H. Cooper Pattin, suspected to be largely due to the consumption of "shell-fish." In June he communicated with the newly appointed county medical officer of health of Norfolk, Dr. J. E. C. Nash, formerly of [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

attend any patient who lives beyond two miles from his residence. It is suggested provisionally that 70 per cent. of the application fees and subscriptions shall be divided amongst the members of the medical staff, that 20 per cent. shall be paid to the general dispensary to cover the cost of drugs, dressings, &c., and that the remaining 10 per cent. shall be allotted to the secretary to cover the cost of his services, staff, office, &c. It is a far better scheme than that which was put forward about a year ago by the General Medical Practitioners' Union and the central division of the British Medical Association, and which was subjected to such severe criticism that it was abandoned. It has already aroused great interest, and although it is obvious that it will not satisfy everyone there is no doubt it will receive careful consideration when it is submitted to the annual meeting of the General Medical Practitioners' Union.

The Women's Hospital.

The need for an increased income if the Women's Hospital is to continue and to extend its useful work has led to the formation of a Women's Hospital League the object of which is to raise £1000 per annum for the Birmingham and Midland Hospital for Women, and when this object has been attained to give assistance to other hospitals of the city. The necessity of the Women's Hospital is urgent and there are plenty of people who can afford to give it support, but the difficulty is to induce them to give money. Mr. Neville Chamberlain, who moved that the league should be formed, was undoubtedly correct when he stated that there were many people in Birmingham who had learned how to make money but who had not yet learned how to spend it. It is quite possible that women may be more efficient instructors in the latter art than men, and it is suggested that each district and subdistrict of the city should have its divisional committee and officers. If the scheme is carried out on these lines and energy is thrown into it success seems certain.

The Health of the City.

Now that the most trying period of the summer is over it is interesting to note the gradual rise and fall of the death-rate and its association with the increase and decline of diarrhœa. The death-rate for the week ending July 11th was 11·7 per 1000, and in the published report there was no particular mention of diarrhœa. By the end of the following week the death-rate had risen to 13·3 per 1000 and there had been 11 deaths from diarrhœa. During the week ending August 1st the death-rate fell to 12·1 per 1000 and the deaths from diarrhœa were 14. The following week the death-rate rose to 13·8 per 1000 and the deaths from diarrhœa to 25. The rise continued during the next two weeks and in the week ending August 22nd the death-rate reached 20·1 per 1000 and the deaths from diarrhœa were 69. By August 29th the death-rate had fallen to 17·9 per 1000 and the deaths from diarrhœa to 52. By Sept. 12th the death-rate had reached 13·9 per 1000 and the deaths from diarrhœa were reduced to 24, and during the week ending Sept. 18th the death-rate was 14·1 per 1000 and the deaths from diarrhœa numbered 17.

Sept. 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Prevalence of Scarlet Fever and Diphtheria.

THE medical officer of health reported at the meeting of the health committee held on Sept. 17th that 117 cases of scarlet fever were notified during the week ended Sept. 12th, compared with 86 in the previous week; and 28 cases of diphtheria, against 13 in the previous week. There are at present 687 patients under treatment in the city hospitals for scarlet fever and 59 for diphtheria.

Bootle and the Provision for Small-pox.

The scheme of the Bootle corporation to erect a small-pox hospital on the boundary of Maghull, Lydiate, and Aughton has met with opposition by the West Lancashire rural council. The scheme includes the provision of 20 beds, medical man's house, nurses' administrative block, and other accessory buildings; to put down concrete foundations for a building providing another 20 beds and an observation pavilion containing four beds; and to provide for the treatment of the sewage from the institutions. Altogether the land that Bootle proposes to acquire amounts to about 16 acres. The Bootle corporation has already a small-pox and general infectious diseases hospital in the borough itself, but the Local Government Board will not sanction the borrowing of money for a further enlargement until the small-pox cases have been removed from their present position. The rural council at its recent meeting unanimously resolved to oppose the proposal of the Bootle corporation and appointed five members of the council as a subcommittee to deal with the matter and to arrange for representation at the inquiry by the Local Government Board to be held at Bootle to-day.

Sept. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Hospital for Sick Children, Glasgow.

ABOUT a year ago the directors of the Sick Children's Hospital in Glasgow issued an appeal for £100,000 to purchase a site and to rebuild the hospital and to extend the existing branch in the country. This important movement was rendered necessary by the fact that the premises in Garnethill, which had been converted into a hospital with 74 beds a quarter of a century ago, were utterly inadequate to meet the increasing and urgent demands for admission. The hospital itself also in many essential respects fell far short of modern requirements. When the rebuilding fund amounted to £50,000 the directors, being assured that the necessary funds would be provided, felt justified in proceeding with the selection of a site which would comply with the various requirements specified in the appeal. After careful inquiry and consultation with experts and the leading medical and surgical authorities, a square of ten acres has been secured on the best and highest parts of the estate of Yorkhill. The site is the best that could be obtained in the city in respect of its exposure, openness, and elevation. It is accessible from all parts of the city by rail, tramway, and ferry, and is in close proximity to the University. It is proposed to proceed with the new hospital at once, the intention being to erect a building with accommodation for 200 beds in the meantime, leaving ample room for extension in the future as occasion requires. It is intended that the hospital shall be constructed as simply and cheaply as possible, consistent with the greatest efficiency. Up to the present subscriptions have been received to the amount of £68,000. In the existing hospital over 1000 children, all under 12 years of age, are treated annually in the 74 cots and over 11,000 are treated at the dispensary. Further, there are always on the books awaiting admission, often for considerable periods, from 150 to 200 cases, many of which are urgent.

Govan Lunacy Board.

The new pavilions which have been erected by the Govan parish lunacy board at Hawkhead Asylum were formally opened last week. The necessity for the erection of these additions was caused by want of accommodation, especially on the male side. The new pavilions will provide special accommodation for aged and infirm patients up to the number of 120. Additional accommodation has also been provided for 40 attendants. The cost of the new buildings and furnishings is £25,884, which works out at something like £154 per head. The institution now affords accommodation for 688 patients and the grounds attached to it extend to 340 acres.

The Glasgow Cancer and Skin Institution.

This institution continues to wage war against the surgical treatment of cancer. At the annual meeting the chairman, who is a layman, referred in his speech to the cases of cancer treated during the year. Apart from the continued cases, there were, he said, 65 new patients, 55 of whom were turned out well and were no more heard of, so that, according to the chairman, there was no recurrence of the malady in any of these cases. In most cases there had been one, two, or more surgical operations before they came to the institution, where the cancer was eliminated by medical treatment. Dealing with the details of certain cases, in one instance the cancer arose in the cheek of a fireman from a spark from a locomotive engine. The man was restored to health. The chairman went on to say that cases like that should convince the inoculation procedure and as to the reasons why no good results have accrued therefrom. We imagine that it would be difficult to procure trustworthy statistics as regards the fatality rate of inoculated small-pox, but it would be instructive could some data be given as well as information relative to the spread or non-spread of small-pox through inoculation. Dr. Stanley adopts apparently as his standard of successful vaccination repetition of the process until it no longer takes, or, rather, he states that vaccination repeated until it no longer takes always prevents small-pox and he expresses the opinion that there is so much small-pox in Shanghai that vaccination should be repeated until it no longer takes. He thinks that, as the Chinese practised inoculation of mild small-pox as a protection against severe small-pox long before the days of Jenner, vaccination will be readily embraced by them. As many as 1418 vaccinations among Chinese and indigent foreigners were carried out during the year. There were 18 deaths from cholera amongst foreigners and 655 among Chinese, and Dr. Stanley appears to consider that infected food is a very common source of the disease and that a common agency through which the food is infected is the fly. There were 57 cases of enteric fever among the foreigners and it is thought that the method of growing oysters near Ningpo for the Shanghai market may be responsible for some of the disease if the oysters are eaten raw. It is a matter of interest in connexion with the geographical distribution of Malta fever to note that two deaths certified as due to this disease occurred in Shanghai during 1907, and it seems probable that some of the cases certified as being enteric fever are cases of Malta fever. We are not told whether there are goats used as sources of milk in Shanghai and, if so, to what variety of goats they belong. We have still much to learn as to the distribution and etiology of Malta fever. Among the useful duties performed by the municipal laboratory is the examination of mosquitoes for each of the eight sanitary districts and the discovery of yellow fever bearing mosquitoes is a matter of importance in relation to the prospective opening of the Panama Canal, as it is conceivable that the Shanghai mosquitoes may become the carriers of yellow fever. Probably, however, the work now being carried out by the Americans between Panama and Colon in the clearance of swamp and undergrowth will reduce these risks to a minimum. There are occasionally rabid dogs in Shanghai, notwithstanding the muzzling order and the licensing of dogs, and the virus of the Shanghai disease seems more virulent than that of Europe, the incubation period being shorter. Among the prisoners in the Souza prison there was in 1907 an outbreak of relapsing fever, there being 43 cases and two deaths. There was also cattle plague amongst cattle in the dairies. Shanghai has its municipal abattoir, but during the year 1907 no animal was rejected on account of tuberculosis, evidence, Dr. Stanley thinks, of the extreme rarity of bovine tuberculosis among the local cattle. Good meat is stamped "Killed in municipal slaughter-house," and no meat is allowed to be sold from any shop or taken into the settlement unless it bears a municipal stamp. Meat inferior in quality but free from disease is passed for sale on stalls only and marked "second quality." Would that English towns would follow this Shanghai example.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8144 births and 4337 deaths were registered during the week ending Sept. 19th. The annual rate of mortality in these towns, which had steadily declined from 15·8 to 14·2 per 1000 in the four preceding weeks, further fell to 13·9 during the week under notice. During the first 12 weeks of the current quarter the annual death-rate in these towns averaged 13·4 per 1000, and in London the mean rate in the same period did not exceed 12·5. The lowest annual death-rates in these 76 towns during the week under notice were 3·7 in Bournemouth, 4·5 in West Bromwich, 6·7 in Hornsey, and 6·9 in East Ham; the rates in the other towns ranged upwards, however, to 19·6 in Grimsby and in Merthyr Tydfil, 20·9 in Wigan, 21·9 in Stockport, and 23·5 in Great Yarmouth. In London the death-rate during the week was 13·9 per 1000. The 4337 deaths from all causes in the 76 towns showed a further decline of 96 from the decreasing numbers in recent weeks, and included 677 which were referred to the principal epidemic diseases, against 1343, 1067, and 840 in the three preceding weeks; of these 677 deaths, 507 resulted from diarrhœa, 43 from diphtheria, 38 from whooping-cough, 36 from measles, 28 from scarlet fever, and 25 from "fever" (principally enteric), but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 2·2 per 1000, against 4·3, 3·4, and 2·7 in the three preceding weeks; in London the death-rate from these diseases did not exceed 2·1. No death from any of these epidemic diseases was registered last week in Bournemouth or in Hastings, whereas the annual death-rates therefrom ranged upwards in the other large towns to 5·3 per 1000 in Rochdale, 5·6 in St. Helens, 6·2 in Hull, and 7·6 in Stockport. The deaths attributed to diarrhœa in the 76 towns, which had declined in the four preceding weeks fr[illegible] to 668, further fell to 507 in the week under notice[illegible] highest death-rates last week from this cause were 4·6 [illegible] Birkenhead, 5·0 in St. Helens, 5·2 in Hull, and 6·6 in Stockport. The 43 deaths referred to diphtheria showed a further increase upon recent weekly numbers, and caused the highest death-rates, 1·2 in Derby and 1·3 in Reading. The 38 fatal cases of whooping-cough showed a marked decline, and were fewer than in any previous week of this year. The 36 deaths from measles somewhat exceeded the low number in the previous week; this disease caused a death-rate last week equal to 1·2 in Rochdale and to 1·6 in Oldham. The 28 fatal cases of scarlet fever included nine in London and its suburban districts, three in Birmingham and King's Norton, eight in Liverpool and Bootle, and three in Manchester and Salford. The 25 deaths referred to "fever" showed a decline of nine from the number in the previous week; the two fatal cases in Wigan were equal to an annual rate of 1·2 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2855 and 3005 in the two preceding weeks, had further risen to 3285 on Sept. 19th; the number of new cases of this disease admitted to these hospitals during the week under notice were 625, against 377, 395, and 472 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 102 and 124 in the two preceding weeks, further rose to 137 last week, but were nine below the corrected average number in the corresponding week of the five years 1903-07. The causes of 42, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Leicester, and in 47 other smaller towns during the week under notice; eight uncertified causes of death were, however, registered during the week in Birmingham, six in Liverpool, four in Sheffield, three in Preston, and two in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4, 14·8, and 13·7 per 1000 in the three preceding weeks, rose again to 14·4 in the week ending Sept. 19th. During the first 12 weeks of the current quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 7·4 and 10·0 in Perth and Aberdeen to 16·1 in Dundee and 16·6 in Glasgow. The 503 deaths in the eight towns showed an increase of 24 upon the low number in the previous week, and included 65 which were referred to the principal epidemic diseases, against numbers declining from 107 to 87 in the four preceding weeks; of these 65 deaths, 35 resulted from diarrhœa, ten from whooping-cough, nine from "fever," seven from diphtheria, and two each from measles and scarlet fever, but not one from small-pox. These 65 deaths were equal to an annual rate of 1·8 per 1000, which was 0·4 below the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, whic had ranged from 63 to 52 in the four preceding w been only nine mild cases during the year. Tuberculosis has also much lessened owing to abundance of fresh air, liberal diet, personal cleanliness, and as far as possible isolation of advanced cases. Financially, the net average cost of each patient (deducting repayment of loans, receipts from paying patients, &c.) was £22 11*s.* 5*d.* (the average for all Irish asylums under the same head for the last recorded year was £23 3*s.* 4*d.*). The actual net cost of maintenance paid directly from the county rates (deducting Treasury grant, &c.) averages about £8 0*s.* 3*d.* per head. A new scheme of sewage disposal (bacteria tanks and "spray" filter of Adams type) has been completed. A new water-supply (supplementary or alternative) is in process of being got ready. Mr. M. J. Nolan's report is most interesting.

Double Tenement Houses, Belfast.

Scandalous revelations have come out at the revision courts with regard to the evils of the double tenement system of houses, and the offence in such conditions not only against sanitary principles but morality which is involved. Dr. Todd, K.C., on Sept. 21st, at a meeting of the revision courts, characterised the state of matters as disgraceful, and Mr. Fleming, K.C. (another of the revising barristers), said it was contrary to all morality and decency for agents of landlords to make an arrangement by which the tenant of the upper half of the house had to go through the kitchen in order to get to the yard. The Belfast Health Association condemned very strongly such double tenement houses.

The New Public Abattoir in Belfast.

That a new abattoir in Belfast is an absolute necessity is clear and the Public Health Commission recommends that the corporation should, at the earliest possible moment, take steps to provide a more modern and commodious abattoir on a more suitable site. The matter has been under discussion since Dec. 1st, 1897, and at a meeting of the market committee held on Sept. 5th last the following motion (proposed by Dr. H. O'Neill) was carried by 8 to 2:—

> That in view of the necessity for additional and improved abattoir accommodation for the city and the expression of opinion by the Local Government Board in their letter of July 25th last to the effect that the selection of a suitable site for, and the erect
> date abattoir, for which a loan of £30,000 was
> eight years ago, is a matter which should recei
> tion of the corporation, this committee strongly recommend the council to authorise the erection of a new abattoir on the Stewart-street site, at an estimated cost of £32,118, in accordance with plans prepared by the city surveyor.

An amendment to authorise the erection of extended abattoir accommodation on the present site was lost. On the other hand, a committee of experts appointed by the corporation, consisting of the president of the Ulster Medical Society (Dr. J. McCaw), the Local Government Board inspector (Dr. C. J. Clibborn), and Mr. H. W. Bailie (superintendent medical officer of health of Belfast), has reported adversely on both sites. The Master Butchers' Federation of Belfast has recommended another site as suitable for the abattoir—that is, the present horse market site—and it condemns the present site, while the city surveyor of Belfast approves of the horse fair site, except as to cost and interference with the convenience of the markets, as the best for abattoir purposes from every point of view. It is clear that the present site is the worst and the council will have to decide which of the other two is the better, as the market committee has failed to get other available sites. The matter will come up for discussion again on Oct. 1st, when it is hoped that a final decision will be arrived at.

Sept. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Action of Human Serum upon Trypanosoma Pecaudi.

ON August 24th M. Thiroux and M. d'Anfreville made a communication to the Academy of Sciences. Following on long and minute researches they are able to announce that human blood serum has an effect upon trypanosoma Pecaudi which is demonstrably preventive and curative, similar to the effect which it has upon trypanosoma Brucei, trypanosoma Evansi, and trypanosoma equinum. They have also determined that this action of human serum takes a long time in becoming exhausted. The serum of patients suffering from sleeping sickness, which M. Thiroux has lately demonstrated to be prophylactic against trypanosoma Gambiense, influences trypanosoma Pecaudi in the same manner as does normal human serum. But as the latter substance has no influence upon trypanosoma Gambiense it is reasonable to agree with these two distinguished authors that in spite of certain morphological resemblances trypanosoma Pecaudi and trypanosoma Gambiense form two distinct species.

The Eighth International Congress of Hydrology, Climatology, Geology, and Physical Therapeutics.

This congress will be held at Algiers in the Easter holidays of next year, from April 4th to 10th. The subscription for full members is 20 francs and for associate members 10 francs. Either membership entitles its holder to the customary reduced charges at hotels and restaurants and on railways and boats, and admits to the various fêtes and entertainments. Excursions across Tunis and Algeria will be made, comprising visits to interesting towns. A ladies committee is to be organised to receive and to look after the ladies who attend. For full particulars application should be made to M. Raynaud, 7, Place de la République, Algiers. A number of papers and reports have already been promised. Anyone desirous of contributing a paper or note should submit them by Jan. 31st, 1909, at the latest.

A Hospital Tragedy.

A patient at the Pitié Hospital, after showing signs of insanity, recently took advantage of the drowsiness of a night attendant to attack him with a knife. After stabbing him several times he turned the knife on himself and then jumped out of the window, which was high above the ground. The madman is dead and the attendant is wounded dangerously.

A Medical Trip to London.

The President of the British Balneological and Climatological Society has written to the secretary of the Paris Medical Hydrological Society to say that, as it is probable that some of the French society's members will be visiting London before the Exhibition closes, in the name of the British society he invites them and all other French medical men to a meeting of his society on Oct. 29th. The committee of the Paris Hydrological Society finds that a large number will accept this courteous invitation and takes great pleasure in furthering the project of this trip to London, which is being organised by Dr. Leonard Williams, editor of the *Journal of Balneology and Climatology.*

Precautions against Cholera.

The official announcement of the existence of cholera in Russia and the news of its rapid progress are beginning to cause some disquietude among the population of Paris. The Minister of the Interior has summoned an extraordinary meeting of the Permanent Consultative Committee of the Public Health and this committee has decided to set in action from the present time the sanitary defence service, both in the seaports and on the land frontier (*service à deux échelons*) for travellers arriving in France from Russia. A Ministerial decree in conformity with this resolution of the committee has been issued containing the following regulations. Every ship arriving at a French port from the Baltic or the Black Sea will have to show a clean bill of health before admission to free *pratique* or will have to stay in quarantine for five days. At all the land frontiers there are posts for medical inspection. Every traveller on his way from Russia will be medically examined, and all those who are found to be ill or any suspect will be immediately drafted into hospital, where their clothing and luggage will be disinfected by stoving. They will be kept in hospital until they are cured. Every traveller who is not detained at the frontier will receive a bill of health and will have to declare the address to which he is travelling. The mayor of this place will be advised by telegraph of his arrival and the traveller will have to present himself before that official who will order him to be examined by a medical man and kept under observation during five days. If he should show symptoms of cholera during this period he will be isolated until he is well. If he leaves the place during this period of five days he will have again to declare his destination in order that he may undergo a similar observation when he arrives there. Every hotel-keeper who lodges a traveller coming from the infected areas must declare the same within 24 hours to the mayor of his commune or to the prefect of police if he lives in Paris. Every medical the inoculation procedure and as to the reasons why no good results have accrued therefrom. We imagine that it would be difficult to procure trustworthy statistics as regards the fatality rate of inoculated small-pox, but it would be instructive could some data be given as well as information relative to the spread or non-spread of small-pox through inoculation. Dr. Stanley adopts apparently as his standard of successful vaccination repetition of the process until it no longer takes, or, rather, he states that vaccination repeated until it no longer takes always prevents small-pox, and he expresses the opinion that there is so much small-pox in Shanghai that vaccination should be repeated until it no longer takes. 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IN 76 of the largest English towns 8144 births and 4337 deaths were registered during the week ending Sept. 19th. The annual rate of mortality in these towns, which had steadily declined from 15·8 to 14·2 per 1000 in the four preceding weeks, further fell to 13·9 during the week under notice. During the first 12 weeks of the current quarter the annual death-rate in these towns averaged 13·4 per 1000, and in London the mean rate in the same period did not exceed 12·5. The lowest annual death-rates in these 76 towns during the week under notice were 3·7 in Bournemouth, 4·5 in West Bromwich, 6·7 in Hornsey, and 6·9 in East Ham; the rates in the other towns ranged upwards, however, to 19·6 in Grimsby and in Merthyr Tydfil, 20·9 in Wigan, 21·9 in Stockport, and 23·5 in Great Yarmouth. In London the death-rate during the week was 13·9 per 1000. The 4337 deaths from all causes in the 76 towns showed a further decline of 96 from the decreasing numbers in recent weeks, and included 677 which were referred to the principal epidemic diseases, against 1343, 1067, and 840 in the three preceding weeks; of these 677 deaths, 507 resulted from diarrhœa, 43 from diphtheria, 38 from whooping-cough, 36 from measles, 28 from scarlet fever, and 25 from "fever" (principally enteric), but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 2·2 per 1000, against 4·3, 3·4, and 2·7 in the three preceding weeks; in London the death-rate from these diseases did not exceed 2·1. No death from any of these epidemic diseases was registered last week in Bournemouth or in Hastings, whereas the annual death-rates therefrom ranged upwards in the other large towns to 5·3 per 1000 in Rochdale, 5·6 in St. Helens, 6·2 in Hull, and 7·6 in Stockport. The deaths attributed to diarrhœa in the 76 towns, which had declined in the four preceding weeks from [illegible] to 668, further fell to 507 in the week under notice. The highest death-rates last week from this cause were 4·8 in Birkenhead, 5·0 in St. Helens, 5·2 in Hull, and 6·6 in Stockport. The 43 deaths referred to diphtheria showed a further increase upon recent weekly numbers, and caused the highest death-rates, 1·2 in Derby and 1·3 in Reading. The 38 fatal cases of whooping-cough showed a marked decline, and were fewer than in any previous week of this year. The 26 deaths from measles somewhat exceeded the low number in the previous week; this disease caused a death-rate last week equal to 1·2 in Rochdale and to 1·5 in Oldham. The 28 fatal cases of scarlet fever included nine in London and its suburban districts, three in Birmingham and King's Norton, eight in Liverpool and Bootle, and three in Manchester and Salford. The 25 deaths referred to "fever" showed a decline of nine from the number in the previous week; the two fatal cases in Wigan were equal to an annual rate of 1·2 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2855 and 3005 in the two preceding weeks, had further risen to 3285 on Sept. 19th; the number of new cases of this disease admitted to these hospitals during the week under notice were 625, against 377, 395, and 472 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 102 and 124 in the two preceding weeks, further rose to 137 last week, but were nine below the corrected average number in the corresponding week of the five years 1903–07. The causes of 42, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Leicester, and in 47 other smaller towns during the week under notice; eight uncertified causes of death were, however, registered during the week in Birmingham, six in Liverpool, four in Sheffield, three in Preston, and two in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4, 14·8, and 13·7 per 1000 in the three preceding weeks, rose again to 14·4 in the week ending Sept. 19th. During the first 12 weeks of the current quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 7·4 and 10·0 in Perth and Aberdeen to 16·1 in Dundee and 16·6 in Glasgow. The 508 deaths in the eight towns showed an increase of 24 upon the low number in the previous week, and included 65 which were referred to the principal epidemic diseases, against numbers declining from 107 to 87 in the four preceding weeks; of these 65 deaths, 35 resulted from diarrhœa, ten from whooping-cough, nine from "fever," seven from diphtheria, and two each from measles and scarlet fever, but not one from small-pox. These 65 deaths were equal to an annual rate of 1·8 per 1000, which was 0·4 below the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had ranged from 63 to 52 in the four preceding we the more recent Tesla current owed their therapeutic power chiefly to suggestion.

Local Tuberculin Reactions.

At the Royal Frederic Hospital Dr. A. Erlandsen has been carrying on an investigation into the diagnostic value of local tuberculin reactions. In the first place he draws attention to the fact that the ordinary method of testing an organism for tuberculosis by repeated injections of increasing quantities of tuberculin is faulty, because the repeated injections tend to bring about a sort of "sensibilisation" of the organism, with the final result that there may occur a reaction subsequently to the last injection, though in reality the organism is free from tuberculosis, at least in any active form. Therefore, the local tuberculin reactions are to be preferred. Their great advantage is that they may be repeated, the cutaneous reaction even any number of times, without bringing about any "sensibilisation" of the organism. The ophthalmic reaction is very trustworthy and occurs in about the same number of patients as the reaction after subcutaneous injections of tuberculin. The cutaneous reaction as introduced by von Pirquet is exceedingly sensitive; in fact, far too sensitive to be employed in adults, nearly all of whom show reaction, as von Pirquet has stated. The reason is probably that all adults carry one or more tuberculous lesions; from which, however, they have recovered, perhaps long ago, while only a restricted number of adults are suffering from active tuberculosis. Dr. Erlandsen has now shown that it is possible to modify von Pirquet's reaction (by weakening its sensitiveness) in such a manner that the reaction takes place in only the same relative number of persons as after the ophthalmic test. Instead of using von Pirquet's solution (25 per cent. Alttuberkulin) he employs a solution of 1 per cent. and covers the scarification with absorbent cotton one minute after the application of the solution, so that the solution cannot become more concentrated by evaporation. The results of this modified cutaneous test coincide pretty well with those of the ophthalmic test. In cases of clinically undoubted tuberculosis in adults there was positive reaction in 100 per cent., while persons in whom tuberculosis could not be clinically demonstrated reacted only in 18 per cent. Dr. Erlandsen's modification of the von Pirquet test must therefore be regarded as an easy and sound method of examining the organism for tuberculosis.

Small-pox.

An epidemic of small-pox has recently occurred in Christiania. It seems to be of a mild character and so far only a few deaths have been recorded. Amongst them is that of a medical man. Upwards of 100 cases are under treatment, and it is now confidently expected that the epidemic has reached its acme.

Sept. 21st.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the American Public Health Association.

THE thirty-sixth annual meeting of the American Public Health Association took place in Winnipeg, Manitoba, Canada, on August 25th, 26th, 27th, and 28th, under the presidency of Dr. Richard H. Lewis, Raleigh, N.C., U.S.A., with Dr. Charles O. Probst, Columbus, Ohio, U.S.A., acting as general secretary. It was one of the best meetings ever held and included a large number of members from Canada, the United States, and Mexico. 73 new members were added to the register. A strong local committee of arrangements had matters in charge and it consisted of medical men from Winnipeg, the provinces of Manitoba, Saskatchewan, and Alberta. Those particularly in charge were Dr. R. M. Simpson, chairman of the Manitoba board of health, Winnipeg; Dr. A. J. Douglas, medical health officer of Winnipeg; and Mr. E. M. Wood, secretary of the Manitoba board of health. Addresses of welcome were delivered by the Premier of Manitoba, the Hon. R. P. Roblin, and by Mayor Ashdown of the city of Winnipeg.

In his presidential address, Dr. Lewis referred to the recent meeting at the White House, Washington, D.C., called by President Roosevelt to consider the vital question of the conservation of the natural resources of the country which were being wasted with such lavish prodigality, stating that he had had the pleasure of attending, on the invitation of the President of the United States, to represent the American Public Health Association. As their organisation had received an invitation to be represented on a permanent committee of that conference he felt it would be wise for them to appoint delegates at the present meeting. Going on to refer to a national bureau of public health for the United States, a project which Canadian physicians were also endeavouring to obtain for Canada, the speaker considered that a national bureau with full powers would eventually weaken the work of the State sanitary authorities and considered that each State, as no doubt he thought each province of Canada, should look after its own health work. In a general way he considered that the kind of bureau required for the United States was one including within its scope and management all the specific health agencies of the Government now in existence, with the addition of others when needed. They would find the chief value in a bureau in its education and information. First, it would educate its own officials and then the health officers of the country; thirdly, the people. He referred to the Bill now pending before the United States Congress which would enlarge the powers and duties of the Public Health and Marine Hospital Service of that country, under which authority will be given for the establishment of a school of hygiene for the training of as many health officers free of charge. He considered that the natural, logical, and efficient teacher of hygiene was the family physician and advocated the education of the people by literature and popular lectures. In his opinion they should definitely and positively endorse the Public Health and Marine Hospital Service, advocating at the same time its further enlargement by the transfer to it of such agencies as *legitimately* come within a bureau. If they refused and made a national bureau with a Cabinet Minister in charge they ran a good chance of getting nothing. He referred to the repeated failures of the great American Medical Association in securing a national bureau with a secretary in the Cabinet, which went to prove that it was futile to try any further. He considered that the period which they were now entering on would be known in the histories of the countries as the period of hygiene.

Two papers contributed by Dr. J. Chico of Mexico City on the subject of Vaccination attracted a great deal of attention and subsequent discussion. Another on the same subject by Dr. Francisco de P. Bernaldez of Mexico, or, more properly, Methods of Practising Vaccination with Human Lymph, also came under this discussion. The latter related his method of performing vaccination as follows. The region in which the vaccine is to be inserted is washed with sterilised water, soap, and a brush, the skin being rubbed until it becomes red, and then dried with sterilised cotton. The lancets are dipped into boiling water or passed through the flame of an alcohol lamp. The pustules are cleansed entirely with sterilised water and cotton; are very superficially scarified and not used if they bleed; a small quantity of lymph is taken up on the lancet and the inoculation is made in the person to be vaccinated by means of small punctures almost adjoining each other and from six to eight in number. The lancet leaves the lymph spread over the place where the punctures have been made. The punctures do not reach below the dermic layer of the skin. The object is to produce pustules in a series, making only one scar, numerous pustules, and painless vaccination. They may be easily examined to find whether they present the characteristics of true vaccination. Any other method leaves the operator in doubt as to whether the individual has obtained immunity or not. Dr. Miguel Merquez of Chihuahua, Mexico, followed, with a paper dealing with the best methods from 20 years' experience. His experience he obtained in over 30,000 vaccinations. He agreed with his colleague from Mexico that puncture was a better method than scraping, and that animal vaccine was safer than human. Although he had been using humanised lymph for many years, he had never noticed cases of syphilis transmitted through vaccination; therefore vaccination from arm to arm might continue in countries where there were no scientifically organised institutes for the culture of animal vaccine. Dr. James Roberts, medical health officer, Hamilton, Canada, then read a paper on the Diagnosis

Correspondence.

"Audi alteram partem."

A FOREIGN BODY IN THE STOMACH FOR SIX MONTHS.

To the Editor of THE LANCET.

SIR,—An infant of eight months old was brought to me this evening with the following story. When eight weeks old the child had swallowed an indiarubber teat; the mother gave her a dose of castor oil and watched the motions to see if the teat would pass through, but found no signs of its doing so. The child has been in good health and has not been seen by a doctor until a fortnight ago, when I saw her for a slight bronchial attack. This morning the child had breakfast of warm milk with a little bread crumbs in it and soon after vomited and in the vomit was the teat inclosed herewith. The child is a healthy-looking, well-nourished baby and seems perfectly well, so if the story is true the presence in the stomach of a large piece of vulcanised rubber has given rise to no symptoms and has not affected the child's growth or strength in any way.

I am, Sir, yours faithfully,

LAUNCELOT ARCHER.

Vincent-square, Westminster, Sept. 18th, 1908.

⁂ We have received the teat which is in two pieces and is stained slightly yellow.—ED. L.

THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—May we ask for the courtesy of your columns to announce our intention of reverting in the 1909 issue to the old plan upon which the "Local List" for London was arranged, namely the division of Inner London into streets in preference to districts. We thank your correspondent "Non Œdipus" and other gentlemen who have written to us for the expression of their views on this subject.

We are, Sir, yours faithfully,

J. & A. CHURCHILL.

Great Marlborough-street, London, W., Sept. 18th, 1908.

THE MEDICAL ASPECT OF GASTRO-ENTEROSTOMY, BASED ON 128 OPERATIONS AT THE MANCHESTER ROYAL INFIRMARY.

To the Editor of THE LANCET.

SIR,—It is difficult to thank Dr. Leech adequately for the temperate and judicial analysis of the cases in which gastro-enterostomy has been performed in the Manchester Royal Infirmary, published in your issue of Sept. 19th. I do not think any surgeon will feel disposed to cavil at the conclusions at which he has arrived, especially that conclusion which has reference to the disastrous consequences of delay. But there is one point telling strongly in favour of early operation which Dr. Leech has not mentioned, and which certainly deserves to be taken into consideration in weighing the merits or the demerits of this operation. There were 46 cases of malignant disease. In one of these the growth was a secondary one; in two others the situation is not mentioned. These may be left upon one side. In 40 out of 43 the growth was at the pylorus—the part of the stomach in which chronic ulcer is most common. In what proportion of these 40 cases did the growth originate at the site of an old ulcer, which had failed to heal under medical treatment and which would at least have had a chance of healing if timely gastro-enterostomy had been done?

It is notorious that in every part of the body, stomach included, carcinoma is especially prone to develop at the site of an old ulcer which is prevented from healing; and the identity of situation in such a large proportion of cases is most significant. It is not the least argument in favour of early gastro-enterostomy that, in addition to the relief it gives, it will, by enabling a chronic ulcer of the stomach to heal more readily, diminish the frequency of gastric carcinoma.

I am, Sir, yours faithfully,

C. MANSELL MOULLIN.

Wimpole-street, W., Sept. 20th, 1908.

THE PREVENTION OF TUBERCULOSIS (IRELAND) BILL.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Sept. 19th, p. 901, Dr. J. C. McWalter, writing in reference to the Prevention of Tuberculosis (Ireland) Bill, says: "Knowing what I do of the Irish people, I believe that the Compulsory Notification Clauses will excite so much suspicion and dread as effectually to undo any good results heretofore obtained from the tuberculosis campaign. People simply will not go to a medical man if they think that by so doing they may be listed as tuberculous."

Now, Sir, while Dr. McWalter gives no evidence of any kind beyond his own individual opinion in support of such a prophetic view he totally ignores the following facts: 1. In places where there is compulsory notification (and here we are dealing with practical experience and not with mere theoretical opinion) no difficulty of this kind has arisen. If practical experience in Sheffield, Edinburgh, Bolton, and New York (where there are so many people from Ireland) has clearly demonstrated that there are no serious objections to compulsory notification, why should there be any in Ireland? 2. At the meetings held in connexion with the Tuberculosis Exhibition all over Ireland resolutions were passed by the people of Ireland calling upon the Government to legislate upon certain points regarded as essential and one of these was the compulsory notification of tuberculosis. Then a deputation of almost everybody who could speak with authority in Ireland on such a question waited on the Lord Lieutenant, the Chief Secretary, and the Vice-Chairman of the Department of Agriculture on Nov. 29th, 1907, asking that special legislation should be introduced without delay with the object of making it compulsory that all cases of pulmonary tuberculosis should be notified; and, finally, on August 27th, 1908, at a large conference of delegates summoned from all parts of Ireland, a resolution was carried with only two dissentients heartily approving of the principles of the Tuberculosis Prevention (Ireland) Bill and earnestly desiring to [illegible] passed into law. Does Dr. McWalter really believe that the people who were at these meetings and on this deputation would have taken such a line of action had they for one moment imagined that the compulsory notification clauses would cause any annoyance, or that the people would object to them, or that they would impale for life persons notified? Ireland enjoys the unenviable notoriety of losing close upon 12,000 of her people every year from tuberculosis—that is, 15 per cent. of all the deaths in Ireland are from tuberculosis. Is this to continue or is she not to be allowed, if her people wish it, to take her position with those in the van in trying to get rid of a largely preventable disease?

Let us discuss this problem in a thoroughly scientific and practical way.

I am, Sir, yours faithfully,

JOHN BYERS.

Belfast, Sept. 21st, 1908.

A QUESTION OF SOBRIETY.

To the Editor of THE LANCET.

SIR,—The regret expressed by "M.D." at finding himself at variance with me seems to me uncalled for, for I cannot find anything in his account of himself or of his cousin that conflicts with the opinions I hold on the nature of drunkenness. Perhaps the account of my address, to which you courteously gave the hospitality of your columns, was so much compressed as to be obscure. A full report will appear in the October number of the *Journal of Mental Science*, and if "M.D." will do me the honour to read it there, or in a copy which I shall be happy to send him on request, I am confident that he will find his criticism unnecessary. Few people have preached, more insistently than I have, the doctrine of the inescapable responsibility of every man for his own acts; and many a trouncing have I had from my colleagues for such preachments. That I should now be accused of supporting the opposite opinion is startling, and impels me to declare that the abstract of my address was military employ are undoubtedly *au fait* with operative surgery, and cantonment general hospitals give them every facility for numerous operations, both major and minor.

A Gloomy Year in the Punjab.

The year 1907 was a very gloomy one in the history of the Punjab; a wet spring, a dry autumn, high prices, and an appalling mortality from plague combined to produce a depression which reacted on the birth-rate. The birth-rate of the year (40·8 per 1000) was badly below the average of the last five years and on this occasion it is clear that the explanation usually offered to account for a decline in the birth-rate—namely, the prevalence of malarial fever in the preceding autumn—is the correct one. The figures quoted in the report indicate at all events that the greatest decline has occurred not in the districts which were most affected by plague but in those where the deaths from malaria were most numerous in 1906. The birth-rate was, as usual, lower in the larger towns than in the rural districts. The comparatively low birth-rate in towns has formed the subject of comment for many years and is, it may be remarked, a feature common to the United Provinces and Bengal as well as to the Punjab. The birth and death registers have been checked in very many cases and there is reason to believe that these statistics are more accurately kept than is usually supposed. Mortality from plague reached the terrible figure of 666,501, and since the inception of the disease in the Punjab 2,021,779 deaths have been registered.

The Pasteur Institute.

An assistant director has been appointed for the Pasteur Institute on the hills and will arrive shortly. The officer selected is Captain A. G. McKendrick, I.M.S., of the Kasauli Institute. During the past seven months 135 patients have been successfully treated at Coonoor and the support obtained by the institution is liberal. The Government of India gave Rs. 3500 and the Madras Government a like sum; Bombay contributed Rs. 1500 and Ceylon and Mysore Rs. 500 each, while Travancore paid Rs. 100.

The Inspection of Factories.

We have heard often of the insufficiency of factory inspection in India, but in the Central Provinces the complaint is coming to be that there is too much of it. For some reason or other it is in Berar that the zeal for inspection rages with particular severity. In this division alone it appears that the establishments exposed to inspection underwent the operation 679 times during the year 1907. Of these 230 were performed by the official inspectors, 181 by magistrates, and 268 by civil surgeons. It is not specified how many factories there are in Berar, but the figures suggest that the managers, who must sigh for the old days of Hyderabad Residency rule, must find their chief occupation in preparing for inspection or carrying out the suggestions of the last visitor, and the Commissioner has been induced to observe that these are not always consistent and that there are too many of them. The Chief Commissioner is of the same way of thinking and promises to deal with the matter as soon as the orders of the Government of India on the Factory Commission report are issued. The point to aim at is evidently to keep the business to the professional inspectors, and to avoid oppressing industry under a multiplicity of miscellaneous inspections by officers who if they take any interest in the subject are liable to be faddists. It is agreeable to know that the result of so much activity has been to bring out the fact that the health of the operatives is everywhere good and that the sanitary conditions, with few exceptions, are satisfactory. The wages of skilled labour, high as they are in the Central Provinces to-day, are reported to be still rising, and yet the difficulty of getting trained hands is a general complaint.

Plague in Bengal.

In the annual report of the Sanitary Commissioner, Bengal, for 1907, some interesting facts are given regarding plague and the measures taken for dealing with it. There was a recrudescence of the disease during the year, the deaths being nearly 84,000, as compared with about 60,000 in 1906. The figures are small compared with those in the United Provinces and the Punjab, but certain districts suffered severely. In Saran some 11,000 persons died in April alone and in Patna district the mortality during that month was 7800. Inoculation is still looked upon with great disfavour, and though the report states that it appears to be gradually gaining in popularity the returns show that only a few thousand people submit themselves yearly to this measure of precaution. Outside Calcutta the inoculations were 2766, of which a considerable number were performed in the Gaya Jail. The adult population still regards inoculation with suspicion, though the more enlightened do not so much object to presenting their children. The measures taken to check an epidemic are such as appeal to the people themselves. *Evacuation* is principally relied upon and in rural areas the villagers readily carry this out. Chemical disinfection has practically been given up; it is resorted to only in special cases, where it is asked for and where it can be properly supervised. An effort is being made to instruct the people regarding preventive measures by the distribution of leaflets in the vernacular. In the board schools of the Saran district the students are taught the first principles of prevention, and their knowledge is tested on the occasion of each inspection. Popular lectures have also been given, but it must take time to break down the ignorance of the mass of the people. The campaign against rats started in 1905 was suspended for three seasons. In the first place it was found to involve great expense; then, although millions of rats were destroyed, the daily returns of numbers killed showed no signs of diminishing; and it was believed that the people would take to this measure without official aid, as they saw that the experiment was a success by causing a decrease in plague. It is not stated whether this anticipation was realised. In Calcutta the number of rats killed was very large, a small reward being given on presentation of batches of tails, but the special health officer doubts whether any permanent impression has been made upon the rat population of the city. Bengal as a whole cannot be said to have been badly afflicted with plague and there is not the need for the special measures which have had to be taken in other provinces. If certain districts in Behar could be purged of the disease the mortality returns would be very low, though we must expect to see some thousands of deaths in Calcutta yearly until the sanitary condition of the native town is improved. When the great scheme for opening out the overcrowded areas is given effect to the worst effects of plague should disappear.

Sanitation of Mussooree.

Sir John Hewitt, Lieutenant-Governor of the United Provinces, has just visited the important hill station of Mussooree which is the summer headquarters of the 7th (Meerut) Division and has given to the municipal authorities a subsidy of Rs.25,000 (£1562) a year for six years towards sanitation and the new piped water installation.

Burial Grounds in Calcutta.

The disposal, by burial or otherwise, of the dead is always a difficult problem and the Calcutta health officer, Dr. T. F. Pearse, has issued a tabulated list of the burial grounds and burning ghats within and without the city that are used for the disposal of the dead bodies of persons belonging to Calcutta. From this list it is ascertained that there are in all over 200 such burial grounds and burning ghats. As regards the latter, there are in all only three burning ghats, comprising the Nimtollah and Kasee Mitter burning ghats in Strand Bank-road and the Shamnagore burning ghat in Tollygunge. These three ghats are under the control of the corporation. Regarding the burial grounds, there are altogether 199 grounds used for the burial of the dead. These are classified under several heads. Six of them are under municipal control. Of other public burial grounds there are 37, five controlled by the Christian burial board, nine by the Mahomedan burial board, while the remaining 23 are Government burial grounds. There are a large number of private family burial grounds, comprising nearly half the entire total. Of the 49 which are registered six are for public use and 43 for family use only. In all 149 burial grounds are contained in the above and these constitute the entire number of grounds in use, the remaining being no longer in use. Of the total number of 199 burial grounds, the Mahomedan community alone have 127 grounds for the disposal of their dead, including both public and private grounds, in and out of use. There are only a few Hindu burial grounds and the remainder consist of burial grounds for all other races and creeds, and include the crematorium which is open to all creeds and castes.

obstinate cases but, although continued over several months, I have never observed any toxic effects.

I am, Sir, yours faithfully,
Mansfield-street, W., Sept. 21st, 1908. H. LYON SMITH.

SPASTIC CONSTIPATION.

To the Editor of THE LANCET.

SIR,—In the annotation on Spastic Constipation, published in your last number, it is stated with truth that the condition has "not received the attention in this country which its frequency warrants." But Dr. Gustav Singer falls into a common error when he ascribes its recognition to Gherchevsky in 1883, as an excellent account of the condition was written half a century earlier by an Englishman. In 1830 John Howship, surgeon to St. George's Infirmary, London, published a small book of "Practical Remarks on the Discrimination and Successful Treatment of Spasmodic Stricture in the Colon, considered as an occasional cause of habitual confinement of the bowels." He describes how in some cases of constipation "the complaint does not so much consist in a defective power of contraction in the whole extent, as in a deficient freedom of relaxation in some one part of the intestinal canal." It should also be remembered that enterospasm, an important article on which was published by Dr. H. P. Hawkins in the *British Medical Journal* in January, 1906, is another name for the same condition, and that many people in England who are unfamiliar with the term "spastic constipation" are well aware of the comparative frequency of "enterospasm."

I am, Sir, yours faithfully,
London, Sept. 23rd, 1908. ARTHUR F. HERTZ.

SOME DISCURSIVE REMARKS ON THE REARING OF CHILDREN IN LONDON.

(BY A SPECIAL CORRESPONDENT.)

I.

THE CARE OF INFANTS IN TOWNS.—CONTINENTAL SCHEMES.—THE CHELSEA KITCHENS.—THE ST. PANCRAS SCHOOL FOR MOTHERS.

THE schemes set on foot by public bodies and by private philanthropic workers to combat the sickness and especially the high rate of mortality which prevail among city-born children are now very numerous. It is much to the credit of the public opinion that it should be so, and it is good to know that all such schemes have had their starting point in the scientific, clinical, and statistical information supplied by medical men. The decreasing birth-rate of this country, coupled with an infantile mortality which, though good compared with that of the United States and many continental States, is still unduly high, has aroused those willing to do something more than to talk about race decadence to make some organised attempts to improve matters. Of all modes to check infant sickness and mortality the improvement of the milk-supply is, of course, the most obvious. Everyone has been able to see that the purer the milk-supply the better in every respect would be the health of mothers and children, whether we are talking of infants who are unfortunately not able to be breast-fed or of babies who have reached the normal age for an independent food-supply. Attention has therefore for a long time, though in no systematic way, been paid to the milk-supply of the young, and this with full knowledge that questions of housing and questions of parental ignorance were at least as important. For a clean milk-supply is a good deal wasted on a parent who does not know what to do with it and has nowhere to keep it. The workers in the cause of infant health have most of them felt that the housing of the poor was the biggest thing of all, but they saw also that if they withheld their efforts until this immense matter was dealt with there would be endless delay. But they saw that they could do much to combat the poverty and ignorance of many mothers of the lower class by systematic instruction in the treatment of their offspring, so as to help them to nourish their infants properly by suckling and to demonstrate to them that breast-feeding is the natural and most healthy manner in which to rear an infant. The object of writing these articles, which I have called "Discursive Remarks"—for they are no more—is to give the results of some personal observations of certain of the plans which have been adopted in London during the past few years to afford the children of the poor a fair opportunity of becoming physically useful citizens.

I will first describe the schemes now in working order in London to promote breast-feeding among poor mothers. The point here is what has been *done*—not what has been *written*. It is of no use at all to write in medical journals, and not much use to write in lay journals, advocating breast-feeding. A certain amount of public attention is aroused and some workers may thus be stimulated to action, but the poor are not themselves directly influenced by anything that is written on the subject. The very poor, speaking generally, do not read at all, or if they do they take no heed to advice on such matters from a printed page. The sole means of reaching their intelligence is to get into personal relations with them, so as to urge them by word of mouth to give their offspring fair play, while assisting them in a material manner to suckle their children and otherwise to bring them up in accordance with the main laws of health. But this is not always easy, as many enthusiastic workers have found. There have been narrow and intolerant persons among the visitors of the poor and to win the confidence of those who have suffered from the Jellybys is by no means an easy task. Moreover, it is natural for self-respecting citizens to be jealous of outside interference with their domestic affairs and to resent the invasion of their homes by strangers, while it must be remembered that all mothers who are injudicious or ignorant are not necessarily wastrels. Negotiations to assist the mothers must be conducted with discretion and tact lest natural susceptibilities should be wounded; and when confidence is gained, as a rule, parents, especially young parents, will listen to, and will follow, advice beneficial to the health of their children and themselves. It is easier perhaps to interest the parent in her own health than in that of the children who seem to her to be thriving at least as well as children in her circles generally do. But pregnant mothers are quick to learn, or are already aware, that if they are not adequately nourished the child will be born in unfavourable circumstances and that they may not be able to supply it with fitting nutriment. The first step in the direction of promoting breast-feeding is to see that the expectant and nursing mothers are themselves well fed, and with this end in view several philanthropic schemes are now running in London with a certain measure of success. The feeding of nursing mothers seems to have been first given a trial in Chelsea among London districts, and this was one of the earliest attempts in Great Britain to deal with the matter, although on the continent for several years there have been organised attempts of the sort. The benevolent institution of "Allaitement Maternel" founded by Madame Bequet de Vienne in 1876 for the care of the enceinte poor developed in 1892 into a home in which such women were fed, clothed, and treated. A little latter Madame Coullet launched in Paris, by means of the association known as "Œuvre du Lait Maternel," a free restaurant for nursing mothers. Both these institutions have been noticed before in the columns of THE LANCET. The latter undertaking was at first conducted on a very modest scale, the original restaurant being established in the abandoned shop of a dealer in cast-off clothes. At the present time the association has five free restaurants situated in the poorest parts of Paris and these supply many thousands of free meals to poor nursing mothers. No questions are asked of the applicants for the meals. They may be married or single, but if they are nursing mothers and hungry they are made welcome. A free restaurant on similar lines was established in Nice in 1905 and the Social Union of Dundee opened the first restaurant for nursing mothers in that city in May, 1906.

Mrs. W. E. Gordon, a lady living in Chelsea, inspired by the success of the work done in aid of nursing mothers by Madame Coullet, determined to pursue a similar course in Chelsea. Notice of the project was sent to the district visitors, the medical men and the clergy of the neighbourhood, and to the sanitary inspectors of the borough, as also to the ladies who visit the maternity cases in charge of the obstetrical department of St. George's Hospital. In January, 1906, a room was hired and opened in Arthur-street, Chelsea, at which good meals could be obtained by nursing mothers on payment of 1*d*. The scheme flourished

the last two or three months in Melbourne. Upwards of 40 cases are known to have occurred. Dr. Douglas Stephens is making a special investigation of the subject and his conclusions will be put before the Medical Congress in October next.

Juvenile Depravity.

A somewhat remarkable case of moral perversion is reported from Tasmania. Two children, aged eight and two and a half years respectively, were sent out in each other's company. The elder boy returned alone and stated that his little brother had been "taken by a hyena into the bush." On being pressed he varied his story by saying that the child had been riding on his back and fell off. Finally, the body of the younger child was found hidden in a hole, with extensive fracture of the skull. The elder boy then confessed that he had got tired of carrying his small brother and had hit him on the head with a log of wood and hidden the body where it was found.

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A deputation of medical men recently waited on the Premier of Victoria to ask for his support in the formation of an institution for the supply of pure milk to infants. The speakers were Mr. G. A. Syme, Dr. A. Jeffreys Wood, Dr. J. Jamieson, Dr. Barrett, Dr. J. W. Springthorpe, and Dr. T. Cherry. The cost of beginning operations was estimated to be £3000, and the Premier practically undertook to find half that amount while the remainder is to be got by voluntary contributions. A protest has been made by a well-known dairy company who "respectfully urge that if a model dairy farm is to be established it be done by the Government through the Department of Agriculture. It will then be under responsible and expert control, and its use as an object-lesson open to commercial criticism. The present proposal places its management under the control of a body composed of scientific men, who would be responsible to nobody and who could, no doubt, if allowed to spend enough money, produce clean milk suitable for infants; but the question of its actual cost would be lost sight of, and the real value of the object-lesson would be lost. If the trade were then expected to follow in the footsteps laid down for them in this way, the immediate result would be a material increase in the price of milk to the consumer, which would be a doubtful way of assisting the poor mothers of this city. The proposed institute would have more than sufficient scope for its energies and its money if it devoted its attention to the question of supervision and distribution, the establishment of depôts in congested centres, and the education of the mothers as to the value of clean milk in the rearing of children, and the care necessary to preserve it when they get it into their houses."

August 18th.

Obituary.

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THE late Mr. Harold Leslie Barnard, whose death occurred in his forty-first year on August 13th, was a distinguished son of the London Hospital who had worthily won his place upon its staff. He was born in Highbury in 1868 and was a great-nephew of Michael Faraday. He had not intended originally to follow medicine, for after a year's residence in America he worked in the City for three years, but at the age of 20 entered the London Hospital where he gained the first year scholarship. This success was followed up by a career of continuous distinction. Four years after his entry he qualified M.R.C.S., L.R.C.P., and in 1895, three years later, he graduated in both medicine and surgery at the University of London, his B.S. winning him first-class honours. In the same year he took the Fellowship at the Royal College of Surgeons of England and the next year the M.S. at the University of London. During this period he held in succession all the resident appointments at his hospital, to which he became subsequently surgical registrar, and also demonstrator of physiology, and assistant demonstrator of anatomy in the medical school. His first full staff appointment was that of assistant surgeon to the Metropolitan Hospital, a post which he relinquished in 1900 when he was appointed assistant surgeon and also surgical tutor at the London Hospital. He held this tutorship until 1904, when he took up the post of demonstrator of surgical pathology which he retained until his death. He was elected surgeon to the hospital with charge of out-patients in July, 1907. It can be said unhesitatingly of Mr. Barnard that he was possessed of the real scientific spirit and an endless capacity for work. Both in physiology and in surgery he had made such a mark as leaves little room to doubt that he would have earned a wide reputation if death had spared him to fulfil a life which in far too short a time had achieved so much. The work which he did in conjunction with Dr. Leonard Hill on hæmodynamics resulted in many valuable observations and also in the Hill and Barnard's sphygmomanometer which was invented at a time when the clinical importance of the scientific measurement of blood pressure had not attained the recognition which it now enjoys. His principal surgical work was concerned with the abdomen and upon intestinal obstruction he wrote with an undoubted authority. The article in Allbutt's "System of Medicine" on that subject from his pen is likely to remain as a classic piece of literature, founded as it is upon skilful and painstaking investigation. [illegible] and appendicitis engaged much of his attention and he contributed a paper on the former subject to the Royal Society of Medicine. His important communication upon "The Simulation of Acute Peritonitis by Pleuro-pneumonic Disease" appeared in our columns in 1902. He was an excellent operator as well as an excellent observer. A man so prominently connected with the teaching side of the London Hospital and so popular as was Harold Barnard cannot fail to be sadly missed by his students and colleagues. He entered fully into the life of his medical school, as was evidenced by his presidency of its swimming club and vice-presidency of its football, boxing, fencing, and gymnastic clubs, and also of the Hospital Medical Society. His many activities were carried through in defiance of a poor physique, and it is a general opinion amongst his friends that his whole-hearted devotion to work was at least a factor in his untimely death which followed upon cardiac trouble. His funeral took place in Highgate Old Cemetery on August 17th.

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THE teaching staff of Westminster Hospital, which sustained such a severe loss in the death of Bertram Abrahams earlier in the year, has again to mourn an exceptionally brilliant colleague, the sadness of whose early death was intensified by the long and painful illness which led up to it. Percy Paton was one of those rare men whose academical career has been a triumphant march through the honours lists and who have yet emerged from it with a practical and well-balanced mind on which a deep store of learning has left no reproach of bookishness. He was born 41 years ago in Canonbury and received his medical education at St. Bartholomew's, where he enjoyed a distinguished career as a student and became an assistant demonstrator of anatomy. He qualified under the Colleges in 1889 and in the same year took his degree at the University of London, obtaining the University scholarship and gold medal in obstetric medicine and honours in medicine and forensic medicine. He then became a house surgeon at his hospital and later surgical registrar and anæsthetist at the Hospital for Sick Children, Great Ormond-street. In 1891 he proceeded to the M.D. at the University of London, but, deciding on a surgical career, in the following year he passed the F.R.C.S. examination and also took the London B.S. which gained him the University scholarship and gold medal in surgery, a success which he followed up by obtaining the Mastership in 1894. In 1896 he started his connexion with Westminster Hospital, greatly to the advantage of its school, by obtaining the posts of surgical registrar and senior demonstrator of anatomy. Three years later he became an assistant surgeon and in 1906 surgeon in charge of out-patients, after having been elected Dean of the medical school in 1904. These two posts he held until his death. He was also lecturer in surgical pathology at Westminster Hospital and was an examiner to the Society of Apothecaries, first in anatomy and later in surgery. He gained a wider experience in practical surgery than many men of his seniority by his appointment to a surgeoncy at the Mildmay Mission Hospital, of which his strong religious convictions made him a devoted by for the medical man or the midwife, for baby clothes, and for extra help and feeding during confinement. Passing over 5, home visiting, which will be alluded to in a subsequent article, I come to 6. Perhaps the most novel feature of the St. Pancras school is the fathers' evening conferences. These are held on Tuesday evenings with the object of exciting the interest of the male in his domestic affairs. Several well-known men have addressed these meetings and it is thought that, at any rate to some extent, the purpose of the conferences has been attained. If the British father of the quite low class can be aroused to exhibit an intelligent concern in the welfare and health of his family and home much good will be done.

(To be continued.)

THE SANITARY DEFENCE OF THE HEDJAZ RAILWAY.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

(Illustrated with Reproductions of Photographs taken by the Author.)

I.—DAMASCUS TO MA'AN.

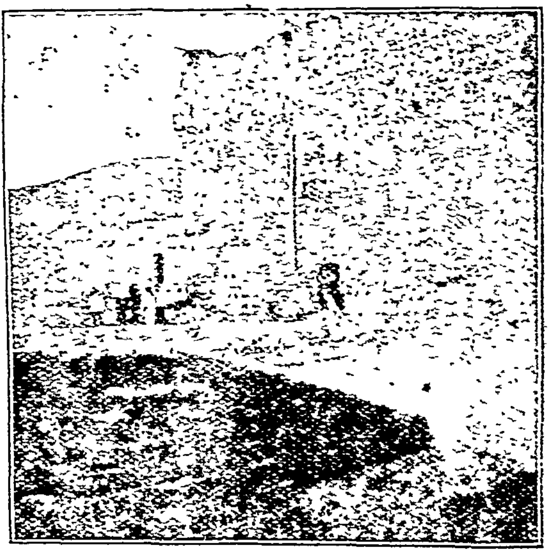
WHEN writing a few months ago the brief article entitled "The Hedjaz Railway and Disease," which appeared in THE LANCET of June 20th (p. 1799), I was quite unaware that very shortly after I should have an opportunity of travelling down the line and visiting most of the places which I had mentioned. This came about in the following manner. On May 19th the Board of Health here decided to send a Special Commission composed of some of its members to the region traversed by the line, with the general object of studying on the spot the question of the sanitary defence of the railway and the special object of selecting the most suitable site for the quarantine station for pilgrims which sooner or later must be brought into being at some point between Damascus and Medina.

The Commission was composed of the Dutch, German, and British delegates on the Board, and a Turkish medical officer in the Sanitary Service, with a second Turkish medical man as "adjoint." The Commission, leaving Constantinople on May 28th, arrived at Beirût on June 1st and at Damascus on June 3rd. In Beirût a sixth member was added to our number in the person of Professor Patch, who holds the chair of chemistry in the American College of Beirût and who accompanied the Commission throughout and undertook the collecting and analysis of specimens of water at the various places visited. In Damascus three more members were added to the mission by the Vali of the Damascus vilayet; these were a major of infantry and a military surgeon, both attached to the administration of the railway, and Dr. Haidar Bey, who, although a medical man, does not practise any longer but follows the business of contractor for public works. He has put up most of the buildings along the railway beyond Dar-ul-Hamra and is now constructing the terminus at Medina. It may be stated in passing that this terminus is being built on an immense scale, the combined length of the platforms running into some kilometres. It should thus be able—as it will almost certainly be called upon—to cope with the arrival or departure of large numbers of pilgrims at a time.

A special train was placed at the disposal of the Commission, consisting of a sleeping-car, an ordinary first-class carriage capable of seating 48 persons, and an empty luggage wagon. In the last the cook and kitchen were installed as well as the provisions for the journey. All stores had to be taken from Damascus, as beyond Ma'an nothing is procurable; the stores for 14 persons (including servants) for an eight days' journey were necessarily of considerable bulk. They included a supply of compressed snow from the Lebanon, which was of great service in the high temperatures met with. The Commission left Damascus on the morning of June 6th and reached Ma'an 25 hours later. Between the two the line traverses the marvellously fertile region of the Hauran and skirts the curious volcanic tract of country known as the Trachonitis. This has been well described as a solidified sea of lava. The black lumps and heaps of volcanic stone which litter the surface of the country offered a striking contrast to the brilliant gold of the standing crops in early June, and no less so did the occasional villages built of this same black-hued stone. Beyond Amman—the Rabboth-Ammon of the Old Testament—the country becomes less and less cultivated, and the true desert gradually begins.

Ma'an is situated in a vast undulating plain of sand and gravel. The station lies at a height of 1074·2 metres above sea level and at a distance of 459 kilometres from Damascus and 943 from Medina. There are two villages, called respectively Ma'an-el-Sham and Ma'an-el-Hedjazié (or Ma'an-el-Misr), both at least one and a half miles from the station and not visible from it. I had occasion to visit them on the return journey on the way to and from Petra. Ma'an-el-Sham is rapidly being abandoned and falling to ruins, while Ma'an-el-Hedjazié is increasing at its expense. Together they contain some four or five thousand inhabitants. Both are typical Arab villages *built of sunburnt mud-bricks.* The latter has plenty of water and is rich with gardens, where figs, vines, palms, and pomegranates grow in abundance, offering a grateful rest to the eye dazzled by the glaring sand all round. There is a *kaimmakam*, or Turkish governor, here; his office is in the old Arab *kala'at*, or fortress, which guards the *burket*, or water-reservoir, as in all the villages along the Pilgrims' Way. Far more often than not, indeed, there is no village at all, and the various places figuring on the map are represented in reality by nothing but the all-precious water reservoir and the high-walled fort to guard it. Between Ma'an and Medaini-Salih, a distance of 496 kilometres, almost the only village worthy the name is that of Tebuk, to be mentioned later.

FIG. 1.



A typical *kala'at* and *burket* (at Akhdar).

The *burkets*, or reservoirs, and *kala'ats*, or fortresses, deserve something more than passing mention. The reservoir has usually solidly built walls and parapets of native masonry; it is square or oblong, with a diameter of some 20 or 30 yards. The depth, from the top of the parapet, may be some 12 or 15 feet; the water is rarely more than from 3 to 5 feet deep. In some the water seems to be constantly renewed from springs and to be fresh and sweet; in others, however, the reverse is the case, and the water is stagnant and covered with an offensive scum. I shall recur to this point when speaking of the water provision for passengers and pilgrims travelling by the line.

The *kala'ats*, or forts, are solid four-square buildings of masonry; they have no outer windows but their walls are pierced by numerous loop-holes for rifle fire. The rooms inside are built round a small courtyard, in which there is usually a well, so that the defenders can withstand a Bedouin attack as long as their provisions last and are in no danger from lack of water. At all the stations along the line,

the last two or three months in Melbourne. Upwards of 40 cases are known to have occurred. Dr. Douglas Stephens is making a special investigation of the subject and his conclusions will be put before the Medical Congress in October next.

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A somewhat remarkable case of moral perversion is reported from Tasmania. Two children, aged eight and two and a half years respectively, were sent out in each other's company. The elder boy returned alone and stated that his little brother had been "taken by a hyena into the bush." On being pressed he varied his story by saying that the child had been riding on his back and fell off. Finally, the body of the younger child was found hidden in a hole, with extensive fracture of the skull. The elder boy then confessed that he had got tired of carrying his small brother and had hit him on the head with a log of wood and hidden the body where it was found.

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There is a small garrison at Ma'an, and a considerable number of troops were also camped out in the desert, away to the west of the line; they were said to have come up from Akaba, on their way back from the Yemen. The railway authorities have built a small hospital for their employees close to the station of Ma'an, on the east side of the line. It was built of wood and of far too unsubstantial a nature to withstand the strong winds which so constantly blow here, with the result that the front wall had completely collapsed shortly before our visit here. There is another and more solidly built hospital at Tebuk, further down the line, of which I shall have occasion to speak later.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ON THE ROAD TO WASHINGTON.

New York, Sept. [illegible]5th.

Sanitation at Sea.—Sanitary Laundries for Ships.—The Rival Claims of Passengers and Machinery for Space.—A Modern Solution of the Problem.

To attend the International Congress on Tuberculosis which this year meets at Washington I was about to embark on one of the huge and luxurious floating hotels that cross the Atlantic when it occurred to me that such a journey opened out questions of interest from the public health point of view. There were the ventilation and the drainage of the ships, but there was also the question of general cleanliness. Anyone can see how constantly the decks are scrubbed and the stairs are washed and wiped, and how all is beautifully clean and brightly polished, but what becomes of the soiled linen, of the very towels and cloths with which all this outward cleanliness is maintained? Where do they go and how are they washed? The public does not realise what a huge business this entails. So as not to be dependent on others and also to reduce the expense the great shipping companies should have their own laundry machinery and staff. The placing of the *Lusitania* and *Mauretania* on the line of traffic between Liverpool and New York produced, among many other effects, quite a little revolution in the laundry world. This can easily be understood when it is known that these ships on arriving at Liverpool send ashore all their washing, and this amounts in articles, both large and small, to no less than 65,000 different objects. Such is the extent of what is called the summer wash. But the winter wash is nearly as great because, though there are then not nearly so many passengers, the dirty linen is not landed and washed at New York but brought back to Liverpool, and thus in winter the amount of two voyages is landed and about equals that of one voyage in summer. When all this is washed, ironed, and folded it requires eight large furniture vans packed quite full to carry the linen back to the ship. As there are the other ships besides the two giants mentioned above the Cunard Company had to make provision for washing at their Liverpool works something like 120,000 pieces of linen per week. Considering that any one of these pieces of linen might be the means of conveying infectious disease from one person to another, and as all travellers when once on board have no option but to use the ship's linen, the importance of the laundry question is obvious. So much is this the case that with the advent of the *Lusitania* and the *Mauretania* the laundry at the Cunard works had to be enlarged considerably and reorganised. Consequently, before going on board, I made a point of visiting this new installation.

Of course the first and most difficult problem is that of the steerage passengers, for many of these poor people are far from cleanly in their habits and person. Therefore, without entering the Cunard works at Bootle but from the streets, there is a shoot where specially dirty objects glide down into a basement close to a disinfecting stove. This stove will hold and disinfect by steam under pressure in an hour six horsehair mattresses. It is worth while preserving these and they generally are used by the stewards and the crew. But the steerage beds are of straw and these are simply carted off to the destructor where they are burnt. The stove used is known as Alliot and Paton's steam and vacuum disinfector. When there is any linen known to be infected, such as the linen used in the ship's hospital, this is taken by the port sanitary authorities and disinfected by them; but as an extra precaution it is again disinfected in the company's own stove. Here also is placed all linen containing vermin. When in any cabin or part of a ship vermin are found the linen is placed in a bag to be disinfected as soon as the shore is reached; the cabin itself is rendered airtight and fumigated. Thus all source of nuisance is promptly dealt with and the evil is suppressed.

The chief danger in laundry work rests in the fact that it is not always possible to ascertain when linen is infected. The person who conveys the germs is sometimes not himself aware of his own condition. Consequently it is satisfactory to know that the ordinary normal process of washing is very generally and in itself also a disinfecting process. To my mind, it has always seemed that the chief risk is with the cleanest linen—the towel or the serviette that has only been used once. It is only slightly crumpled, it seems to be quite clean, but it may bear pathogenic germs for all its apparent cleanliness, whereas another towel that is very black and dirty may be quite innocent of any cause of infection. On the other hand, it will require so much washing that even if infected there is every likelihood that the germs will not survive the process of washing. Consequently I was more anxious to watch what was done with the linen that is almost clean. Fortunately, I found that unless linen is boiled the whiteness of its colour cannot be maintained. On the other hand, when linen is very dirty it must not be boiled at first as this would fix the mark of the stains. It has therefore to be soaped and scrubbed and passed through several changes of water before it is placed in boiling water. Ultimately both the dirty and the comparatively clean linen reach the boiling water stage and are thus disinfected by heat during the natural process of washing, not to mention the action of the soap and the passing currents of water. Thus the serviette and the towel may be used in all security.

Of course, the unwashed dirty linen is kept apart and is sorted in heaps corresponding to the methods of treatment to be applied. There are long cylindrical washers, armed inside with wooden knobs that beat the linen and make a lather, which can hold 2000 serviettes. The cylinder revolves and the linen is stirred and shaken as if washed by hand. Then very powerful flushes of water can be discharged in these cylinders, thus replacing a running stream. Indeed, such a lavish use of water is necessary that a new four-inch water main has had to be brought from the street main to the works. To clean the blankets the steam of the engines is used. This soft condensed water is very useful for that purpose. When the linen has been washed or cleaned there are centrifugal hydro extractors capable of 850 revolutions per minute. The cage holding the wet linen is 42 inches wide and when this whirls round at the above rate it soon throws all the water out of the linen. A canvas cover is put over the top to prevent anyone falling in or getting entangled in these powerful machines. On leaving these the linen is ready for ironing. For this purpose a new apparatus has been devised. It is capable of working at 12 different speeds. The heavier and more moist the linen the slower it has to work. This machine consists of two hot revolving cylinders or rollers and the linen is pressed or ironed by passing it between them. This, of course, is an old device, but the machine here used is the latest on the market and the novelty rests in the fact that it is driven by electricity and is 144 inches long, whereas the largest standard size is only 108 inches. This provides about 1100 square feet of ironing surface per minute. There are three such machines working side by side, therefore it is possible to iron 3300 square feet of linen per minute. As it cannot take much less than a minute to iron a serviette by hand it will be seen what an immense saving of human labour has been effected. Furthermore, the action of this machine is so perfect that it is not necessary to starch table-cloths. They get their glossy appearance from the high finish of the machine. Each machine has six feeders who place the linen on the rollers. This work used to be accompanied with some risk as the fingers were sometimes caught and the hand was seriously injured. Now an automatic finger guard has been devised that runs the whole length of the cylinder and if the fingers

the last two or three months in Melbourne. Upwards of 40 cases are known to have occurred. Dr. Douglas Stephens is making a special investigation of the subject and his conclusions will be put before the Medical Congress in October next.

Juvenile Depravity.

A somewhat remarkable case of moral perversion is reported from Tasmania. Two children, aged eight and two and a half years respectively, were sent out in each other's company. The elder boy returned alone and stated that his little brother had been "taken by a hyena into the bush." On being pressed he varied his story by saying that the child had been riding on his back and fell off. Finally, the body of the younger child was found hidden in a hole, with extensive fracture of [illegible] skull. The elder boy then confessed that he had got tired of carrying his small brother and had hit him on [illegible] head with a log of wood and hidden the body where [illegible] found.

Pure Milk.

A deputation of medical men recently wa[illegible] on the Premier of Victoria to ask for his support in the formation of an institution for the supply of pure milk to infants. The speakers were Mr. G. A. Syme, Dr. A. Jeffreys Wood, Dr. J. Jamieson, Dr. Barrett, Dr. J. W. Springthorpe, and Dr. T. Cherry. The cost of beginning operations was estimated to be £3000, and the Premier practically undertook to find half that amount while the remainder is to be got by voluntary contributions. A protest has been made by a well-known dairy company who "respectfully urge that if a model dairy farm is to be established it be done by the Government through the Department of Agriculture. It will then be under responsible and expert control, and its use as an object-lesson open to commercial criticism. The present proposal places its management under the control of a body composed of scientific men, who would be responsible to nobody and who could, no doubt, if allowed to spend enough money, produce clean milk suitable for infants; but the question of its actual cost would be lost sight of, and the real value of the object-lesson would be lost. If the trade were then expected to follow in the footsteps laid down for them in this way, the immediate result would be a material increase in the price of milk to the consumer, which would be a doubtful way of assisting the poor mothers of this city. The proposed institute would have more than sufficient scope for its energies and its money if it devoted its attention to the question of supervision and distribution, the establishment of depôts in congested centres, and the education of the mothers as to the value of clean milk in the rearing of children, and the care necessary to preserve it when they get it into their houses."

August 18th.

Obituary.

HAROLD LESLIE BARNARD, M.B., M.S. LOND., F.R.C.S. ENG., L.R.C.P. LOND.,

SURGEON IN CHARGE OF OUT-PATIENTS AT THE LONDON HOSPITAL.

THE late Mr. Harold Leslie Barnard, whose death occurred in his forty-first year on August 13th, was a distinguished son of the London Hospital who had worthily won his place upon its staff. He was born in Highbury in 1868 and was a great-nephew of Michael Faraday. He had not intended originally to follow medicine, for after a year's residence in America he worked in the City for three years, but at the age of 20 entered the London Hospital where he gained the first year scholarship. This success was followed up by a career of continuous distinction. Four years after his entry he qualified M.R.C.S., L.R.C.P., and in 1895, three years later, he graduated in both medicine and surgery at the University of London, his B.S. winning him first-class honours. In the same year he took the Fellowship at the Royal College of Surgeons of England and the next year the M.S. at the University of London. During this period he held in succession all the resident appointments at his hospital, to which he became subsequently surgical registrar, and also demonstrator of physiology, and assistant demonstrator of anatomy in the medical school. His first full staff appointment was that of assistant surgeon to the Metropolitan Hospital, a post which he relinquished in 1900 when he was appointed assistant surgeon and also surgical tutor at the London Hospital. He held this tutorship until 1904, when he took up the post of demonstrator of surgical pathology which he retained until his death. He was elected surgeon to the hospital with charge of out-patients in July, 1907. It can be said unhesitatingly of Mr. Barnard that he was possessed of the real scientific spirit and an endless capacity for work. Both in physiology and in surgery he had made such a mark as leaves little room to doubt that he would have earned a wide reputation if death had spared him to fulfil a life which in far too short a time had achieved so much. The work which he did in conjunction with Dr. Leonard Hill on hæmodynamics resulted in many valuable observations and also in the Hill and Barnard's sphygmomanometer which was invented at a time when the clinical importance of the scientific measurement of blood pressure had not attained t[illegible] recognition which it now enjoys. His principal surgical [illegible] was concerned with the abdomen and upon intestinal obstruction he wrote with an undoubted authority. The article in Allbutt's "System of Medicine" on that subject from his pen is likely to remain as a classic piece of literature, [illegible] and painstaking investigation. [illegible] and appendicitis engaged much of his attention and he contributed a paper on the [illegible] Society of Medicine. His important [illegible] "The Simulation of [illegible] Peritonitis by Pleuro-pneumonic Disease" appeared in our columns in 1902. He was an excellent operator as well as an excellent observer. A man so prominently connected with the teaching side of the London Hospital and so popular as was Harold Barnard cannot fail to be sadly missed by his students and colleagues. He entered fully into the life of his medical school, as was evidenced by his presidency of its swimming club and vice-presidency of its football, boxing, fencing, and gymnastic clubs, and also of the Hospital Medical Society. His many activities were carried through in defiance of a poor physique, and it is a general opinion amongst his friends that his whole-hearted devotion to work was at least a factor in his untimely death which followed upon cardiac trouble. His funeral took place in Highgate Old Cemetery on August 17th.

EDWARD PERCY PATON, M.D., M.S.LOND., F.R.C.S.ENG.,

DEAN OF THE WESTMINSTER HOSPITAL MEDICAL SCHOOL.

THE teaching staff of Westminster Hospital, which sustained such a severe loss in the death of Bertram Abrahams earlier in the year, has again to mourn an exceptionally brilliant colleague, the sadness of whose early death was intensified by the long and painful illness which led up to it. Percy Paton was one of those rare men whose academical career has been a triumphant march through the honours lists and who have yet emerged from it with a practical and well-balanced mind on which a deep store of learning has left no reproach of bookishness. He was born 41 years ago in Canonbury and received his medical education at St. Bartholomew's, where he enjoyed a distinguished career as a student and became an assistant demonstrator of anatomy. He qualified under the Colleges in 1889 and in the same year took his degree at the University of London, obtaining the University scholarship and gold medal in obstetric medicine and honours in medicine and forensic medicine. He then became a house surgeon at his hospital and later surgical registrar and anæsthetist at the Hospital for Sick Children, Great Ormond-street. In 1891 he proceeded to the M.D. at the University of London, but, deciding on a surgical career, in the following year he passed the F.R.C.S. examination and also took the London B.S. which gained him the University scholarship and gold medal in surgery, a success which he followed up by obtaining the Mastership in 1894. In 1896 he started his connexion with Westminster Hospital, greatly to the advantage of its school, by obtaining the posts of surgical registrar and senior demonstrator of anatomy. Three years later he became an assistant surgeon and in 1906 surgeon in charge of out-patients, after having been elected Dean of the medical school in 1904. These two posts he held until his death. He was also lecturer in surgical pathology at Westminster Hospital and was an examiner to the Society of Apothecaries, first in anatomy and later in surgery. He gained a wider experience in practical surgery than many men of his seniority by his appointment to a surgeoncy at the Mildmay Mission Hospital, of which his strong religious convictions made him a devoted a word concerning the skilful waiting and attendance which so largely help to make such a journey enjoyable. Personally, I am also much indebted to the captain, the purser, and the chief engineer for the time and trouble which they took to facilitate my investigations, and I cannot leave this good ship without expressing my gratitude for their courtesy.

THE SECOND CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

(FROM A SPECIAL CORRESPONDENT.)

THE International Society of Surgery meets once in three years. The members are elected after nomination by a national committee for each nation and its proceedings are conducted in French, German, or English at the will of the speaker. Every effort is made to limit the membership to surgeons who are in the active practice of their profession, whilst care is taken to select the subjects for discussion sufficiently long beforehand to allow the communications to be in the hands of each member at least a month previous to the meeting. The original paper is written in French, German, or English, but a summary of its contents are issued in all these languages. It is possible, therefore, for each member to follow the train of thought, although he may be ignorant of the language in which it is expressed. The society does excellent work and is highly appreciated by the surgeons of Europe generally, though it appears to have proved little attractive to the surgeons of Great Britain and Ireland.

The second Congress began with a meeting of the members of the International Committee on Sunday, Sept. 20th, when 22 of the 24 members were present, and it was announced that the society numbered upwards of 400 members and that national committees had been formed in Russia, Finland, and Servia. The Congress was opened formally at 9.30 on the morning of Monday, Sept. 21st. Punctually to the time fixed Their Royal Highnesses the Prince and Princess Albert arrived at the Palais Cinquantière, where a magnificent suite of rooms had been placed at the disposal of the Congress by the Belgian Government which had further shown its interest in the objects of the meeting by the grant of a subsidy towards the expense. Their Royal Highnesses were received by M. Davignon, Minister for Foreign Affairs, and by Professor Czerny of Heidelberg, President of the Congress, and every member of the International Committee was presented and received with a few words of welcome each in his own tongue. H.R.H. Prince Albert then entered the large hall, already filled with members, and in a graceful speech declared the Congress open. Dr. Depage, secretary-general, read a list of the members who had died since the meeting in 1905—Mr. Reginald Harrison, Professor von Bergmann, Professor von Esmarch, Dr. Fowler of New York, Professor Terrier of Paris, and Professor Reverdin of Geneva. Their Royal Highnesses then made a minute inspection of the apparatus, maps, and specimens and the real work of the Congress was deferred until the afternoon.

The subjects proposed for discussion were Cancer in all its forms, with especial reference to treatment; Hernia; the Surgery of the Liver; the Surgery of the Spinal Cord; and Anæsthesia, whether Local, Intraspinal, or General. The subject of cancer was illustrated by a magnificent display of specimens which was divided into 14 sections, Germany, England, Austria, Belgium, the United States of America, France, Greece, Hungary, Italy, the Low Countries, Roumania, Russia, Switzerland, and Turkey. The Austrian collection far surpassed the rest, for Professor Wertheim exhibited 250 specimens of cancer of the cervix uteri, whilst Professor Hochenegg, also of Vienna, showed 112 specimens of cancer of the rectum which he had removed by the sacral route. Such a wealth of material enabled the members of the Congress to follow the course of these diseases from the earliest to the latest stages in a manner which would otherwise have been impossible. Professor Wertheim drew attention to the number of specimens in which cancer of the cervix was still in an early stage and attributed it to the instructions constantly impressed upon every Austrian practitioner of medicine to make a digital examination in every case where there were signs of uterine disease. The exhibits of the United Kingdom comprised a specimen of Primary Sarcoma of the Spleen, shown by Mr. D'Arcy Power; a case of Cancer of the Thoracic Duct, shown by Mr. J. Lynn Thomas; some interesting preparations, by Mr. W. Sampson Handley; Drawings of Cancer of the Tongue, by Mr. H. T. Butlin; and a case of Pharmaceutical Products used by Dr. Lovell Drage in the treatment of cases of inoperable carcinoma. In addition to the museum, which was inaugurated by Professor Dollinger of Budapest and carried to a successful issue by the indefatigable energy of Dr. Depage and Dr. L. Meyer, the secretaries of the Congress, there was a good exhibition of instruments and surgical apparatus.

Brussels, Sept. 22nd.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE return of the number of candidates who have entered for the matriculation examination this year, excluding those who take the examination as a "school-leaving examination," shows an increase of 25 per cent. over the preceding year, the totals being 439, as compared with 355. This definite increase may be taken as an indication that there will be a practically corresponding increase in the number of students in the coming session, in which case the already overburdened accommodation will be still more strained and the longing for the relief which will be given when the physics and chemistry departments can be moved to Bournbrook will be intensified. Fortunately, there is every hope that by next year the relief will be obtained and the more especially cramped departments will be able to expand. The unfortunate death of Professor Churton Collins has removed from the staff of the University a very interesting personality, and it is remarkable that a man who always showed himself so full of life, interest, and hope should have broken down so completely after the strain of the work was over. He will be greatly missed, for he was an excellent lecturer, a most entertaining companion, and he possessed the power of interesting others in his work and ideas.

A Suggested Provident Dispensary.

The medical profession in Birmingham is at present considering a scheme for the establishment of a provident dispensary which has been put forward by a provisional committee, with whom representatives of the council of the Birmingham and District General Medical Practitioners' Union were incorporated. The objects of the scheme are to relieve the ever-increasing pressure on the out-patient departments of the hospitals, to bring about coöperation between several institutions working on somewhat similar lines, to encourage self-help and thrift among the working classes, and to secure to members of the medical profession some slight remuneration for work done. That hospital treatment is sought by cases that can be quite easily and effectively dealt with by the ordinary practitioner is demonstrated by the fact that at the General Hospital the number of out-patients was reduced last year from 65,427 to 62,102 by the simple expedient of referring all trivial surgical cases elsewhere after first-aid had been given and by referring all chronic cases which did not require hospital treatment to general practitioners, clubs, dispensaries, and the Poor-law authorities. Stated broadly, the present suggestion for dealing with patients who have very small means but who are still able to pay something for treatment is that every applicant for admission to membership shall pay 1*s.* as entrance fee and a subscription of 5*d.* a month or 5*s.* a year. The 1*s.* entrance fee will secure the applicant a medical examination and for the subscription he will receive treatment by a medical practitioner, chosen by himself, and medicine from the local branch of the general dispensary. Any registered member of the medical profession who has practised independently in the Birmingham district for 12 months may become a member of the medical staff of the dispensary provided that he does not continue to hold a private medical club. He may decline to accept any individual patient and he will not be required to

The institution is of great value in spreading a knowledge of Western medical science among the Chinese; and in addition to the employment of certain of the licentiates in the public service and in the Chinese dispensaries the senior students have frequently been made use of for various purposes during epidemics. A Government grant-in-aid of $2500 is made to the College to be used as honorariums to the lecturers, who are either Government officials or medical practitioners in local practice. Steps are at present being taken for the provision of adequate buildings for the purposes of the College which has hitherto carried on its work in various lecture rooms and laboratories placed at its disposal by hospitals and other institutions in different parts of the city.

THE HEALTH OF NORTH DEVON IN 1907.—Dr. E. J. Slade-King in his summary of the reports of the medical officers of health of North Devon for 1907, which he has just presented to the Devon county council, states that of an estimated population of 146,775 the death-rate was 14·3, compared with 13·7 in 1906. The annual death-rate per 1000 births under one year of age was 104; in 1906 it was 98·7. 96 deaths occurred from zymotic diseases, giving a death-rate of 0·7 per 1000. Six deaths were due to enteric fever. 467 cases of infectious disease were notified, against 430 in 1906. 101 deaths were due to pulmonary tuberculosis, equal to a death-rate of 0·6 per 1000; in 1901 there were deaths from this disease and in 1906 the number was 1 121 deaths were caused by cancer, compared with 123 1906. The birth-rate was 19·7 per 1000, as against 21 1000 in 1906.

THE EDUCATION ACT IN GLAMORGAN.—Th report of the county medical officer of Glamorgan on t medical inspection of children in public elementary schools has recently been issued. After detailing Section 13 of the Education (Administrative Provisions) Act, 1907, and the steps taken by the local education committee to put that section into operation, a copy of a circular letter is printed which has been addressed to the head teachers of each department of all the schools under the jurisdiction of the education committee advising them as to the procedure to be followed. The work of inspection was commenced on April 27th last and was continued regularly up to the end of July. During the 12 weeks 117 schools were visited and 4021 children were medically examined. Of these, 1979 were boys and 2042 were girls and the results are tabulated in six tables accompanying the report. No fewer than 1360, or 33·8 per cent., of the 4021 children examined in the 117 schools were found with defects capable of interfering to a marked degree with educational progress and this must be regarded as a serious pronouncement. The medical officer thinks that with regard to the proper treatment of defects of vision, defects of teeth, advanced ringworm, adenoids, and enlarged tonsils, there will be considerable difficulty in securing adequate treatment, for, as he adds, "such work is tedious and exacting and consequently the fee it demands is heavy to a large proportion of the working-class people." The medical officer also acknowledges the valuable cooperation in the work of the teachers.

THE WHITE CROSS OF ST. JOHN.—In connexion with the formation of the Devonport Centre of the St. John Ambulance Association Major Robert J. Blackham, R.A.M.C., delivered an inspiring lecture on the White Cross of St. John and its association with the ambulance movement. With the object of reaching a large and influential section of the community who did not hear the lecture it has now been published in pamphlet form with a preface written by the mayor of Devonport. The Red Cross movement of the "sixties," as everyone knows, gave the opportunity to the Order of St. John of Jerusalem to re-establish and to continue the medical and charitable work which had always been a feature of the Order, though it was not till 1877 that the St. John Ambulance Association came into existence as a department of the Order of St. John. In 1888 the Association received its charter from her late Majesty Queen Victoria and the members of the Royal family have ever since taken the keenest interest in its work. In tracing the connexion between the ambulance movement and the Christian hospital founded in 1056 at Jerusalem for the relief of poor pilgrims of all nations who visited the Holy City, Major Blackham has performed a task for which all who read his lecture will be grateful. As he points out, members of the Royal Army Medical Corps must have a very kindly feeling for the Order of St. John, "as these gallant soldier-priests were the first to see that the healing of a man's wounds was a knightly service, and that it was just as much a soldier's work to heal a sick man in a hospital as to kill a healthy one in the field." Major Blackham concludes his lecture with the words: "Thrones and empires, sceptres and States may rise and fall, but the White Cross of St. John, the guerdon of the injured, will never pass away while Christian charity remains to us, or sympathy with human suffering endures."

ANKYLOSTOMIASIS IN COSTA RICA.—Mr. F. N. Cox, H.M. Consul, reports that in the country districts of the interior it has been found that ankylostomiasis, or hookworm disease, has become a widespread malady. A commission of medical men has made a tour in the affected districts and some 3700 patients have been treated with very good effects. Similar tours are to be made annually with a view, in addition to treating any patients that there may be, of teaching the country people to take preventive measures against this disease.

BOOKS, ETC., RECEIVED.

sentation of the Scientific Principles upon
Modern Surgery is Based By Ehrich
of Surgery,
Bevan, M D,
, Rush Medical
cago. An Authorised Translation of the
on. By Dean Lewis, M D, Assistant
ish Medical College in Affiliation with the
Price 25s. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.
afe and Other Lectures delivered at the
ndon, 1899-1902. An Introduction to
Allan Fullerian
, Roya Head of
eventive
partm t, M D,
Medicine, London Edited Bacterio-
F R C P, D P H, Professor o
logy, King's College, London Price 7s. 6d. net.

CLARENDON PRESS, Oxford. (FROWDE, HENRY, London, New York, and Toronto)
An Alabama Student and Other Biographical Essays By William Osler, M.D, F R S., Regius Professor of Medicine, Oxford, Honorary Professor of Medicine, Johns Hopkins University, Baltimore. Price 7s. 6d. net.

FISCHER, GUSTAV, Jena.
Beitrage zur Pathologie des Stoffwechsels bei Psychosen Zweiter Teil Die Epilepsie. (Aus der Universitats-Nervenklinik in Halle a S. Direktor. Geh. Med-Rat Prof Dr. Anton) Von Dr Max Kauffmann, Privatdozent fur Psychiatrie und Neurologie an der Universitat Halle a S
Einfuhrung in die Histologi
systems. Acht Vorlesunge
dozent, Oberarzt der Kgl.
Breslau. Price M 2 80
Ueber die Genese des Carcinoms Von H. Apolant und P. Ehrlich in Frankfurt a Main (Abdruck aus Verhandlungen der Deutschen Pathologischen Gesellschaft, 12. Tagung, 1908) Price M 1.
Ambulatorische Extensionsbehandlung der Oberen Extremitat Von Dr. O. Borchgrevink, Chirurg. Oberarzt des Diakonenhospitals zu Christiania. Price M.4 50.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.
Untersuchungen uber Zichorie Von Dr. Ferdinand Hueppe Professor der Hygiene und Vorstand der Allgemeinen Untersuchungs Anstalt fur Lebens-Mittel an der Deutschen Universitat in Prag. Price M.1.
Grundriss der Psychiatrischen Diagnostik, nebst einem Anhang enthaltend die fur den Psychiater wichtigsten Gesetzesbestimmungen und eine Uebersicht der gebrauchlichsten Schlafmittel Von. Prof. Dr. Raecke, Privatdozent und Oberarzt der Psychiatrischen und Nervenklinik in Kiel. Price M 3.

KABITZSCH, CURT (A. STUBER'S VERLAG), Wurzburg.
Einfache Hulfsmittel zur Ausfuhrung bakteriologischer Untersuchungen Von Dr. R. Abel, Geheimer Medizinalrat in Berlin und Dr. M Ficker, Professor in Berlin. 2. Auflage. Price M.1 20
Aerztliche Beredsamkeit. Von Dr. med. Henry Hughes, Arzt in Bad Soden a T Price M 1.

NISBET, JAMES AND Co, LIMITED, 22, Berners-street, London, W.
Common Affections of the Liver By W. Hale White, M.D, F.R C.P., Senior Physician to and Lecturer on Medicine at Guy's Hospital. Price 4s. 6d. net.

WILEY, JOHN, AND SONS, New York. (CHAPMAN AND HALL, LIMITED, London)
Manual of Psychiatry. By J. Rogues de Fursac, M.D., formerly Chief of Clinic at the Medical Faculty of Paris, Physician in Chief of the Public Insane Asylums of the Seine Department. Authorised Translation from the French By A. J. Rosanoff,
M.D., Sec e Hospital,
N.Y. Se h Edition
Revised a et.
Text-Book of By Emil

anyone that medical treatment was the treatment which ought to be applied for the elimination of cancer! Many of the cases of cancer in women's breasts were, he said, attributed by them to blows, and from these and the case of *the fireman above quoted* it seemed to him evident that cancer was due to injury. In conclusion, the chairman said it was a remarkable thing that surgeons should continue to use the knife in such cases! It is quite refreshing to find someone who, without any special training presumably, has managed to solve a problem at which for years so many able scientific men have laboured. From the statement it is apparent that not only has the question of treatment been satisfactorily settled but the members of the institution have also apparently strong views on the causation of the disease. It is to be regretted that the methods by which this cure is attained are not more widely known. As is usually the case when such claims are put forward for the cure of such a disease, patients are not lacking and money flows in from public subscriptions to the institution to the tune of £800 per annum.

Dundee Royal Infirmary.

At the last meeting of the governors of this infirmary the announcement was made of the gift by Mr. Robert Sime, Mundamalla, Newtyle, of 1000 guineas to endow a cot in the children's ward to be called the "Mrs. Marjory Sime Cot," in memory of his late wife; also of the generosity of an anonymous donor in providing for the appointment of a lady visitor to read and to speak to such patients as should desire it. Mr. William Rettie, chairman of the directors, presided, and in moving the adoption of the report, commented on the work of the infirmary during the last three months. The number of patients treated, notwithstanding the fine weather, had shown an increase on the corresponding quarter last year, as also did the numbers treated in connexion with the Maternity Hospital. It had to be acknowledged that the finances were in rather a poor way. They had had to take £9000 from the reserve to meet the current account last year, and they had an extra expenditure of something like £3200 on buildings for the present year. In those circumstances the directors made renewed appeal to the community for their generous support.

Sept. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Difficulty of Pauper Lunatics.

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Notes, Short Comments, and Answers to Correspondents.

A POINT IN MEDICAL ETHICS.

"M.R.C.S., L.R.C.P." writes: "I shall be glad of your opinion in the following matter. I had been looking for a practice for some months at some seaside town, and I had inspected a number of practices in different parts of the country, but I could find none to suit me. I was given by an agent the name of a practice which was for sale at a seaside town which I will call X. The agent offered an interview with Dr. K., the vendor, who was away *ill*, but I refused this, saying that I could not contemplate buying the practice unless the house suited me. I then looked over the house, but as the house was quite unsuitable for my purpose I did not inspect the books or inquire into the details of the practice, but I wrote immediately to the agent to say that I had decided not to buy. After this I inspected practices in other towns, but I was unable to find any which I con[illegible] suitable. Ultimately I determined to start a practice for myself and I took a house in the seaside town X referred to above. In due course I called on all the medical men of the town, but [illegible] I was expecting their return calls I received a 'round robin' signed by five of the medical men saying, 'We, the undersigned, have decided that we cannot return your call. The reason for which you will readily understand.' Apparently the signatories consider that my visit to the house of Dr. K. should have precluded any attempt to settle in the town, although I have informed them that I did not examine any of the books of the practice and did not see the vendor, and I was even particularly careful not to make any inquiries in the town about the practice. I shall be glad to know your opinion of the matter and to have your advice as to the course I should pursue, especially as I find that the statement is now being spread that I carried every possible investigation into the practice, both with the vendor and in the town. Can it be accepted that to view a medical man's house should prevent a medical man practising in the same town?"

*** The above statement seems to us to be a frank explanation of circumstances which ought to have prevented anything whatever in the nature of a combination against the medica[illegible] question by his brother practitioners. If "M.R.C.S., L.R.C.P." had inquired into the details of the practice, or had attempted to obtain any information whatever which he *could afterwards* use to secure gratuitously a practice which he desired, of course the "round robin" would have been justified; but as inquiry would have shown that no inspection of the books had taken place we think that the document was an unfortunate one. In answer to the two questions put to us by "M.R.C.S., L.R.C.P." (1) We advise that the clear statement made to us as to the circumstances of the case should be sent not only to the five signatories to the "round robin" but to all the practitioners in the town and to the secretary of any local medical society or branch of the British Medical Association which may have its centre in the town. (2) It is obvious that to inspect a medical man's house cannot preclude him who makes the inspection from practising in the town if only because there might be two practices vacant simultaneously.—ED. L.

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of THE LANCET.

SIR,—In reference to the correspondence which is appearing in your columns about early English medical books I should say that your correspondent, Dr. Oscar Jennings, is correct in his assumption that the "Governal of Health" is the earliest *printed* medical work in English. It was printed about 1489. The book was written by John of Burgundy, about whom very little is known for certain. So far as I know the earliest medical works in English are some fourteenth and fifteenth century manuscript translations of portions of Hippocrates and some translations into English of John of Burgundy's treatise "De Pestilentia." One of these dates from the fourteenth century and there are many others of the fifteenth century in the Sloane collection in the British Museum.

I am, Sir, yours faithfully,

Sept. 22nd, 1908. M.D.

COEXISTENCE OF TESTES AND UTERUS.

M. Cornil and M. Bossard have presented to the Paris Anatomical Society the contents of the scrotum of a young Greek who was operated on for a tumour. The testicles contained spermatozoa and between them was situated a uterus 10 centimetres in length.

GARBAGE MONGERS.

A PARTICULARLY flagrant case in which an unscrupulous dealer attempted to sell organic poison to the public came before the magistrates at Newry petty sessions on Sept. 16th. A woman of Carrowmanden was summoned by the Newry urban council for having exposed for sale the carcass of a pig unfit for human food. A veterinary surgeon stated that the carcass was partly undergoing decomposition. The bench fined the defendant 6*d*. and £3 7*s*. costs, with the alternative of one month's imprisonment. It is hard to understand why a nominal fine was inflicted. If the alternative sentence were only carried out in a few of these outrageous cases we should not so often have occasion to record them.

MEDICAL DEFENCE UNIONS.

To the Editor of THE LANCET.

SIR,—Can any of my brother practitioners inform me how many unions are there in England which a medical man may join by payment of annual subscription? It is needful in these days for every medical man to join such a union for protection.

Some time ago I found addressed to me an advertisement in which an insurance company was issuing a prospectus to insure medical men against any charge of unskilfulness which a patient may bring. Are there such insurance offices? Thanking you,

I am, Sir, yours faithfully,

Sept. 21st, 1908. PRACTITIONER.

ROGUERY AND CREDULITY.

A CASE which was heard before Judge Lumley Smith on Sept. 15th illustrates well the cynical remark of "the Claimant" about money [illegible]. The plaintiff was a maidservant named Ling, and the [illegible]lant a man named Tom Wallis Rogers who posed as a [illegible]etic healer. Some nine years ago Miss Ling had one of her [illegible] removed and wore a glass eye in the socket. She heard of [illegible]gers and went to see him when he told her that he could cause [illegible] new eye to grow. At first she did not believe him [illegible] walked her over [illegible] her face d[illegible] thumping her back. [illegible] to [illegible]th and paid in all [illegible] 16th [illegible] treat[illegible] that everything was going on [illegible] and that if she di[illegible] treatment she would lose the sight of the other eye. [illegible] APPLETON AND Co[illegible] to the Middlesex Hospital and in consequence of [illegible] General Surg[illegible] there the prisoner was arrested by the police. The [illegible] in giving evidence said that he had 3500 clients. The jury found him guilty and he was sentenced to nine months' imprisonment in the second division. As, however, Dr. W. N. East, the assistant medical officer at Brixton prison, said that he considered the prisoner was of unsound mind, Rogers is to be kept under observation. Rogers's conduct is no worse than that of hundreds of other rogues whose advertisements appear in the columns of apparently respectable magazines and newspapers, and if he is mad there was a great deal of method in his madness. But so long as there exist such credulous persons as Ling for so long will there be rogues to prey on them.

AN ANCIENT PICTURE.

To the Editor of THE LANCET.

SIR,—I am much obliged to Mr. W. Fleming for his information respecting Hannah's picture. What I would like to know are the names of the two courtiers and two physicians who are in the picture besides Harvey, the King, and the Prince of Wales.

I am, Sir, yours faithfully,

Plymouth, Sept. 19th, 1908. M. D. KEILY.

MOTORS AND MEDICINE.

A MEDICAL correspondent sends us the following anecdote. We note that in the recent circular from the Local Government Board concerning motor-cars "excessive use of the horn" is placed among the marks of the inconsiderate driver, but the use on the present occasion of "the hooter" seems to have been fully justified.

"My little boy, aged six, who is much interested in motor-cars, was prescribed an enema by a medical friend. This was administered by his mother by means of a bottle syringe. Next day the doctor asked the small boy how he felt. 'Oh! much better, thank you, since mummy gave me the hooter.'"

PUBLIC HEALTH AS AN OPTIONAL SUBJECT FOR THE DIPLOMA OF F.R.C.S. EDIN.

To the Editor of THE LANCET.

SIR,—Will any of your readers with personal experience of examination in public health as an *optional* subject for the diploma of F.R.C.S. Edin. kindly give me some idea of the scope of the examination and the names of any books which they found useful? The information which you kindly gave me last week is not exactly what I require.

I am, Sir, yours faithfully,

Sept. 19th, 1908. DIPLOMA.

◆

Enquirer.—With regard to the legal points involved our correspondent's best course is to consult a solicitor. Cases of this nature, however, are usually made a matter of compromise and perhaps the fairest arrangement would be that the nurse should be paid half her fee, for it is quite possible that owing to her engagement for the case in question she has lost the opportunity of giving her services to some other case.

ERRATUM.—In a review of Vol. I. of "Archives of the Pathological Institute of the London Hospital," which appeared on p. 878 of THE LANCET of Sept. 19th, the date of publication was given erroneously as "1903." It should have been 1906.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Birmingham Daily Post, South Wales Daily News, Western Mail, Edinburgh Evening Dispatch, Liverpool Post and Mercury, Manchester Evening News, Birmingham Evening Dispatch, Daily Mail, Daily Chronicle, Wigan Observer, Eastern Morning News, Norfolk Weekly Standard, Chelsea Mail, Grimsby Telegraph, Nature, Pall Mall Gazette, Huddersfield Examiner, Nottingham Evening Post, Blackpool Gazette, &c.*

anyone that medical treatment was the treatment which ought to be applied for the elimination of cancer! Many of the cases of cancer in women's breasts were, he said, attributed by them to blows, and from these and the case of the fireman above quoted it seemed to him evident that cancer was due to injury. In conclusion, the chairman said it was a remarkable thing that surgeons should continue to use the knife in such cases! It is quite refreshing to find someone who, without any special training presumably, has managed to solve a problem at which for years so many able scientific men have laboured. From the statement it is apparent that not only has the question of treatment been satisfactorily settled but the members of the institution have also apparently strong views on the causation of the disease. It is to be regretted that the methods by which this cure is attained are not more widely known. As is usually the case when such claims are put forward for the cure of such a disease, patients are not lacking, and money flows in from public subscriptions to the institution to the tune of £800 per annum.

Dundee Royal Infirmary.

At the last meeting of the governors of this infirmary the announcement was made of the gift by Mr. Robert Sime, Mundamalla, Newtyle, of 1000 guineas to endow a cot in the children's ward to be called the "Mrs. Marjory Sime Cot," in memory of his late wife; also of the generosity of an anonymous donor in providing for the appointment of a lady visitor to read and to speak to such patients as should desire it. Mr. William Rettie, chairman of the directors, presided, and in moving the adoption of the report, commented on the work of the infirmary during the last three months. The number of patients treated, notwithstanding the fine weather, had shown an increase on the corresponding quarter last year, as also did the numbers treated in connexion with the Maternity Hospital. It had to be acknowledged that the finances were in rather a poor way. They had had to take £9000 from the reserve to meet the current account last year, and they had an extra expenditure of something like £3200 on buildings for the present year. In those circumstances the directors made renewed appeal to the community for their generous support.

Sept. 22nd.

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A.—Ardath Tobacco Co., Lond.; Messrs. Allen and Hanburys, Lond.; Mr. W. Alimad, Calcutta; Apollinaris Co., Lond.; A. M.; Dr. H. Russell Andrews, Lond.; Association of Public Vaccinators of England and Wales, Lond., President and Council of; Mr. R. J. Albery, Lond.; Dr. R. W. Allen, Lond.; Admiralty, Medical Department, Director-General of; Dr. F. Herbert Alderson, Lond.; Mr. H. B. Amos, Lond.; A Doctor.

B.—Dr. Giuseppe Bellei, Bologna; Dr. Clifford Beards, Lond.; Dr. H. E. Bruce-Porter, Lond.; Dr. H. O. Butler, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Major R. J. Blackham, R.A.M.C., Stoke; Messrs. Bates, Hendy, and Co., Lond.; Messrs. Bonthron and Co., Lond.; Messrs. Bedford and Co., Lond.; Lieutenant-Colonel E. H. Brown, I.M.S., Lond.; Mr. C. Birchall, Liverpool; B. H.; Bristol Royal Infirmary, Secretary of; Dr. H. D. Bishop, Guernsey; Dr. H. P. Byers, Melita, Canada; Messrs. J. Barker and Co., Lond.; Mr. J. A. Batley, Leeds; Messrs. J. B. Brooks and Co., Birmingham; The Bristol Printing, &c., Co., Bristol; Dr. W. Langdon Brown, Lond.; Dr. F. G. Bushnell, Lond.

C.—Dr. A. K. Chalmers, Glasgow; Clinical Research Association, Lond.; Mr. H. S. Clogg, Lond.; Continental Tyre and Rubber Co., Lond.; Connaught Club, Lond., Secretary of; Messrs. E. Cook and Co., Lond.; Messrs. Cassell and Co., Lond.; Central London Throat and Ear Hospital, Secretary of; Messrs. J. and A. Churchill, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; "Crella," Penzance; Dr. Daniel Crowly, Loughrea; Dr. James Craig, Dublin; Christian Union, Lond., Hon. Secretary of.

D.—Mr. W. Daley, Bootle; Mr. H. De Styrap, Shrewsbury; Devon County Education Committee, Exeter, Secretary of; Paul E. Derrick Advertising Agency, Lond.; Denver Chemical Manufacturing Co., Lond., Secretary of; Mr. G. H. Dive, Lond.; Mr. John N. Donald, Colinsburgh.

E.—Mr. C. G. Engert, Lond.; Dr. D. Eakin, Norwich; Messrs. Elliott, Son, and Boyton, Lond.; *Eastern Morning News*, Hull, Manager of.

F.—Mr. H. Frowde, Lond.; Mr. Duncan C. L. Fitzwilliams, Lond.

G.—Dr. Alfred Gradenwitz, Berlin; Dr. Major Greenwood, Lond.; Mr. W. Gem, Krugersdorp; Mr. Joseph W. Ginsbury, Lond.; Dr. A. S. Gubb, Aix-les-Bains; Mr. W. Grisewood, Liverpool; Mrs. Gibson, [illegible]scombe; Mr. Ernest W. Hey Groves, Clifton.

H.—Dr. C. O. Hawthorne, Lond.; Mr. F. T. Ham, Newcastle-under-Lyme; Mr. T. Holland, Lond.; Messrs. C. J. Hewlett and Son, Lond.; ; Holloway Sanatorium, Virginia Water, Medical Superintendent of; Hull Advertising Agency, Manager of; Harrogate Hydro Co., Manager of; Mr. C. Hartley, Bishop's Stortford; Handsworth Urban District Council, Clerk to the; Dr. F. W. Hewitt, Lond.; Mr. A. J. Horne, Lond.; Mr. C. Murray Halsall, Millom.

I.—Messrs. Ingr[illegible] and Royle, Lond.; Isle of [illegible] Asylum, Union Mills, Secretary of.

J.—Dr. Robert Jones, Claybury.

K.—Messrs. J. Keele and Co., Lond.; Dr. Knight, Portobello; Messrs. Kutnow and Co., Lond.; Mr. M. D. Keily, Plymouth; Mr. Bernard Kelly, Lond.; Mr. A. M. Kellas, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Dr. A. J. Landman, Lond.; Legal and Commercial Insurance Co., Leeds, General Manager of.

M.—D[illegible] D. Macnamara, Lond.; Dr. A. F. Martin, Manningham; Mr. Henry M[illegible], Lond.; Captain R. McCarrison, I.M.S., Guildford; Manchester Corporation, Medical Officer of Health of; Dr. W. Mansell MacCulloch, Bournemouth; Maltine Manufacturing Co., Lond.; Manchester Medical Agency, Secretary of; Dr. Bernard M[illegible], Lond.

N.—North-West Frontier Province, Peshawar, Administrative Medical Officer of; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Dr. J. Oliver, Lond.; Owner, Putney Hill.

P.—Dr. F. J. Poynton, Lond.; Messrs. C. Pool and Co., Lond.; Mr. James Phillips, Bradford; Practitioner; P. G. P.; Messrs. Peacock and Hadley, Lond.; Mr. F. G. Parsons, Lond.

R.—Dr. A. W. Russell, Glasgow; Mr. W. Rushton, Lond.; Messrs. Reynolds and Branson, Leeds; Dr. J. W. Renton, Glasgow; Messrs. Rebman, Lond.; Messrs. E. J. Reid and Co., Lond.; Rissicol, Lond., Secretary of; Mr. Burton Rogers, Manhattan, Kansas; Royal Dental Hospital of London, Secretary of; Royal Naval Hospital, Haslar, Secretary of; Retrorsum.

S.—Mr. W. Stanwell, Rochdale; Mr. G. C. Steinicke, Munich; Dr. Aziz Shehadi, Alexandria; Messrs. G. Street and Co., Lond.; *South Wales Argus*, Newport, Manager of; Mr. James Sherren, Lond.; Professor J. E. A. Steggall, Dundee; Captain G. N. de Seyssel, Mitcheldean; School of Art Wood-Carving, Lond.; Dr. Harrington Sainsbury, Lond.; Mr. Kenneth Scott, Lond.; Mr. Walter Stansfield, Liscard; Dr. Sydney Stephenson, Lond.; *Shrewsbury Chronicle*, Manager of; Dr. E. Schloesser, Biarritz.

T.—Dr. H. M. T[illegible]ull, Lond.; Mr. P. Turner, Lond.; Mr. F. H. Tetley, Lond.; Taun and Somerset Hospital, Secret of.

U.—Dr. W. F. Umney, Lond.

V.—Victoria University of Ma chester, Director of the Labo tory of; Mr. H. Vezez, Paris.

W.—Dr. Richard Weiss, Lon Messrs. F. Williams and C Lond.; Mr. W. Willis, Readin Worcestershire County Counc Worcester, Finance Clerk o Westminster Hospital Medic School, Dean of.

Letters, each with enclosure, are also acknowledged from—

A.—Anglo-American Pharmaceuti[illegible]oydon, Secretary of; [illegible]lant, Sheffield; Dr. J. R. [illegible]strong, Treorchy.

[illegible] Dr. C. Boyd, Saltburn; Dr. [illegible]ger H. Bishop, Wylam-on-Tyne; [illegible]ew R. J. Bentley, Sheffield; [illegible] C. R. H. Ball, Hunstanton; [illegible]

Co[illegible]retary of; Mr. G. T. B[illegible]baston.

[illegible]—Dr. [illegible], *Colombo*; [illegible]ley, Lond.; Chester Cou[illegible] Asylum, Clerk to the; Mrs. M. Cavanagh, Lond.; C. A.; [illegible]

[illegible] Dr. G. Caley, Lond.; Coventry and Warwickshire Hospital, Secretary of; Messrs. Chesterton and Sons, Lond.; Messrs. Callard and Bowser, Lond.; C. R. G.; Dr. S. Cameron, Glasgow.

D.—Dr. W. T. Dougal, Jedburgh; Mr. H. A. Dodd, Stockport; Derbyshire Royal Infirmary, Derby, Secretary of; D. C. M.; Dry Extract of Coffee Co., Edinburgh, Secretary of; Mr. A. B. Duprey, Mayaro, Trinidad.

E.—E. P.; E. E. L.

F.—Mr. W. J. Furnival, Stone; Mr. F. T. Fagge, Llanfairfechan; F. E. S.

G.—Dr. A. G. Gullan, Liverpool; G. A. H.; Glasgow Maternity Hospital, Secretary of; G. D.; Mr. R. Girdwood, Wigan; Messrs. Gibbs, Bamforth and Co., Luton; Mr. J. P. Gaunt, Chalford; Mr. E. Gooch, Lond.

H.—Mr. E. J. Hynes, Grassington; Mr. J. Heywood, Manchester; Messrs. H. M. Hobson, Lond.; [illegible] C. B. Hunter, Carnarvon; Dr. M[illegible] Hunter, Ferry Hill; H. P. M.; Mr. T. H. Hewitt, Lond.

I.—Mr. Isherwood, Headcorn.

J.—J. R. H.; J. W.; J. M. T.; J. K.; J. C. H.

K.—Mr. R. C. B. Kerin, Lond.

L.—Mr. H. K. Lewis, Lond.; Leicester Infirmary, Secretary of; Lister Institute, Lond.; L. D.

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man who shall attend a suspicious case is bound to make a similar declaration *to the same authorities* within 24 hours, or, in default of the medical man it must be made by the head of the family with which the patient is dwelling. The penalty for infringing this decree will be imprisonment of from a fortnight to three months. and a fine of from 50 to 500 francs if the offence arises from wilful or negligent disobedience of the special decree, *or* imprisonment of from *three days* to a *fortnight with a fine of from 5 to 50 francs* if there is an infringement of the usual sanitary regulations. The decree further forbids the entry into any land frontier of France of soiled linen, clothing or bedding, rags, and fruits or vegetables which grow on or near the ground. All carriages which have been occupied by a patient suffering from cholera or considered a suspicious case by the sanitary officer are to be disinfected with the least possible delay.

Sept. 22nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Karell Treatment.

ABOUT 40 years ago a Russian physician, Dr. Karell, devised an efficacious method of treating obesity and troubles of the circulation. According to the *Correspondenzblatt für Schweizer Aerzte*, quoted in the *Munchener Medicinische Wochenschrift*, Dr. Lenhartz, chief physician to the Eppendorf Hospital at Hamburg, has recently made an extensive trial of this method, which has hitherto been little employed in Germany. The treatment is indicated especially in chronic bronchitis and emphysema, in certain cardiac disorders, and in cardiac failure following general obesity. The "cure" consists in the administration of 200 cubic centimetres of milk four times a day during five to seven days without any other fluid or solid food. On the following two to six days some other food is allowed together with the milk. First one egg and some biscuits are allowed, then two eggs and some bread, then some meat, vegetables, and milky rice pudding, so that after about a fortnight's treatment a mixed diet is being taken, whilst the quantity of 800 cubic centimetres of milk or tea is the maximum amount of fluid allowed during the next four weeks. The bowels must be looked after during the "cure" and purgatives are required subsequently. The patients, as a rule, tolerate the treatment very well and become accustomed to the reduction of fluid after the first few days. Patients suffering from cardiac weakness and troubles of the circulation are often affected with gastro-intestinal catarrh and consequently have but a poor appetite. The treatment was specially efficacious in arterio-sclerotic myocarditis, whilst in valvular diseases the success was less obvious and in degeneration of the myocardium it failed. The patients must be kept in bed during the "cure." On the third day the dyspnœa and oppression disappear, so that patients who for weeks have often passed the night sitting in a chair can take a good night's rest asleep in bed. Diuresis is also increased and drugs such as digitalis are rendered superfluous.

The Title of "Specialist."

The increasing number of self-styled "specialists" who assume this title without the warranty of real expert knowledge and training has been for long a cause of grievance for medical practitioners; this is very natural, seeing that the general public, especially in the larger towns, has become accustomed to regard the general practitioner as an inferior being and in every case of serious disease to seek the advice of a "specialist." The "medical chambers" and other representative bodies have on several occasions discussed this question and have drawn the attention of the Government to it in the hope of obtaining legislative restrictions. The Prussian Minister of Public Instruction accordingly has recently asked the opinion of the Consultative Medical Board which is attached to the ministry, (the so-called "Wissenschaftliche Deputation"). This body, consisting especially of members of the Berlin Medical Faculty and of medical officers of the higher ranks, has made the following proposals. Medical men desiring to take the title of "specialist" should have to comply with certain conditions. The title of "specialist" should be granted only to medical men who after having qualified have undergone a special training for about three years. This special training must be performed either as an assistant at a university clinic or at an academy of medicine, or in a special department of a general hospital, or to a recognised specialist. A list of the recognised hospitals, clinics, and specialists allowed to train intending specialists should be published every year by the competent authority. The candidate must show certificates of his training. The title of specialist shall be granted for one of the following branches of medicine only: clinical medicine, surgery, diseases of the eyes, diseases of the larynx, the nose, and the ear, obstetrics and women's diseases, diseases of the skin and the urogenital organs, nervous and cerebral diseases, and diseases of children. The Minister of Public Instruction has informed the provincial medical chambers of the proposals of the Medical Board, adding that the Government will abstain from bringing the matter into Parliament for legislation but that it will be the duty of the courts of honour to induce the medical men under their jurisdiction to comply with the above rule when desiring to become specialists. According to the opinion of a great many medical men the course adopted by the Government to leave the matter to the arbitration of the courts of honour is, indeed, much preferable to legislation. It would be extremely difficult to differentiate by law between men rightly entitled and men not entitled to call themselves specialists. This must always be a matter of special inquiry in each individual case, and is therefore better left to the bodies whose duty it is to control the ethical behaviour of the medical profession. The difficulty of legislation is apparent in the very proposals of the Consultative Board which only recognises eight special branches of medicine, leaving apart new methods of therapy which have recently developed, such as radiography, hydrotherapy, &c. Medical men engaged in these methods would therefore be disqualified from attaining the rank of "specialist" if such proposals were to become law. The question will undoubtedly arouse animated discussion during the forthcoming winter season.

Lipomatosis as a Sequel of Castration.

Before the Berlin Society for Psychiatry and Nervous Diseases Dr. Schuster showed the case of a man 47 years of age who had undergone castration for tuberculosis of the testicles. After the operation an enormous development of the fatty tissue took place, so that the chest, the back, the lumbar region, and the shoulders were covered by layers of fat, some regions—e.g., the forearms and the legs—escaping comparatively. The lipomatosis was, on the whole, symmetrical.

Sept. 21st.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

High-Frequency and High-Tension Currents in Neurology.

AT a recent meeting of the Medical Society of Copenhagen Dr. Viggo Christiansen read a paper on the use of high-frequency and high-tension currents in neurology. He said that he had tried the treatment in 121 patients, of which number 56 were suffering from functional nervous diseases, the nervous disorders in the remaining 65 being of an organic nature. He stated as his opinion that the high-frequency current represents a useful augmentation of the suggestive therapeutic means of the neurologist. It may be employed successfully in certain forms of insomnia and is of value in combating hypnotic drug habits. Dr. Fischer had observed very considerable improvement in cases of mental depression with insomnia and urged a trial of the method in all institutions where an x ray apparatus was available. Professor Friedenreich expressed his satisfaction at the sound scepticism of the two preceding speakers with regard to the marvellous effect of the high-frequency current. In his opinion this current proved efficacious in exactly the same cases in which in former days other forms of electricity were considered valuable. For instance, both the faradic and the galvanic current had also been praised as a powerful remedy against insomnia and certain painful affections. But he felt rather convinced that these old-established forms as well as library. Such machinery I regard as essential for the efficient teaching of tropical medicine. It is towards this position of theoretically indicated efficiency that those of us who have been working for the London School of Tropical Medicine for the last ten years have been struggling, and to which, I am glad to be able to say, we have at last attained.

I have prepared a list of the principal tropical diseases with, so far as we know them, their germ causes and intermediaries. These tables (Tables I., II., and III.) indicate in synoptical fashion the leading facts in our present knowledge of the subject, and the many gaps that remain to be filled in. You can see from them how completely the principle I have enunciated as regulating in the main the distribution of tropical disease is substantiated. The tables also show well how much has been accomplished in recent years. If we regard, as I think we may, this recent progress as an earnest of what will be accomplished in the near future, it leads one to anticipate that within a very short period all the gaps in these tables will be filled in, and new diseases, new disease germs, and new and more reliable methods of diagnosis, prevention, and possibly of treatment be discovered.

In a Huxley lecture the discussion of a biological subject cannot be regarded as inappropriate, even if that subject implies a large amount of what in the present state of knowledge is necessarily of a highly speculative character. Huxley loved a biological problem. He was a great collector of facts, it is true—a great observer; but he tells us his interest in facts was chiefly in as far as they illustrated and led up to principles. In his search for and contemplation of facts, in his endeavour to arrive at principles, he recognised and insisted on the value of hypothesis. In his day, as at the present day, it was the fashion with some to decry and scoff at any hypothesis, however reasonable, that might be advanced in an attempt at explaining or coördinating facts. According to such people the only thing worthy the name of science is *fact*. Huxley, however, was not of this way of thinking. He held that in science hypothesis had a distinct and honourable place, that it was of the greatest value in stimulating and guiding observation and in bringing about discovery. Witness his strenuous advocacy of Darwinism, an advocacy so fully justified by result. Huxley, however, was ever careful to distinguish between hypothesis and fact, and it is in this spirit that I would bring before you some biological problems having important bearings on tropical pathology and possibly on phases of pathology other than tropical, and, also, certain hypotheses which may or may not be verified in the future, but which certainly suggest lines of work which, if pursued, could not fail to elicit new and important facts and perhaps sounder explanations than those I propose to offer.

In the largest and most important section of tropical diseases the germs (I shall take that of malaria as an example) are carried, as I have explained, from human host to human host by animal intermediaries, in this instance an anopheline mosquito. But the malaria mosquito does not function merely as a simple mechanical vector, in the way that the physician's lancet does when it transfers the vaccinia

TABLES OF TROPICAL DISEASES SHOWING OUR PRESENT KNOWLEDGE OF THEIR ETIOLOGY AND MEANS OF PROPAGATION.

TABLE I.—*Diseases Due to Vegetable Parasites.*

Name of disease.	Causative agent.	Mode of transmission.
Diseases due to bacteria—		
Malta fever.	*Micrococcus melitensis* (Hughes, 1893).	May be conveyed in milk from infected animals (goats, cows), also possibly mosquitoes.
Plague.	*Bacillus pestis.*	Inoculation by fleas—contaminated food.
Leprosy.	,, *lepræ.*	Unknown.
Dysentery (bacillary form).	,, *dysenteriæ.*	Contaminated food or water. Flies (especially *Musca domestica*) play an important rôle in the dissemination of these diseases.
Typhoid fever.	,, *typhosus.*	
Cholera.	*Vibrio comma* (Schroter, 1886).	
Diseases due to fungi—		
Mycetoma. Actinomycotic mycetoma.	*Discomyces bovis* (Harz, 1877).	Probably inoculated through the skin by contaminated plant thorns or spikelets.
Vincent's white ,,	,, *maduræ* (Vincent, 1894).	
Nicolle's ,, ,,	*Aspergillus nidulans* (Eidam, 1883).	
Bouffard's black ,,	,, *bouffardi* Brumpt, 1906.	
Classic ,, ,,	*Madurella mycetomi* (Laveran, 1902).	
Brumpt's white ,,	*Indiella mansoni* Brumpt, 1906.	
Bouffard's ,, ,,	,, *somaliensis* Brumpt, 1906.	
Ringworm. Tinea imbricata.	*Trichophyton concentricum* R. Blanchard, 1895.	
,, albigena.	,, *albiscicans* Niewenhuis, 1908.	
,, alba.	,, *macfadieni* (Castellani, 1908).	
,, cruris.	,, *cruris* Castellani, 1905.	
,, sabouraudi.	,, *blanchardi* Castellani, 1905.	
,, nigro-circinata	,, *ceylonense* Castellani, 1903.	
,, intersecta.	,, *castellanii* Perry, 1907.	
,, flava.	*Malassezia tropica* Castellani, 1908.	
,, nigra.	*Foxia mansoni* Castellani, 1908.	
Pinta.	Various as yet undetermined species of *Aspergillus, Penicillium, Monilia*, and *Montoyella.*	
Piedra.	*Trichosporum giganteum* Behrend, 1890.	
Other tropical forms of nodular trichomycosis.	,, *krusei* (Castellani, 1903). ,, *foxi* Castellani, 1903.	
Tropical blastomycoses.	*Saccharomyces cantliei* Castellani, 1903. ,, *samboni* Castellani, 1903. *Cryptococcus louri* Castellani, 1908.	
Tropical sporotrichosis.	*Sporotrichum indicum* Castellani, 1903.	
Erythrasma.	*Discomyces minutissimus* (Burchardt, 1859).	
Pityriasis versicolor.	*Malassezia furfur* (Ch. Robin, 1853).	
Aspergillosis of hairy parts.	*Aspergillus barbæ* Castellani, 1908.	
Penicillosis of hairy parts.	*Penicillium barbæ* Castellani, 1903.	

have it in Ontario, and referred particularly to the outbreak in Hamilton where there had been 80 cases, with a cost to the municipality of $10,000. In nearly every case there had not been any vaccination at all, although there are stringent laws in Ontario compelling vaccination in all over three months of age. He considered that the people were becoming careless and were neglecting vaccination now that the ravages of the disease were becoming less. Too many physicians also were careless in establishing a quarantine in mild cases of the disease. Dr. Evans, medical health officer, Chicago, advised that a committee should be appointed to prepare counter-arguments to the antivaccinationists and to secure the proper dissemination of those arguments.

A report of the Committee on Ophthalmia Neonatorum by Dr. F. Park Lews, chairman, Buffalo, N.Y., brought [illegible] from the speaker that a majority of the cases of ne[illegible] blindness was due to affections of the eyes in infancy. [illegible] test made of ten schools, representing eight States and Ontario, showed that 25 per cent. of those first admitted to the schools were needlessly blind. It was found to be more prevalent in the poorer classes. Referring to the treatment of the eyes of the newly born Dr. Lews stated that silver nitrate in 1 or 2 per cent. solutions within the first [illegible] hours was one of the applications found to be very beneficial. In the United States circulars are spread broadcast regarding the treatment of children's eyes at birth by those most closely associated with the blind. The committee recommended that the public health officials should do all possible to spread knowledge on the subject; that all midwives should be examined and registered; that proper records should be kept in all maternity hospitals of the number of cases of ophthalmia; and that proper legislation in aid of the work should be secured.

Pollution of the Great Lakes and Rivers was dealt with by Dr. J. A. Amyot of Toronto, bacteriologist to the Ontario Board of Health. This great water system consists of Lakes Superior, Huron, Michigan, Erie, and Ontario, with their connecting rivers and straits, comprising an area of 98,640 square miles. Their elevation above sea-level varied from 247 feet (Lake Ontario) to 600 feet (Lake Superior). The depths of these averaged from 120 feet (Lake Erie) to 900 feet (Lakes Huron and Superior). Over 4,000,000 now use this source for their water-supply. The turbidity of this water was generally not more than 2 parts per 1,000,000 except in Lake Erie, where it was from 20 to 25 parts per 1,000,000. In the open lakes miles out the bacterial count seldom exceeded ten per cubic centimetre and did not contain colon bacilli, though the sewerage of over 4,000,000 people was discharged into it. If the water intakes were out 10 or 12 miles from the shore the water would be almost bacteria-free and certainly sewage-free. The normal temperature of this water in the summer time is rarely over 40° F. except on the surface. Referring to Chicago, the largest city on these great lakes, when that city drew its water-supply from the intakes a mile from shore its typhoid fever rate for the last three years of this condition was 115 per 100,000. With the intakes four miles out the rate was reduced to 40 per 100,000. Diverting three-quarters of the sewage reduced the rate to 22 per 100,000. Toronto was then referred to. Toronto this year has voted $3,700,000 for the disposal of its sewage and filtration of its Lake Ontario water-supply. The conclusions drawn by the different speakers in discussing this able paper were that the water-supply of the great lakes was perfect, that it was free from turbidity, and sufficiently hard to use in lead pipes safely.

A paper on the State control of water-supply was contributed by the secretary, Dr. C. O. Probst, who is also secretary of the Ohio State Board of Health. He said that it should be the duty of the State to protect so far as possible from pollution the water-supply. In his opinion this can much better be handled by the board of health than by a special commission. No municipality, corporation, or person should be permitted to place anything of an injurious character into any stream or body of water that is being used for a public water-supply without the approval of the State Board of Health and that board should have a sufficient number of inspectors to keep all sources of supply under close supervision.

On the last day the following papers attracted a great deal of attention: Typhoid in the West, by Dr. S. J. S. Pierce, Winnipeg; A Study of Typhoid Fever in Richmond, Va., U.S.A., by Dr. Ernest Levy and Dr. Allen W. Freeman, Richmond, Va.; Typhoid in Winnipeg, by Dr. R. M. Simpson and Dr. A. J. Douglas, Winnipeg. The facts brought out in Dr. Pierce's paper are collected from a single hospital, the Winnipeg General Hospital, which was incorporated in 1875 with 40 beds. To-day it has over 300 beds. It has received 35,000 patients, of whom 4800 were suffering from typhoid fever, 3500 coming from the city of Winnipeg alone. Out of 4605 case reports examined 3530 were males and 1075 were females. The average of the males was 26 years and of the females 21 years. One-fourth of all the cases in the year occurred in the month of September. The average duration of the fever in 628 cases was found to be 28 days. In 26 years out of the 4605 cases examined there have been 573 deaths. The mortality was high in 1884, when it was 28 per cent. For the past three years it has been 10 per cent. The greatest number of deaths occurred on the eighth day in the hospital and the average entrance was on the ninth day of the disease, the deaths occurring about the end of the second week. Dr. Simpson and Dr. Douglas stated that since 1872 typhoid fever had never been absent from Winnipeg. In 1881 and 1882 occurred the first celebrated boom of Winnipeg and typhoid fever then flourished with great vigour. Another boom came along in 1902 and 1903 and again the disease became rampant. In three years the population doubled. In 1902 there were 356 cases; 1903, 489; 1904, 1275; 1905, 1906; 1906, 1174; and 1907, 307. In spite of the fact that the water-supply was above suspicion—from artesian wells—the typhoid fever rate in Winnipeg presented the somewhat anomalous picture of a city with a pure water-supply and a high typhoid fever rate. The result was a war on privy pits and box closets in those streets not connected with the sewers, and these have been rapidly reduced and in a short time will be completely abolished. This year to Sept. 1st there have only been 160 cases of typhoid fever in Winnipeg. Richmond, Virginia, U.S.A., was selected for the place of meeting in 1909 with the following officers: President, Dr. Gardner T. Swartz, Providence, R.I.; First Vice-President, Dr. R. M. Simpson, Winnipeg; Second Vice-President, Dr. J. Chico, Mexico City; Third Vice-President, Major C. S. Mason, U.S. Army; Secretary, Dr. C. O. Probst, Columbus, Ohio; and Treasurer, Dr. Frank W. Wright, New Haven, Conn.

Sept. 5th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Principal Medical Officer in India.

Surgeon-General F. W. Trevor, Principal Medical Officer, His Majesty's Forces in India, proceeded on a tour of inspection from August 14th to 24th, visiting Kasauli, Rawalpindi, and Murree.

Civil Surgeons in the Punjab.

On the motion of the Inspector-General of Civil Hospitals, Punjab, it has been decided by the Punjab Government that commissioned Indian Medical Service officers should on first joining the province for civil employment be attached to the Mayo Hospital, Lahore, or other large civil hospital, for two or three months, for the purpose of acquainting themselves, under proper guidance, with the treatment of a variety of diseases, and more especially of witnessing a considerable amount of operative surgery; and further that such officers, after passing through the Mayo Hospital and before entering on a civil medical charge, should be posted for a month to a district headquarter hospital to enable them to acquire a knowledge of their work as civil surgeons and their collateral duties. The Inspector-General of Civil Hospitals evidently thinks this is a step in the right direction, for it is stated in the press report of the resolution that Indian Medical Service officers having been generally on military duty, which affords but a limited sphere for practice, find themselves inadequately equipped, more especially in regard to operative surgery, when just posted to the civil medical charge of a district where, besides the routine medical work, they have to attend to jail management, sanitary duties, &c. In this assertion all will not be inclined to agree and it is a matter of regret that the Inspector-General should have thought it was necessary to make it, for Indian Medical Service officers in

TABLES OF TROPICAL DISEASES SHOWING OUR PRESENT KNOWLEDGE OF THEIR ETIOLOGY AND MEANS OF PROPAGATION *(Continued).*

TABLE II.—*Diseases Due to Animal Parasites (Continued).*

Name of disease.		Causative agent.	Mode of transmission.
Roundworm infection.	Dracunculosis.	*Dracunculus medinensis* (Linnæus, 1758).	By means of water containing infected cyclops. Possibly actively through the skin.
	Filariasis.	*Filaria bancrofti* (Cobbold, 1877).	Inoculated by mosquitoes.
		,, *loa* (Cobbold, 1864).	Probably inoculated by blood-sucking flies.
		,, *perstans* (Manson, 1891).	*Ornithodoros moubata* and other *argasidæ* (suggested).
		,, *demarquayi* (Manson, 1895).	Unknown.
		,, *volvulus* (Leuckart, 1893).	
		,, *magalhæsi* (Blanchard, 1895).	
		,, *taniguchii* (Penel, 1905).	
		,, *(microfilaria) powelli* (Penel, 1905).	
		,, ,, *philippinensis* (Ashburn and Craig, 1906).	
Tongue-worm infection.		*Porocephalus armillatus* (Wyman, 1848).	Probably by water contaminated by infected pythons.
		,, *moniliformis* (Diesing, 1836).	
Subcutaneous insects.		*Sarcopsylla penetrans* (Linnæus, 1758).	Penetrates actively through the skin.
		Compsomyia macellaria (Fabricius, 1794).	Eggs laid by parent fly on the surface of wounds or in natural openings.
		Dermatobia hominis (Say, 1822).	Probably eggs accidentally swallowed.
		Ochromyia anthropophaga (Em. Blanchard).	
		Cordylobia anthropophaga (Grünberg, 1903).	
		Bengalia depressa (Walker).	

TABLE III.—*Diseases of Unknown Etiology.*

Name of disease.	Causative agent.	Mode of transmission.
Yellow fever.	Probably due to protozoa.	Inoculated by *Stegomyia callopus* and possibly other species.
Blackwater fever.		Possibly inoculated by ticks or other blood-sucking arthropoda.
Typhus fever.		Probably inoculated by *Pediculus corporis* or *cimex lectularius*.
Rocky Mountain spotted fever.		Inoculated by *Dermacentor reticulatus*.
Japanese river fever.		,, ,, a species of *Trombidium* in its larval form.
Pellagra.		Ascribed to the eating of unsound maize.
Beri-beri.	Unknown.	,, ,, ,, rice.
Epidemic dropsy.		Unknown.
Climatic bubo.		
Dengue.	Probably a protozoon.	Inoculated by mosquitoes of the sub-family *Culicinæ*.
Simple continued fever.	Unknown.	Unknown.
Low fever.		
Non-malarial remittent.		
Double continued fever.		
Seven days' fever.		
Three days' fever.		
Hyperpyrexial fever.		
Hill diarrhœa.		
Sprue.		
Infantile biliary cirrhosis.		
Ponos.		
Verruga peruana.		
Chappa.		
Epidemic gangrenous rectitis.		
Ulcerating granuloma of pudenda.	Unknown (Wise has found a spiroschaudinnia; Donovan a saccharomyces).	
Goundou (Anakure).	Unknown.	
Ainhum.		
Onyalai.		
Big heel.		
Tropical phagedæna.		

Permanganate of Potassium and Snake-bite.

The lancet or permanganate of potassium treatment is generally accepted nowadays as the best of many remedies for snake-bite. The annual report of the Sanitary Commissioner of the United Provinces mentions the case of a sub-inspector of police who was bitten by a large cobra on the hand. A friend slit up the wound and rubbed in the permanganate of potassium crystals, and the man declared that he "undoubtedly owed his life to the prompt action taken."

Plague in the United Provinces.

Some interesting statistics concerning plague are given in the latest report of the Sanitary Commissioner of the United Provinces. The mortality from plague in 1907–08 reached the high figure of 328,662 deaths, a total not far short of that recorded in the bad plague year of 1905. Almo[illegible] the distinction of being the only district which did not r[illegible] a single death from this cause, but Jalaun, Banda, Jhan[illegible] Naini Tal, Hamirpur, and Garhwal were also practically free from the disease. Muzaffarnagar, on the other hand, reported no less than 48,859 deaths and a death-rate of 55·70. Only 14 towns out of 106 with a population of 10,000 and upwards were entirely immune, Ganghey (Saharanpur) having the highest death-rate (112·63) and Kairana (Muzaffarnagar) the next (110·65). The report states that the greatest impetus was given to inoculation during the year, great facilities being afforded to anyone who sought this form of protection. The result was that [illegible]4,169 persons were inoculated, against 1846 in 1906. Only eight persons are reported to have died from plague after inoculation, four in Moradabad, two in Bareilly, and one each in the Meerut and Allahabad districts. The four persons at Moradabad were inoculated, it appears, only three or four days before death and were "probably in the inoculation stage of disease."

Sept. 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Melbourne Hospital.

THE sixty-first annual report of this institution is satisfactory, the expenditure only exceeding the income for 1907 by £336. The total number of patients treated was 26,558, including 5333 in-patients. 136 cases of consumption and 168 of cancer were treated during the year. The committee drew attention to the fact that a large proportion of the consumptives were in very advanced stages and the mortality was very excessive. They were undesirable cases in a general hospital and it was hoped that some other provision would be made for them. There are at present 282 beds for consumptives provided by the Government in various institutions. This provision is quite inadequate. A return presented to the committee showed that the number of in-patients contributing to their maintenance for the year ending June 30th, 1908, was as follows: Contributed nothing, 4270; contributed up to 2*s.* 6*d.* per week, 153; contributed up to 5*s.* per week, 320; contributed up to 7*s.* 6*d.* per week, 57; contributed up to 10*s.* per week, 236; contributed up to 15*s.* per week, 55; contributed up to 20*s.* per week, 172; contributed up to 25*s.* per week, 3; and contributed up to 30*s.* per week, 53. No difference is made in the treatment of those who contribute and others. Complaint was recently made at the Alfred Hospital that patients in the paying wards were allowed certain privileges. The secretary has replied that the only difference made in their favour was permission to see visitors every day. This has now been abolished.

Railway Disaster.

After a protracted inquiry the coroner's jury returned a verdict of manslaughter against the engine-drivers of the two engines on the Bendigo express which collided with a stationary train on Easter Monday. A similar verdict was returned against the station master at Braybrook Junction where the accident occurred. Particulars of injuries are now available. 413 claims were lodged, 301 of these being by passengers in the stationary train and 103 from passengers by the express. Four were made by persons standing on the station platform. The claims have been carefully classified and all the claimants examined on behalf of the railway department. The list works out as follows. From shock only, 38 per cent.; bodily injuries, pains, &c., 14 per cent.; insomnia, nervousness, headache, &c., 13 per cent.; spinal injury, 12 per cent.; fractures, 9 per cent.; cuts, bruises, abrasions, 9 per cent.; injuries to head, 4 per cent.; and internal injuries, 1 per cent. 44 persons were killed on the spot or succumbed within a few days. It is estimated that the accident will cost the Victorian Government £250,000.

Proposed Home for Consumptives.

Dr. R. H. J. Fetherston, the health officer of the city of Prahran, a southern industrial suburb of Melbourne, has urged his council to provide a home for advanced cases of consumption amongst the really destitute. The council applied for a block of land for the purpose but local opposition was so strong that the request was refused, notwithstanding that it was supported by Dr. W. P. Norris, the chairman of the Board of Public Health. The opposition was based on the well-known grounds of danger of infection.

Prevention of Consumption.

An important conference of metropolitan municipalities was held at the Collingwood town hall (Melbourne) on June 29th. Upwards of 750 delegates attended, the object being an effort by the Collingwood council to initiate joint action for the provision of accommodation for advanced cases of tuberculosis. Councillor Rain moved:—

> That in the opinion of this conference assembled from the Melbourne and metropolitan municipalities it is necessary that united action should be taken to deal with the scourge of tuberculosis, and that we proceed to discuss the question and to take the best means to act accordingly.

An animated discussion followed in which various difficulties were pointed out, and ultimately it was decided to meet again and, in company with the medical officers of health, to devise a plan of campaign. Dr. Norris, chairman of the Board of Public Health, said there were living in Melbourne year in and year out about 2500 consumptives and of these about 2000 needed some public assistance. In the last few years the mortality from consumption had fallen in Melbourne from 1000 to 600. It might be that 500 advanced cases required beds, and allowing six months for each it would be necessary to provide 250 beds. Sydney had 300 beds for advanced consumptives, and £10,000 or £15,000 were being spent on a new institution. Notification already in force would be the first step towards securing accommodation at an invalid home or a sanatorium.

Tuberculous Cows.

The Perth Central Board of Health has been actively engaged in a crusade against infected milch cows. The department resolved to apply the tuberculin test to dairy herds in the metropolitan area, and a veterinary officer carried out the task. The result has exceeded all expectations. In one dairy 20 out of 726 cows were destroyed, and in another five out of eight were declared unfit to supply milk for human consumption. Altogether in four dairies 41 cows were ordered for destruction. One of the owners affected remarked, "Experts admit that tuberculosis exists in a mild form in most cattle and that the application of the test has the inevitable effect of increasing the temperature. The milk, however, is not affected, and if the Health Department continues its policy of destruction the milk-supply of the metropolis will be seriously threatened."

The Adulteration of Food.

An interesting return has been prepared by the Victorian Board of Public Health of the analyses made under the Pure Foods Act during the past two years. In 1906 953 samples were examined and adulteration was found in 245, the bulk of this being accounted for by samples of adulterated milk. In 1907 the number of examinations rose to 2663, and of these 358 were regarded as below the standards. Milk again contributed most largely to this total. According to this return there is no very appreciable amount of adulteration in the articles analysed, which covered most of the ordinary daily foodstuffs.

Charitable Bequest.

Under the will of the late Mr. Felton an annual sum is distributed to charitable institutions. The awards for 1908 have just been made, the total sum available being £3700. Mr. Felton was the senior partner of Felton, Grimwade, and Co., a well-known firm of wholesale and manufacturing chemists.

Epidemic of Poliomyelitis Acuta.

An epidemic of acute poliomyelitis has been noted during in the laboratory but which in nature are transmitted solely by the insect intermediaries in which they have necessarily undergone sexual changes. The malaria and yellow fever germs have been transmitted artificially many times by blood inoculation from man to man, yet no one can deny that in nature the mosquito is the appropriate transmitter of these germs. Stress has been laid on the fact that in our laboratories the same strain of trypanosomes has been passed from vertebrate to vertebrate through many hundreds of generations and that as yet there has been observed no sign of diminishing vigour or inoculability in the parasites, such as might be interpreted as indicating the approaching necessity for sexual resuscitation. So far as I know, the experiment has not been tried, but I have no doubt the malaria parasite could be similarly transmitted from man to man for many, perhaps hundreds, of generations. It is so transmitted in the same man and that without sexual reinvigoration. Nevertheless we know, unless it is again passed through a mosquito, that it dies out spontaneously in every instance and in a space of time something less than three years. Perhaps if transferred to a fresh blood it would live even longer than this, even without sexual reinvigoration, just as certain amœbæ can be kept alive asexually beyond their natural term by change of culture medium. Some trypanosome infections, including that of sleeping sickness, we know are normally longer lasting than malarial infections; it is reasonable, then, to think that they are proportionately more enduring when transmitted artificially. The argument based on inoculation experiments is, therefore, in my opinion, of little weight.

4. The fourth argument against a general law that blood protozoa requiring arthropod vectors use these vectors as a medium for sexual development is, in my opinion, the most formidable of any hitherto advanced. It is based on the mode in which the virus of the horse disease known as dourine is conveyed. Dourine is a characteristic trypanosome disease. In nature it is contracted during coitus. It can readily be conveyed to other animals, but it affects principally stallions, which convey it to, and, presumably, acquire it from, brood mares. It is conveyed and contracted naturally, therefore, in the same way as syphilis—that is to say, by contact of mucous surfaces. From this it might be inferred that a sexual stage in an insect is unnecessary for this particular trypanosome; and if unnecessary for this trypanosome unnecessary for any species of trypanosome.

Believing in the uniformity of natural operations and in the necessity for sexual reinvigoration in all animals, including the protozoa; and believing that a sexual stage occurs in the case of other trypanosomes, I believe it must occur in that of dourine—*Trypanosoma equiperdum*; and, as with other trypanosomes, that it is passed in some insect as yet unrecognised.

For reasons which I shall presently explain, I conjecture that this insect may be one which itself has acquired parasitic or semi-parasitic habits; and, consequently, seldom passing from horse to horse, is not the usual transmitter of the trypanosome from horse to horse. To compensate for this inefficiency of its sexual medium as a transmitter, the trypanosome by a kind of reversion to ancestral habit, has taken on the habit of contact transmission during its asexual stage, retaining, however, the insect for sexual reinvigoration.

This suggestion will, I daresay, appear to some, probably to most of my hearers, as being so wildly hypothetical as to be scarcely worth considering. But when we come to examine it a little carefully I think we shall find that, after all, it is not without support, or so highly improbable as at first sight it appears to be. Moreover, should it be established, it is conceivable that it might suggest an explanation for some of the many things in epidemiology that are still hard to understand.

That so many parasites require two hosts, a definitive and an intermediary, zoologically so dissimilar as vertebrate and insect or mollusc, has always appeared to me a remarkable phenomenon and one difficult to explain on Darwinian principles. And yet undoubtedly it conforms to these principles. One can readily understand how an animal, originally free, can adapt itself to parasitic life on another animal, but it is very difficult at first sight to explain how it can accustom itself to life in two absolutely different hosts—hosts so far removed from each other zoologically as a man and a mosquito; and, further, that both man and mosquito are essential for its welfare; and, moreover, that in one host—in this case the vertebrate—the parasite has an asexual life and in the other host—the insect—a sexual life. How by any recognised principle of evolution can a life so complicated be attained or explained?

I would with great diffidence and without entering on detail submit the following hypothesis. Vertebrates, arthropods, molluscs, helminths, protozoa have all of them sprung from a common ancestor, or, if not from one common ancestor, from similar ancestors. Very early in the growth of the family tree a certain originally free organism became at first intermittingly, then finally and permanently, parasitic on another organism. In time a definite host and parasite relationship was established between the two. From the original host varieties, species, genera, and so on were gradually evolved. Concurrently with this evolution in the host the parasite, just as its host had done, adapting itself to its changing environment, evolved new varieties, species, genera, &c.

In the course of these concurring evolutionary processes there came a time when, say, the insect and vertebrate strains began to diverge. A certain organism was parasitic on the common insect-vertebrate ancestor. The process of evolution in this host-ancestor being necessarily very gradual, the parasite—as is the case with many existing parasites—was capable of adapting itself to the closely related varieties of the host, among others to the insect-resulting strain and to the vertebrate-resulting strain. Divergence in these host-strains continuing, varieties became species, species genera, and so on, until insect and vertebrate, as they exist at the present day, were evolved.

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This is my explanation of the double life, if I may so describe it, of so many and so widely separated parasites, including protozoa, nematodes, trematodes, and cestodes. I can explain it in no other way; the explanation I offer seems to harmonise the facts and to conform to the doctrines of evolution.

In the case of every double-host-using parasite it is obvious that both hosts must be organisms that are in frequent and fairly close association, otherwise the parasite employing them would lack the opportunity of passing from one to the other. Thus it comes about that the parasites of the herbivora are at another stage of their existence parasites of the carnivora; the hydatid of the sheep, the tapeworm of the dog; the trematode of the sheep, the cercaria of the swamp-haunting mollusc; the blood worms of man, the larval nematode of the mosquito. This is obvious; opportunities of passage from host to intermediary, and from intermediary to host, must be of sufficient frequency, otherwise the parasite demanding them would necessarily cease to exist.

At first sight one would think that the more intimate and frequent the association of definitive and intermediary host the better the opportunity for the parasite. Thus one would think that a louse, or an itch insect, or a *Demodex folliculorum*, being permanently in residence on its vertebrate associate, would be a more suitable intermediary for a malaria parasite than the mosquito is. But we know that it is not so, and one of the reasons for this undoubtedly is that these ectozoa comparatively rarely pass from vertebrate to vertebrate; whereas the mosquito is in the habit of biting one man one day, and it may be quite another man a few days later, and so constitutes a most efficient go-between and vector of blood parasites.

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Medical News.

PRIZES IN BELGIAN UNIVERSITIES.—In the recent annual competitions for honours amongst the medical faculties of Belgium the Ghent students take the best places. Of 17 prizes Ghent carried off ten, Louvain three, Brussels two, and Liége two. One of the Ghent prize-winners was a woman student who graduated as doctor of medicine, surgery, and midwifery two years ago.

THE LATE MR. DAVID DRAFFIN.—Mr. David Kinnear Draffin died at his residence, Nixon Villa, Merthyr Vale (Glamorganshire), on Sept. 14th, in his fifty-third year, after a short illness. Mr Draffin held the qualifications of L.R.C.P. & S. Edin., L.F.P.S. Glasg., and L.R.C.P. & S. Irel. He went to Merthyr Vale about 17 years ago and was medical officer of the Merthyr Vale collieries. He was very highly esteemed in Merthyr Vale and was particularly beloved by the poor to whom he was a true benefactor. During the "strike" in 1898 he did much to alleviate the prevalent suffering. The funeral was largely attended.

CONGRESS OF THE ITALIAN MEDICAL SOCIETY.—The Italian Society of Internal Medicine will hold its eighteenth congress at Rome on Oct. 26th to 29th. The questions for discussion are: (1) The Clinical Significance of Cardiac Arrhythmiæ; (2) Family Neuropathies; and (3) the Consequences of Hyper-alimentation.

THE CARDIFF INFIRMARY.—Colonel Bruce Vaughan, chairman of the house committee of the Cardiff Infirmary, announced at the meeting held on Sept. 16th that an anonymous gift of £10,000 had been received from a Glamorganshire coal owner towards the new wing. An effort is being made to raise an additional income of £7000 per annum, and last May Mr. J. Cory promised to add 25 per cent. to all sums received. In response a Welsh colliery owner sent £1000, Mrs. J. Nixon sent 10,000 guineas, Mr. H. Webb subscribed £3000, and another £1000 was contributed anonymously. The latest gift brings the total to £25,700.

HONG-KONG: PUBLIC HEALTH AND SANITATION, HOSPITALS AND MEDICAL INSTITUTIONS.—According to the report of the Governor, Sir F. J. D. Lugard, K.C.M.G., for the year 1907, considerable progress has been made in rendering existing domestic buildings rat-proof as a preventive of plague. During the year there were 198 deaths from plague, compared with 842 in 1906 and 287 in 1905. There were 1825 deaths from respiratory diseases amongst the Chinese; 655 of these deaths were due to pulmonary tuberculosis, a percentage of 9·6 of the total deaths amongst that community. Beri-beri caused 562 deaths—a high figure. The deaths from malaria were 579, forming an increase on 1906 and 1905, which it is hoped will only be temporary. The average number of deaths from this disease has fallen from 526 in the quinquennium 1898–1902 to 383 in the quinquennium 1903–1907. Military returns of admissions to hospital for malaria show a marked reduction in the incidence of this disease. Government hospitals consist of the Civil Hospital, to which is attached an isolated maternity hospital, the Victoria Hospital for Women and Children, the Kennedy Town Infectious Diseases Hospital, and the hulk *Hygeia* used mainly for the treatment of small-pox. The Civil Hospital contains 150 beds in 19 wards. 2711 in-patients and 17,302 out-patients were treated during the year 1907. 243 cases of malarial fever were admitted, as against 239 in 1906 and 267 in 1905. The maternity hospital contains six beds for Europeans and four for Asiatics. 87 confinements occurred during the year. The Victoria Hospital at the Peak contains 41 beds. During 1907 211 patients were under treatment. Kennedy Town Hospital contains 26 beds. In 1907 63 cases were treated, of which 16 were plague. On the *Hygeia* 167 cases were treated, of which 96 were small-pox. In the lunatic asylum 222 patients of all races were treated during 1907 and there were 13 deaths. The Tung Wah Hospital, opened in 1872, is mainly supported by the voluntary subscriptions of Chinese but receives an annual grant of $8000 from the Government. Only Chinese are treated in this institution which takes the place of a poor-house and hospital for Chinese sick and destitute. Various other services not appertaining to a hospital are performed by the institution, such as the free burial of the poor, the repatriation of destitutes, and the organisation of charitable relief in emergencies. Chinese as well as European methods of treatment are employed in accordance with the wishes expressed by the patients or their friends. About half the number are now treated by Western methods and the number is steadily increasing. The hospital is managed by a committee of Chinese gentlemen annually elected, their appointment being submitted to the Governor for confirmation; it is under the direct charge of a Chinese resident surgeon paid by the Government, and is under the supervision of a visiting physician who is a member of the Medical Department. The Hong-Kong College of Medicine was founded in 1887. 102 students have been enrolled up to the end of 1907 and of these 33 have become qualified licentiates and have obtained various posts under Government and elsewhere.

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In *cancer of the tongue* the division of the lingual gustatory nerve gives the most signal relief from the pain, often otherwise intractable, which is referred to the side of the tongue, to the ear and temple, and indeed to the whole area of the distribution of the third division of the fifth nerve. Ligation of both lingual or both external carotid arteries is followed by subsidence of œdema and diminution of profuse salivation, as well as by cessation of hæmorrhages. Sometimes the mere extraction of the teeth gives great comfort in those cases in which œdema and extensive infiltration of the tongue lead to painful indentations of the organ from pressure against them. It is sometimes not only justifiable but advisable to excise the greater part or the whole of the tongue, even though the whole of the disease cannot be thereby removed. The pain, the putrid odour, and the other most offensive features of the disease are at any rate removed by the operation. Pain often very intense is caused when cystic formations develop rapidly in cancerous glands in the triangles of the neck or beneath the sterno-mastoid muscle. In such cases much relief is quickly given by laying open the swellings and treating the cavity with chloride of zinc pledgets, acetone, a solution of trypsin, or the high-frequency current.

As an instance of the variation of opinion and of practice from time to time as to the limits of the so-called curative operations I may take *cancer of the larynx*.

Opinions have varied greatly and still differ most remarkably with reference to thyrotomy. Since Paul Bruns denounced in 1878 attempts to extirpate cancer of the larynx by means of thyrotomy, and as intralaryngeal operations have been universally abandoned since about 1881, partial and total laryngectomy have been introduced, and in Germany especially are somewhat widely practised. Cases which were formerly considered unfit for operation are now included in the so-called "operable" category. In Germany not only is the entire larynx removed in cases of extrinsic laryngeal cancers, but intrinsic laryngeal cancers, which in England are successfully dealt with by thyrotomy, are submitted to hemi-laryngectomy or total laryngectomy.

Professor Gluck of Berlin, who is a great advocate of total laryngectomy, has performed most extensive operations, including excision of parts of the tongue or parts of the œsophagus, as well as of the cervical lymphatic glands and portions of the nerves of the neck.

In England, on the other hand, Sir Felix Semon and others have given abundant proof of the success of thyrotomy and of the immunity from recurrences which is secured by it in cases of intrinsic cancer of the larynx when diagnosed early and operated upon thoroughly.

Some years ago I performed total laryngectomy on a man who after fully realising what his condition would be for the rest of his life practically committed suicide on the eighth day after the operation. Since this experience I have been strongly adverse to advising any patient to undergo the operation, nor would I again perform it on anyone without previously explaining to the patient in the fullest manner what the post-operative condition must necessarily be and getting from him an answer to the question whether under the circumstances he deemed life would be worth having.

When a patient has refused an operation for the complete removal of the growth, or when the disease and the general condition of the patient do not permit of any such being undertaken, palliative means may give relief. Much improvement often follows tracheotomy when performed in good time. Whenever difficult respiration is threatened tracheotomy should be done without delay, the trachea being opened always low down and as far from the growth as possible.

Gastrostomy is sometimes advised in cases of obstruction caused by the extension of growth on the œsophageal aspect of the cricoid cartilage. In these cases an opening into the stomach may be the only means of palliating the symptoms, because the retention of a tube can rarely be tolerated when the growth intervenes between the rigid cricoid and the resisting spinal column.

A question which might with advantage be discussed at a meeting of the International Society of Surgery is whether gastrostomy is not far too frequently performed in *carcinoma of the œsophagus?* The use of a tube, short or long, should, I venture to think, be more often resorted to than it is. By its means obstruction would be avoided in many cases. Nor are the results of the operation of gastrostomy for œsophageal cancer very satisfactory. This is doubtless in large part due to the late stage in the disease at which the patients will consent to the operation.

One surgeon admits to having done the operation "too late" in half the cases he operated upon. With a 50 per cent. operative mortality all the other patients were believed to have died within six months from the date of the operation. Another surgeon lost one-fifth of his cases from the operation itself; three-fifths died at periods after the operation varying from six weeks to seven months; and of the remaining fifth, all that was known of them was that two out of three were alive at periods of from six weeks to five months after the operation.

That some few patients have been able to swallow semi-solid food, such as custard or bread soaked in milk, for a short time, perhaps even for a few weeks after gastrostomy, cannot with confidence be put down to the credit of the operation. The same thing sometimes occurs independently of gastrostomy. Seelig records a case[2] in which gastrostomy was performed a day or two *after* the ability to swallow had returned, but death took place, nevertheless, eight weeks later after complete inability to swallow had again set in.

In most cases the improvement is of very brief duration. The very cases in which the cessation of efforts at swallowing is most requisite—namely, those in which the separation between the œsophagus and the air passages is very thin—are the most unfavourable for gastrostomy, as these patients invariably die very soon after the operation from perforation into the air passages.

If the prolongation of life for a short period is a matter of moment to the patient, on account of family circumstances, for example, the operation may be desirable in certain cases, but it cannot often be a real advantage to the patient himself.

Concerning gastro-enterostomy for *malignant disease of the stomach*, I am still of opinion that it is very doubtful if sufficient benefit is derived from gastro-jejunostomy or other short-circuiting operations to make it worth while undergoing them. For conditions other than cancer gastro-jejunostomy is undoubtedly often of the highest value, but when undertaken for cancerous affections, even if the patient survives the operation, the prolongation of life is very limited, the ultimate sufferings are in most cases very severe, and the substitute function of the parts concerned is too often unsatisfactory.

Though this view of gastro-jejunostomy for malignant disease of the stomach is not at the present time any more than in 1902 the one generally accepted, there must be many besides myself who, having watched the post-operative phases of these patients, have come to the same conclusion. In many cases I have known, though great relief has for a time been afforded by the operation, still the respite has not seemed to compensate for the subsequent disappointment and misery which preceded death. It has been my lot to watch week after week up to the end patients who have undergone gastro-jejunostomy. Some of them had been regarded for a time as great surgical triumphs. But I have seen these same patients after a brief period of improvement distressed by frequent vomiting, by inability to take food, and by considerable and widespread abdominal pain. And as I watched them in their sad and pitiable plight the question often forced itself upon me whether the postponement of death compensated the patient for the miseries of living or the friends of the patient for the false hopes with which they were buoyed up during the temporary improvement of the invalid.

The immediate mortality from the operation is by no means small. It is probably not far short of from 40 to 45 per cent. If the results in all the cases by all the operators were known, possibly it would be even higher, notwithstanding the small proportion of deaths directly due to the operation itself in the practice of a few specially skilled and experienced operators. It is not, I think, an inhuman thing to say that this high mortality is the least regrettable circumstance connected with the operation.

The morbid changes due to the altered function of the parts after the operation are far from insignificant. Admitting the improvements in operative technique, and the infrequency of certain complications such as obstruction and regurgitation since the very general adoption of the posterior gastro-jejunal junction, there are other troubles arising out of the operation. Severe diarrhœa is often due to the premature servant. He also gave much of his spare time to mission work in his own neighbourhood. He was a man of ability far greater than the average, with a precise and critical mind which made him a really illuminating diagnostician. He was, moreover, as successful a teacher as he was a skilful surgeon. For these qualities he deserves more credit than is due to mere natural ability, for he developed them under the handicap of a poor physique and ill-health that was almost constant. The circumstances of his fatal illness were almost tragic. In January last whilst at hospital he was attacked with a rapidly ascending spinal paralysis which was apparently of influenzal origin, for no organic lesion of the nervous system was demonstrated after his death. This illness threatened to prove fatal in a few days, but the immediate danger to life subsided, leaving him, howe[illegible] with a complete paraplegia below the waist. Since the[illegible] was "warded" in Westminster Hospital until his deat[illegible] Sept. 10th. During the eight months of his illness [illegible] suffered literal agony from recurrent painful spasms of h[illegible] legs, and for the last fortnight of his life he had to [illegible] kept almost continuously under morphine and chlor[illegible]m, so that when his end came it was indeed a mercifu[illegible] ease. But this makes it none the less to be regretted t[illegible]ch a useful and efficient life should be cut off in the [illegible]ossom of its achievement, and the deep sympathies of many are with his relatives and his hospital in their bereavement. [illegible] Paton was a bachelor. Both his parents predeceased [illegible] but he is survived by seven brothers and sisters.

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[2] G. Seelig: Annals of Surgery, December, 1907, p. 809.

MARY CAROLINE HAMILTON, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

THE death of Miss Mary Caroline Hamilton, which occurred at Edinburgh on Sept. 7th, after an operation for appendicitis, is announced. The deceased was the daughter of the late Sir Robert Hamilton of Coleherne Court, London. She studied medicine at the Edinburgh School of Medicine, taking her qualifications in 1905. After holding appointments in Edinburgh and Nottingham Miss Hamilton went to St. Agnes and entered into partnership with Miss N. B. Ievers. Miss Hamilton's death is felt as a great loss at St. Agnes where she was a much liked practitioner.

EMILY ELIZABETH EBERLE, M.A., M.B., B.CH., B.A.O. R.U.I., F.R.C.S. IREL.

Dr. Emily Elizabeth Eberle, of 17, Oakfield-road, Clifton, Bristol, died on Sept. 12th at Dublin, where she was staying on a visit. She was the eldest daughter of the late Rev. J. A. Eberle of Dublin and studied medicine at the Royal College of Surgeons in Ireland. She graduated M.A. of the Royal University of Ireland in 1889 and in 1894 obtained the M.B., B.Ch., B.A.O. degrees of the same University; in the latter year Miss Eberle also was admitted F.R.C.S. Irel. Shortly after obtaining her degrees Miss Eberle commenced practice in Clifton. She was for some years a member of the honorary staff of the Royal Hospital for Children and Women, Bristol, the Southwell Maternity Home, and the Read Dispensary. Miss Eberle was highly esteemed in Bristol and Clifton; she was kind and sympathetic and always ready to help any good cause. Much sympathy is felt for her brother (Alderman J. F. Eberle of Bristol) and the family in their breavement.

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metastases. If the mammary gland involved is very large and pendulous, if discharges are profuse or very offensive, or if great pain is localised in the mamma itself then excision is indicated.

In fungating, bleeding, or foully-discharging growths, curetting, followed by the application of the caustics already mentioned in connexion with the palliative treatment of uterine cancer, is often of much benefit. Fell's paste was at one time much used in the Middlesex Hospital, and in my own practice as also in that of some of my colleagues was found to be of great value in such cases.

For the treatment of certain very extreme cases of paralysing œdema and pain of the upper limb I may here refer to what I wrote in 1902 as to the relief afforded by the interscapulo-thoracic amputation of Berger, or amputation through the shoulder-joint, or amputation just below the humeral tuberosities. In two cases in my hospital practice amputation at the shoulder gave very considerable relief. Mr. C. T. Dent of St. George's Hospital performed Berger's operation on account of a recurrent cancerous ulcer in the axilla attended with severe pain and swelling of the limb, and he gives the particulars of three other cases of recurrent carcinoma in which this amputation was done.[12] As Mr. Dent discreetly remarks, "Unless pain were severe, indeed the predominant symptom, the operation would hardly be taken into serious consideration." In the cases in which it has been resorted to great comfort has been derived therefrom.

A very ingenious operation, the definite outcome of work in the cancer research laboratories of the Middlesex Hospital, has quite lately been performed by Mr. W. Sampson Handley for this very disabling complication of breast cancer. The operation, for which Mr. Handley proposes the name of "lymphangioplasty," consists in introducing into the subcutaneous tissue of the swollen arm a number of silk threads running longitudinally upwards from the wrist to terminate in the loose and healthy areolar tissue in or beyond the axilla, and spaced out at convenient intervals around the limb. The treatment is of the nature of drainage by capillary attraction and has been attended by most marked success.[13]

Division of the brachial plexus has been recommended in cases in which there is great pain owing to the brachial nerve trunks being involved but in which the conditions which call for amputation are not present; so also has division or excision of the posterior roots of the spinal nerves in cases of secondary carcinoma of the spinal column. Carcinoma of the vertebræ is always secondary, and almost invariably so to mammary cancer. Sarcoma of the vertebræ is generally secondary, but is sometimes due to direct extension from the overlying structures. When the pain caused by these growths is extreme, the operation of laminectomy, opening of the dura mater, and division or excision of the posterior nerve roots has given great relief.[14]

There is one terrible condition in breast cancer which no operative treatment can relieve, that is cancer *en cuirasse*. I have had several such cases under my care, in some of which nearly the whole of the skin of the chest, abdomen, neck, and shoulders has been involved. The short and difficult breathing, the sensation of continuing suffocation, the pain, and the feeling as if being compressed within a rigid casing form a condition of bodily torture and mental anguish as distressing to witness as anything I have seen. More than one of these patients have expressed themselves to me in almost identically the same words—namely, that they would like to take a large knife and rip themselves open through the chest. The only means I have found of giving relief in these shocking cases has been the administration of liberal doses of spirit of sulphuric ether combined with opium or morphine.

As regards oöphorectomy for mammary cancer, Sir George Beatson has kindly written to me fully as to his present views. These are essentially the same as he held in 1902, since which year he has performed oöphorectomy for mammary cancer in only five cases. He admits that there is no reliable evidence that the operation influences the course of cancer; that as yet no permanent cure has been effected by it; and that "although oöphorectomy has been narrowed down to a comparatively limited group of cases, and although even in the most successful of these no results of a permanent nature have been maintained, yet in view of the very small mortality of the operation *per se* it is a procedure that can be fairly put before the patient as having possible palliative effects that may carry with them improved health and prolonged life."

Of cancer of the *urinary bladder* my later experience tends to confirm the views I expressed in 1902, namely, that excision of the diseased and surrounding parts of the bladder should be the treatment for the cases in which the anterior or upper portion of the organ is affected; and that suprapubic drainage should be employed in other cases where great pain and frequent and painful micturition are present. Dr. Hugh Cabot[15] of Boston recommends curetting and cauterising the growths and temporarily draining through a suprapubic cystotomy opening.

In taking a survey of the treatment of inoperable cancer it is impossible to escape from a feeling of professional remorse at the imperfections in diagnosis and the hesitation and delay in the treatment of precancerous and early cancerous conditions. Whether we think of mammary, of laryngeal, of gastric or rectal cancers, of cancerous disease of the tongue, intestine, or uterus, the conviction is forced upon one that many who are attacked by cancer would have their lives spared altogether and many others would have their lives prolonged and their deaths rendered less painful and sad did the profession at large recognise sooner the threatenings and the early existence of cancer and urge their patients to undergo operation at the earliest possible moment. We have striking object-lessons in cancer of the gall-bladder and of the penis. It is the exception for cancer of the gall-bladder to occur apart from the irritation excited by the presence of gall-stones; it is the exception for epithelioma of the penis to arise apart from the common exciting cause—phimosis. It is estimated that 88 per cent. is the frequency with which primary cancer of the gall-bladder is associated with gall-stones (Courvoisier) and 85 per cent. the frequency with which epithelioma of the penis is associated with phimosis (J. D. Barney). If, then, it was the rule to urge early operation for gall-stones and if circumcision was strongly advised in all cases when the prepuce cannot be easily and completely retracted, but especially when phimosis is present in men past middle life, there can be no doubt that the frequency of cancer in these organs would be diminished. It is almost certain that cholecystotomy has saved many gall-bladders on the verge of becoming cancerous from actually passing into cancer. The rarity of carcinoma following the operation for gall-stones, even though there is gross thickening of the walls of the gall-bladder at the time of the operation, gives countenance to this opinion. On the other hand, the mortality of operations for cancer of the gall-bladder once the disease is established is very high, ranging from 23 to 57 per cent., according to the degree of anæmia, jaundice, and complications from adhesions.

Another typical illustration of a precancerous condition is leucoplakia of the tongue, buccal mucous membrane, and vulva. Although this condition is far from being invariably followed by epithelioma even after existing for many years, it ought to command frequent and careful supervision, and resort should be had to operation at the earliest sign of its transition into cancer. In a paper based on 75 cases of epithelioma and leucoplakia of the tongue which I communicated to the Medical Society of London in 1882,[16] there were 13 cases of leucoplakia associated with cancer, and 14 cases in which the condition had been in existence for periods ranging from eight to 30 years without cancer supervening. This history, together with the fact that the leucoplakic state sometimes returns immediately upon the cicatricial surface, would forbid excision in most of these cases as a precautionary means against cancer, but it should not hinder us from operating on the earliest indication of excoriation or ulceration.

With symptoms of gastric disease continuing unrelieved by medicinal or dietetic treatment, an early exploratory laparotomy will result in the detection in good time of cancer of the stomach and will thus lead to its early removal by

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[12] Dent: Transactions of the Royal Medical and Chirurgical Society, 1898, vol. lxxxi, p. 221.

[13] W. Sampson Handley THE LANCET, March 14th, 1908, p. 783.

[14] Armour. Hunterian Lectures Royal College of Surgeons, England, 1908.

[15] H. Cabot: American Journal of Urology, Sept., 1907.

[16] Transactions of the Medical Society of London, vol. vi.

Abderhalden, O. Professor fur Physiologie des Physiologischen Instituts der Tierärztlichen Hochschule Berlin und Universitats-Professor. Translated by William T. Hall, Instructor in Chemistry, Massachusetts Institute of Technology, and George Defren. First edition. First thousand. Price, cloth, $5.00 net or 21s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BERGIN, FRANK GOWER, L.R.C.P. Lond., M.R.C.S., has bee[illegible] and Assistant Skiagraphist at the Bristol General Hospital.

BURNETT, R., M.B., B.S. Vict., has been appointed Medica[illegible] to the Borough of Bury.

CALDWELL, A. G., M.D. R.U.I., has been appointed School M[illegible] Officer for Stockport.

CAPPE, H. N., M.R.C.S., L.R.C.P. Lond., has been appointed [illegible] Medical Officer at the Brookwood Asylum.

GARDEN, DAVID S., M.B., Ch.B., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

JO[illegible] Certifying Surgeon und[illegible] Pontardawe District o[illegible]ty of [illegible]

LLOYD, B., M.B., B.S. Lond., D.P.H. Lond., has been appo[illegible] Assistant Medical Officer of Health and Medical Inspector [illegible] Schools for Newport (Mon.).

MACPHAIL, J. M., M.B., B.S. Edin., has been appoin[illegible] Medical Officer to the Union Hospital, Hope, near Eccles.

MUTERER, JAMES G., M.B., Ch.B., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

TURTON, J. R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Resident Medical Officer to the London Temperance Hospital.

WELLS, J. DOUGLAS, M.B., Ch.B. Edin., has been appointed Medical Officer to the Billericay Workhouse and Infirmary, and Medical Officer to the District Infectious Hospital of the Billericay Rural District Council.

WILL, JOHN H., M.B., Ch.B., has been appointed Resident Medical Officer at the Aberdeen Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and notification fees.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing. Also Second House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also House Surgeon. Salary £130 per annum, with apartments, board, and laundry. Also Honorary Dental Anæsthetist.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrar.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physicians for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Resident Medical Officer. Salary £120 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum.

DREADNOUGHT HOSPITAL, Greenwich.—Two House Physicians and Two House Surgeons for six months. Salary £50 per annum, with board, residence, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Salary £25, with board, residence, laundry, &c. Also Second Medical Officer for six months. Salary at rate of £40 per annum, with luncheon and tea provided.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—Anæsthetist.

HAMPSTEAD GENERAL HOSPITAL.—House Physician and House Surgeon, both for six months. Salary at rate of £70 per annum, with board and residence. Also Physician to Out-patients, Surgeon to Out-patients, and Ophthalmic Surgeon to Out-patients.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton —Resident House Physicians for six months. Salary £25. Also Resident Medical Officer. Salary £200 per annum, with board and residence. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence. Also Clinical Assistants for six months. Salary at rate of £100 per annum.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL AND SCULCOATES DISPENSARY.—Resident Surgeon. Salary £220 per annum, with house, gas, and coals.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £80 per annum, with board, &c.

ISLE OF MAN ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, quarters, and washing.

JERSEY GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Salary £120 per annum.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Two Resident Medical Officers. Salary for Senior £100, and for Junior £65 per annum, with board, washing, and apartments.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MANCHESTER, MONSALL FEVER HOSPITAL.—Third Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

MANDALAY MUNICIPALITY.—Health Officer. Salary Rs.600 (£40) per mensem.

NORTH SHIELDS, TYNEMOUTH VICTORIA JUBILEE INFIRMARY.—House Surgeon. Salary £100 per annum, with rooms, board, &c.

NORWICH, NORFOLK COUNTY ASYLUM, Thorpe.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, lodging, washing, and attendance.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary at rate of 50 guine[illegible] year, with board and residence. Also Honorary Physician to Ou[illegible]nts.

PENDLEB[illegible] **MANCHESTER CHILDREN'S HOSPITAL.**—Visiting Physician. Honorarium, £100 per annum.

PRESTWICH COUNTY ASYLUM, Manchester.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with rations, apartments, and washing.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner in Physiology. Also Examiner in Dental Surgery.

ROYAL NAVY, MEDICAL DEPARTMENT.—Fifteen Commissions.

SALFORD ROYAL HOSPITAL.—House Surgeon for six months. Salary at rate of £60 per annum, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SOUTHWARK UNION INFIRMARY, East Dulwich grove, S.E.—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TORQUAY, PARISH OF.—Medical Officer. Salary £100 per annum.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (female). Salary £150 per annum, rising to £200, with board, lodging, laundry, attendance, &c.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Physician.

WINSLEY, NEAR BATH, THREE COUNTIES SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer, unmarried. Salary £200, rising to £300.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Dervock, in the county of Antrim.

Births, Marriages, and Deaths.

BIRTHS.

CALLENDER.—On Sept. 18th, at Inverard, Sidcup, Kent, the wife of Thomas Marshall Callender, M.D., C.M., F.R.C.S. Edin., of a son.

GEDGE.—On Sept. 20th, at Pewsey, Wilts, the wife of Arthur Sydney Gedge, M.R.C.S., L.R.C.P., of a daughter.

HOULBROOK.—On Sept. 15th, at Bradwell, North Derbyshire, the wife of William E. Houlbrook, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

SPRIGGS.—On Sept. 16th, at Bryanston-street, Portman-square, W., the wife of Edmund Ivens Spriggs, M.D., F.R.C.P., of a daughter.

MARRIAGES.

EVANS—BRIANT.—On Sept. 16th, at Brixton Independent Church, Brixton, S.W., Arthur H. Evans, M.S., F.R.C.S., of Harley-street, to Dorothy, younger daughter of Lawrence Briant, of Loughborough Park.

HIGHET—ROBINOW.—On Sept. 19th, at St. Margaret's Church, Altrincham, Cheshire, by the Vicar, the Rev. Hewlett Johnson, M.A., B.Sc., Hugh Campbell Highet, M.D., D.P.H., Principal Medical Officer, Local Government, Bangkok, Siam, to Emma, daughter of the late Max Robinow of Manchester, and of Mrs. Robinow of Hawthornden, Bowdon, Cheshire.

LUNN—PILDITCH.—On Sept. 16th, at St. Paul's (Church of the Venerable Bede), Jarrow-on-Tyne, by the Rev. J. Anderson-Robertson, B.A. (Oxon.), M.D. (Glasgow), uncle of the bridegroom, assisted by the Rev. C. R. J. Loxley, M.A., Rector of Jarrow, John Lunn, M.B., C.M., W.A.M.S., of Edinburgh, to Florence Gertrude, only daughter of Alfred Pilditch, of Jarrow-on-Tyne, and formerly of Froome-Selwood, Somerset, and Stonehouse, Devon.

WATNEY—CROSSLEY.—On Sept. 16th, at St. Thomas's Church, Belfast, Herbert Andrew Watney, M.B., B.S., son of the late Rev. James Watney, of Canwick, Lincoln, to Olive Emily, second daughter of the late Arthur C. Crossley of Belfast.

DEATHS.

CRANE.—On Sept. 20th, at Warwick-square, S.W., Charles Albert Crane, M.D., aged 65 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

general recognition. During the bacteriological era in the investigation of cancer, the part ferments play in many complex processes outside of the intestinal canal itself has become more fully recognised. Regarding the intestinal digestive ferments themselves, revolutionary discoveries have been made as the result of investigations by Pawlow, Starling and Bayliss, and others. The study of immunity to the toxins of disease under Ehrlich's leadership directed attention to the fact that the serum of the blood normally possesses a power to neutralise the activity of most and probably of all of the intestinal digestive ferments. French investigators on Metchnikoff's initiative have studied not only the power of leucocytes to digest bacteria, but have shown also that they can digest albumins and that the latter process is effected by a ferment indistinguishable from trypsin. It is certainly remarkable that the white cells of the blood possess the power of tryptic digestion yet circulate in a serum which possesses antitryptic along with its other antifermentative powers.

With so much evidence existing of the part played by ferments in the activity and counter-activity of the cells and fluids of the body, both in the building up and breaking down of tissue, it was natural that the investigation of fermentative action should be extended to the study of the growth of malignant tumours, not only with a view to explain their destructive action on healthy tissues even so difficult to attack as cartilage and bone, but also in the hope of neutralising their pernicious effects. It appeared reasonable that healthy tissues might be protected from the digestive powers of the cancer cell. There was even hope of attacking the cancer cell itself if it were found so to differ in its chemical constitution as to be more vulnerable to the actions of intestinal and other ferments than the other tissues of the body.

The occurrence of specific ferments in cancer has been described (Petri and others), but the first step in the practical application of digestive ferments to the treatment of cancer was made by F. Blumenthal, who adduced evidence that cancerous tissue seemed to be digested by pancreatin more readily than normal tissue. His observations acquired a further significance by other investigations which appeared to show that cancerous tissue was of a chemical constitution different from normal tissue. Blumenthal does not appear actually to have employed trypsin for the treatment of cancer as a result of his experiments *in vitro*. Its therapeutical application was advocated in the first place by Shaw-Mackenzie on the clinical ground that cancer was relatively infrequent in the duodenum, and on the further ground that he had observed the frequent occurrence of diabetes and cancer in different members of the same family. About the same time also it was employed by J. Beard who has formed ideas on the relation of the activity of the pancreas to the development of cancer and asserts that trypsin has a specific action on cancerous as opposed to the normal tissues of the body.

The attention thus directed to trypsin and the contradictory statements of the results which have followed its use, and perhaps also the hurry to find out if there might not be some ferment the employment of which could be heralded as the long-sought panacea free from the difficulties at once met with in the use of trypsin, have led to numerous attempts to apply other ferments. Thus the following have been tried: amylopsin, in addition to trypsin, suggested on embryological grounds (Beard), liver ferment (von Leyden and Bergell), placental tryptic ferment (Bumm, Liepmann), papayotin (Branch, Lucas), and lastly erepsin—which is contained chiefly in the intestinal mucous membrane (Cohnheim) but is common to all organs and tissues (Vernon)—has been recommended and is being experimented with by Shaw-Mackenzie.

Only in regard to the use of trypsin has sufficient time elapsed for any number of cases to be reported, and since it can scarcely have been extensively applied for more than two years, the intervals since treatment was commenced hardly justify drawing definite conclusions from clinical data alone as to what the ultimate effects of its application may be. The statements which have precipitately followed one another during the past year or more have been very contradictory and some, unfortunately, too controversial for consideration here. While of some cases statements obviously too sanguine have been made, in others the treatment appears to have relieved pain and benefited the patients at least for a time, at the cost of nothing more than a slight malaise. Other observers report complete failure to relieve the patients of any of their symptoms. The treatment has been described to be painful, to be liable to induce toxæmia, even coma and death, and to produce sterile abscesses at the site of inoculation.

Dr. J. A. Shaw-Mackenzie who, as the first to apply trypsin practically, has probably the longest experience of its effects, has latterly taken up the position that the hope that trypsin would reach the site of the disease through the blood stream when injected at a distance "does not accord with the view generally admitted that the blood possesses certain antitryptic properties"; and that "the local atrophy and degeneration of a cancerous growth induced by subcutaneous injections of trypsin in the neighbourhood of a tumour or into the substance of the tumour itself cannot be accepted as evidence of the successful treatment of cancer." He also states that "the extreme amount of physical suffering has been the invariable result" of direct injection into the tumour or into its periphery.

In contrast with this dispassionate statement on the part of one whose interests in the ferment treatment of cancer have every appearance of sincerity must be placed numerous less balanced statements made by participants in the controversy which has been waged as to whether trypsin was of any use whatsoever. In America, Rice, Morton, Margaret Cleaves, Luther, and others have reported most favourable results in the treatment of the primary and secondary growths of a large number of cases of carcinoma and sarcoma. Bainbridge of New York has severely criticised the use Morton made of the data referring to a case of carcinoma of the breast which, as published by Morton, seemed to afford the most convincing evidence of cure.

In England success has been reported by Dr. Charles C. Scott, Dr. C. T. Hilton, Mr. O. H. Hudson, Dr. T. F. Cavanagh, Mr. H. Meggitt, and others, but lapse of time does not warrant the conclusion from the relief afforded that cures have been obtained. Investigators at the Middlesex Hospital and the London Hospital and at the Brompton Cancer Hospital have stated their failure to obtain satisfactory results similar to those recorded by some private practitioners. Dr. E. F. Bashford after testing the action of trypsin on the growth of tumours in mice has stated categorically that it is devoid of any influence. Mr. A. Carless has dissented from the deductions favourable to trypsin which have been drawn from Dr. Scott's case of apparent carcinoma of the large intestine. Dr. J. Alcindor has recorded one case of new growth in the iliac fossa and a case of carcinoma mammæ, in both of which untoward symptoms, combined with some apparent relief to the patients, accompanied treatment with trypsin during the last months of life. It appears very probable that only a very small proportion of the cases which have been treated with trypsin in England have as yet found their way into print, owing to the desire to await evidence that any benefit conferred will persist; but this paucity of reports is undoubtedly also due to the large proportion of cases in which no benefit has resulted or in which treatment has not been persisted in owing to the pain caused and the risk of undesirable complications.

In Germany the treatment of cancer by trypsin has aroused attention owing to the noisy prominence given to it in the lay and medical press in England and America. Von Leyden and Bergell, Gellhorn, and Bumm have stated that it has no practical value. Schöne summarises the whole question as follows: "As it is well known Beard recommended the use of trypsin for the treatment of malignant new growths, and more recently as the result of no less fantastic considerations which likewise will not bear searching examination, he has recommended the use of amylopsin. In spite of much competent investigation it is only possible to state that convincing successes are apparently absent." A. Pinkus, Kuhn, and Blumenthal have suspended their judgment on the value of the treatment. Blumenthal and A. Pinkus in reply to inquiry have protested against the misuse of their statements in support of the extravagant claims made for trypsin in England.

With rare exceptions trypsin has been applied by hypodermic injections. In some cases, however, it has been administered by the mouth or as a local application, and as regards the external use there is greater uniformity in the statements of results. Sloughing tissue is speedily removed, as was to be expected, and a clean surface free from sepsis

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 24th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
Sept. 18	30 00	S.E.	...	109	73	53	57	60	Hazy
" 19	30 08	W.	...	105	71	55	59	61	Hazy
" 20	30 03	S.W.	...	109	77	58	60	62	Fine
" 21	30 04	S.W.	0 01	85	64	61	59	61	Raining
" 22	29·97	S.	0 02	72	65	49	51	52	Foggy
" 23	29·83	S.E.	0·02	94	65	52	57	60	Fine
" 24	29·89	N.E.	...	75	62	57	58	59	Overcast

Medical Diary for the ensuing Week.

SOCIETIES.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith road, W.

FRIDAY.—8.30 P.M., Col. T. H. Hendley, C.I.E.: Address.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., *Diseases of Children. Diseases of the* Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

FRIDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Diseases of Children. Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases *of* Women.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies street, W.C.

MONDAY.—4 P.M., Dr. G. Pernet: Clinique (Skin).
TUESDAY.—4 P.M., Dr. L. Guthrie: Clinique (Medical)
WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical).
THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical).
FRIDAY.—4 P.M., Dr. H. Tilley: Clinique (Throat).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1 30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1 30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1 30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9 30 A.M. and 2 30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9 30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), *Central London* Throat and Ear (2 P.M.), *Children*, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (3rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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was adopted by gynæcologists throughout the world was a fair measure of the universal, though not audibly expressed, dissatisfaction with the usual mechanical treatment of displacements of the uterus. We may also now consider the number and variety of the recent modifications of Alexander's operation as a fair indication of the disappointment of operators who have applied it without sufficient discrimination as to its limitations. For my own part, after operating in 45 cases I abandoned the method of treatment altogether as the result of certain experiences to detail which would be too much of a digression. My troubles suggested to my mind serious objections to the operation in private practice owing to an element of uncertainty as to the possibility of its satisfactory completion. When completed in a perfectly correct manner it did not seem to me to stand well the test of pregnancy and parturition.

The modifications of Alexander's operation which have been most pressed upon the attention of gynæcologists appear to have all the weaknesses of the original operation, or to be more extensive and presumably more dangerous than ventrifixation. This objection attaches, for example, to the proceeding of opening the vagina behind the uterus in order to break down adhesions before dealing with the round ligaments themselves. And the objection on account of its formidable character applies, for example, to Goldspohn's modification, which involves all the details of abdominal section with two wounds instead of one, as in ventrifixation. He refers to it himself as "this bilateral inguinal cœliotomy and shortening of the round ligaments viâ the dilated inguinal rings." He also remarks: "It has become very clear that the simple Alexander operation without this interperitoneal work is generally too imperfect and imbecile a procedure ......" But his own modification is the operation which Goldspohr declares to be among "the most rational, innocent, and effective methods in the treatment of pathologic retroversions and retroversio-flexions of the uterus." Another American gynæcologist claims for his own modification all these advantages and that in addition it is "the most esthetic," whatever that term may mean under the circumstances.

The staggering array of modifications involving hooking and turning and twisting of the round ligaments from a wound in the vagina either in front of or behind the uterus, or by means of more or less formidable wounds in the inguinal regions, seem hardly worthy of serious attention except with the object of appraising their value and utterly condemning and rejecting them. They are at the best blind and uncertain.

The operation of ventrifixation efficiently done appears to me to be the best for the treatment of chronic retroflexion of the uterus in women at the child-bearing time of life. It was first suggested, I believe, by Olshausen in 1886, when he fixed the cornua of the uterus very slightly as an afterthought incident in an operation undertaken owing to other indications than backward displacement. The operation has been much practised with a defective technique in Germany, but, what implies a great deal in its favour, it has been taken up in France and practised on its merits, although originating in Germany.

My first operation was performed in September, 1890, and I gradually evolved a method of operating which has fulfilled all my hopes and expectations. As an operation of choice it had rigidly to comply with certain requirements or to stand condemned on its demerits. It does not seem to me to deserve condemnation: much the contrary. The tests which such an operation must stand appeared to me to be: (1) it must be devoid of danger when ordinary care is exercised; (2) it should be easy to perform, and the operator must feel certain in recommending it to a patient that he can undertake it with absolute certainty of being able to finish it as planned; (3) it must relieve the symptoms on account of which it was undertaken; (4) it must not produce any new symptoms that will even remind the patient for any considerable time that she has undergone an operation; (5) it must leave the patient free from any remote danger such as ileus, and permanently in a condition for active exertion and for all the duties of life indistinguishable from her original normal state of health; (6) it must stand the strain of pregnancy and parturition and the puerperium without abnormal distress, as if the operation had never been done; and (7) the uterus must continue after involution to maintain the position it was placed in by the operation. An operation which complies with all these conditions has many merits whatever *a priori* objections may be raised by preconception or prejudice, or whatever may be the terms employed to condemn justly an operation labelled "ventrifixation" by those who have met with the unfortunate experiences which were only to be expected from defective and irrational methods of operating.

In order to obtain the desired results certain principles must be kept in mind and complied with in every case. In the first place, the fundus uteri and the round ligaments must be strictly safeguarded, so that if pregnancy occurs it may run a perfectly normal course, as if "fixation" had not been produced. Another important object is to effect complete and permanent adhesion of a sufficient area of the *anterior* surface of the uterus to the abdominal wall. The ideal ventrifixation is that which results from Cæsarean section when the wound is longitudinal, involving about the middle third of the uterus, and extensive and complete and symmetrical adhesion takes place between the uterine and abdominal wounds. In these cases when pregnancy occurs again, as I have known it to do repeatedly, there are absolutely no abnormal symptoms, either functional or mechanical, resulting from the adhesion, and the operation may be repeated almost or altogether without opening the peritoneum. I have only once had occasion to open the abdomen in a patient who had undergone ventrifixation in the manner which I am advocating, and I took the opportunity of examining the relations of the uterus to the abdominal wall. The uterus appeared to be completely incorporated with the anterior parietes in its middle third, and yet the patient had never experienced any unpleasant symptom referable to the uterus or bladder during the several years that had elapsed since the operation. If this can be true in one case why not in all? We cannot avoid adhesions of bowel or omentum after an intra-abdominal operation producing a wound; we should therefore try to make the adhesions strong, regular, and useful instead of leaving them for chance to make them weak, irregular, and dangerous. Firm and broad attachment is not in itself troublesome or dangerous. The *a priori objection to firm* and permanent adhesion is opposed to all the lessons of experience.

Before going into the details of the operation let us consider what we should avoid. We can, perhaps, best do this by looking at the descriptions of the operation of ventrifixation or ventrisuspension in some of the manuals and text-books which beginners in abdominal surgery naturally consult for guidance, and by tracing the course of post-operation pregnancy and labour. Dr. Howard A. Kelly's method of operating has been much followed by gynæcologists abroad and to some extent in this country, but it is extremely faulty in several respects. The introduction of sutures "through the posterior surface of the uterus" should be in itself sufficient to condemn it. In what respect is it better than vaginofixation, the most dangerous and worst of all the important operations practised on women at the child-bearing time of life? Kelly's operation appears to be suspension of the uterus, not fixation; and to the extent to which it fails owing to stretching of the adhesions it benefits the patient only by relieving the fundus from its misplaced attachment, while it adds to her danger from ileus. No wonder that a large proportion of the patients operated upon according to Kelly's method who became pregnant experienced suffering from abnormalities calling for even Cæsarean section. But suspension injuriously affects all cases whether pregnancy occurs or not. It causes dragging upwards of the uterus instead of supporting it and makes it into an atonic pouch, with resulting menstrual anomalies and troubles and persistent intermenstrual discomfort.

When pregnancy does occur after ventrifixation or suspension the consequences may be very serious. Dr. Craigin[2] of New York in a recent article says: "Including the five cases reported in this paper there are now at least 40 cases of Cæsarean section on record which were demanded by a previous ventrifixation of the uterus." Dr. Polak of Brooklyn in a surgical thesis read before the American Gynæcological Society in 1908, entitled "A Report of 52 Pregnancies and Labours following Ventrisuspension of the Uterus for Retro-displacements," quotes from Kelly on the complications in pregnancy and labour which may follow ventrifixation. It should be kept in mind that Dr. Polak sets out *parti pris* as advocate of what he calls ventrisuspension as opposed to

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[2] Surgery, Gynæcology, and Obstetrics, July, 1908.

The Huxley Lecture

ON

RECENT ADVANCES IN SCIENCE AND THEIR BEARING ON MEDICINE AND SURGERY.

Delivered at Charing Cross Hospital on Oct. 1st, 1908,

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CHARING CROSS HOSPITAL MEDICAL SCHOOLS AND AT
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MEDICINE.

MR. PRESIDENT AND GENTLEMEN,—In preparing the following remarks I have assumed that the council of Charing Cross Hospital Medical School have asked me to deliver this the seventh biennial Huxley lecture because they are impressed by the position attained by tropical medicine in recent years and because they know I have given some attention to the subject. I appreciate and am grateful for the compliment implied, although I fear I can do only scant justice in the short time at my disposal to what has become a large and important subject.

All must recognise that tropical medicine is a theme specially appropriate for a Huxley lecture, seeing that tropical medicine, so far as the etiology and prophylaxis of tropical disease are concerned, is in great measure a branch or development of one of those sciences so intimately associated with Huxley's name—*natural* history. Moreover, the success with which the study of tropical medicine has been attended is in great measure due to the employment of those methods of investigation and teaching so consistently and powerfully employed by that great master of natural science—namely, clearing the mind of tradition and cant, careful observation of facts, hypotheses based on fact, testing such hypotheses by experiment and by their consistency with other facts, and finally, if verified, the fearless application of the proved hypothesis in practice.

Some of you may recollect the opposition encountered by those of us who 10 or 12 years ago were endeavouring to make the study and teaching of tropical medicine a distinct department of medicine. That opposition has, I believe, subsided if not ceased altogether, for it is now generally recognised that this subdivision of medicine is a natural one and one practically necessary, one founded on a well-established principle. That principle, briefly stated, is this—namely, that the possible range of a geographically limited disease depends, not on the influence of climate or locality on the human body or on germs already established in the human body, but as they influence the disease germ itself in and during its passage from one human host to another human host—that is to say, on the disease germ while it is outside the human body. If as regards any given disease germ the climatic and local conditions in any given country are unfavourable to the germ while it is outside the human body, the germ may be imported time after time, but the disease it is responsible for will not spread or become established as an endemic. On the other hand, if the local and climatic conditions are favourable to the germ while outside the human body, once the germ is introduced, given the opportunity, the disease it is responsible for will surely spread.

It so happens that certain germs require for their successful passage from host to host a high atmospheric temperature, or they require animal intermediaries which flourish only in high atmospheric temperatures. These conditions being existent only in tropical or subtropical countries, or in temperate countries during the summer season, the disease produced by the germs referred to can originate and spread in warm countries or seasons only. Malarial disease and its germs are, perhaps, the most familiar example of this principle. Malarial disease is caused by a protozoal organism which in man lives in the red blood corpuscles. Under normal conditions the germ is powerless to leave its human host or to enter another human host. To effect this necessary translation it requires an insect intermediary—a particular kind of mosquito. This mosquito for its well-being, amongst other things, demands a high atmospheric temperature; therefore this insect flourishes in warm climates or in the warm season of temperate climates. Hence human malaria is a disease special to warm climates—that is to say, a tropical disease.

Besides malaria, I could adduce both from human and from veterinary pathology many additional illustrations of this principle. For example, yellow fever, African tick fever, trypanosomiasis, filariasis, certain kinds of spirochætiasis, and so on. In all of these an animal intermediary of tropical habit is necessary *for the transmission* of the germ and therefore of the disease.

There are other tropical diseases for the spread of which no such living intermediary is necessary; nevertheless, high atmospheric temperatures being *required by their germs* in their passage from host to host, these diseases are properly classified as *tropical*. In *their case* the germs require a warm medium in which to accomplish necessary developmental changes which, when complete, qualify the germ to effect successfully a lodgment in the human host. Ankylostomiasis is an example *of this*. If *when it leaves the human* host the egg of the ankylostome does not quickly meet with a warm moist nidus it perishes; if it meets with such a nidus the larva is hatched out and, opportunity serving, enters a new human host, and so the disease it gives rise to is spread.

It is this necessity on the part of the germ for either a tropical intermediary or for a warm medium, such as occur naturally only in tropical countries, that constitutes the main determining factor in the geographical distribution and limitation of tropical disease and which, so to speak, specialises the subject. This is the reason for, and the justification for, specialising the teaching and study of the subject, and this it is that determines the lines on which tropical medicine has to be studied and taught.

What might be described as a corollary pendant to the general principle that the intermediary or medium required by the disease germ is the agent that principally determines the distribution of tropical disease imposes welcome limitations to the field of study. The principal tropical diseases (I do not include in this the skin and the food diseases) are caused either by protozoa or by helminths. *So far as* we accurately know, none of these disease germs are bacterial. The reason for this fact, which pathologists are only beginning to appreciate, lies in the circumstance that the pathogenic bacteria are not materially affected, so far as their viability and *transmission* are concerned, by ordinary atmospheric temperature; neither do they require to undergo developmental changes outside the human body before they can enter another human body, and, therefore, although they may be favoured or the reverse by such, they are not absolutely dependent on any animal or other geographically limited medium. Several bacterial diseases which are often classed as tropical—for example cholera, certain kinds of dysentery, leprosy, plague, Mediterranean fever, &c., are not really tropical. Experience has shown that these diseases can flourish in any climate. It is only because those hygienic and social conditions most favourable to their spread are met with at the *present day in greatest* perfection in the tropics, that they are conventionally regarded as tropical; they have no more real claim to be regarded as tropical than tuberculosis or syphilis has. In times past, and even at the present day, they were or are common enough in some places or conditions in temperate or even in cold countries.

Thus in the study of tropical disease bacteriology may be relegated to quite a secondary place. The student's attention is confined almost entirely to protozoa and helminths, to the special vectors or media of these organisms, to their pathological effects, and to the prophylaxis and treatment of the diseases they give rise to.

I might mention in passing that those who plan schools or courses for the teaching of tropical medicine should recognise this large element of natural history in the subject and that if possible they should include in the teaching staff (1) a protozoologist, (2) a helminthologist, and (3) an arthropodologist (I say arthropodologist because the known intermediaries of the pathogenic protozoa and helminths are nearly all of them either insects, ticks, *or* crustaceans) in addition to the usual pathologist, systematic clinical and hygiene lecturers having at their disposal a suitable hospital with a tropical *clientèle*, besides a laboratory, museum, and

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being dreaded should be welcomed as confirming the cure, if for no other reason.

We meet with two classes of sterile patients suffering from retroflexion of the uterus with secondary changes. 1. It may be set down as a rule with few, if any, exceptions that the nulliparous woman whose uterus is retroflexed at the time of her marriage remains barren. In such cases hysteropexis hypogastria without any other treatment whatever is usually followed by pregnancy. One or two illustrative cases out of many will be given in the sequel. 2. The second class of cases is acquired sterility, often in the form of "one-child sterility." In such cases there is an ascertainable history of pregnancy and puerperal illness following full-term parturition or abnormal interruption of pregnancy. Such a patient is found on examination to have retroflexion of the uterus with complications which often include the results of the slighter forms of pelveo-peritonitis, such as adhesions, closing of the fimbriated ends of the tubes, and sclerosis of portions of the ovaries. Operation in such cases which does not include a full view of the affected parts and ventrifixation in an efficient form is sheer trifling and futility.

There is hardly ever the slightest reaction after this detailed operation in simple cases. It is practically devoid of danger. The pulse and temperature remain almost or altogether normal. No case has given rise to even momentary anxiety, except a case of mysterious acute sepsis which had a fatal termination. This operation has stood the tests of efficiency already mentioned in nearly 300 cases. Many of the operations have been done on account of prolapse of the uterus in comparatively young women, but I do not propose to complicate matters by discussing the treatment of prolapse on the present occasion. I will just remark that for prolapse the operation must be supplemented with colporrhaphy. In only one case was there a partial relapse owing to the imprudence of the patient. The operation had given satisfaction and was repeated, and the result has remained perfectly satisfactory for several years. A considerable proportion of the patients have borne one or more children since the operation. There have been some abortions and one or two cases of slight malpresentation, but not, I believe, to an extent greater than might be expected among the same class of women apart altogether from operation.

I have tried to get at the present state of health of the hospital patients but it is often difficult or impossible to trace them and obtain information. As far as I can learn there has been no case of relapse, even after labour, except the one just referred to.

ILLUSTRATIVE CASES.

CASE 1 (from the . J., aged 28 years, a
patient of Dr. Gardn erperal troubles after
miscarriage. At the 1891, the patient was
suffering from retrol The ovaries not made out
to be involved. *The use of tampon and douche, followed by Schultze's* process, failed to rectify the uterus. Operation of ventrifixation, Oct. 15th, 1891. *Uterus found completely adherent to the floor of* Douglas's space, with broad ligaments folded back, but the ovaries not *dragged down.* The adhesions were easily broken down and the uterus brought into the abdominal wound. Some hæmorrhage from the torn *adhesions.* Ventrifixation completed by eight sutures of catgut, silkworm gut, and fine silk. The wound closed. Easy recovery. This patient consulted me in the early summer of 1892. She was found to be pregnant between four and five months, and, as far as could be made *out*, the uterus was in the normal position, and beyond some sense of dragging about the wound there was nothing to complain of. The patient was advised to go into the Maternity Hospital for her confinement, and it was intended to make careful observations on the process of parturition. Labour came on and was rapidly completed in what was described to me as a perfectly normal fashion. It was only the day after the confinement that I learned what had taken place. The puerperium was carefully observed and there was nothing abnormal about it. Involution of the uterus went on in a perfectly satisfactory way and the patient went home with her child feeling quite well and comfortable, with the exception of some irritation of the bladder. She is again pregnant four months (January, 1894). *She is wearing an* abdominal belt and is quite comfortable, with the exception of one spot near the cicatrix, which is *painful when rubbed.* There is a small nodule at this point and it seems to be produced by an imbedded silkworm-gut suture. The fundus of the uterus is in the normal position for four months pregnancy. The cicatrix is quite firm and apparently adherent to the uterus.

When cases were accumulating with a monotonous regularity of favourable results I sent out a circular letter to medical practitioners who had had one or more patients operated upon by me. For the prompt, careful, and courteous replies sent in answer to my inquiries I desire to express my most grateful thanks.

CASE 2.—Dr. William Moir of Darwen writing in 1897 said: "You performed the operation of ventrifixation on Mrs. T—— of Darwen on May 14th, 1897. She made an excellent recovery. She had been married four or five years and not had a child. Within two months after her return from the Southern Hospital she became pregnant, and I advised her to go to the Maternity to be confined as I thought you would like to see her. She was confined there in 1898. ...... She told me the child had the cord round its neck twice and was dead. The house surgeon told her that was the cause of death. [Although my interest in ventrifixation cases was known to everyone in the hospital I had no opportunity given me of observing the process of parturition.] She had better luck next time. I confined her of a fine male child on Sept. 7th, 1899. The child and mother are both quite well. ......" Dr. Moir goes on to mention the formation of a sinus in the wound which healed again quickly on the removal of a silk ligature.

CASE 3.—Mrs. M. S., aged 2
Hospital in January, 1902. D
the patient engaged for her
letters about the case. In Feb
confinement in March and con
in good position but the vaginal walls were prolapsed. Writing in June, 1904, *Mr. Renshaw said*: "She was confined on May 10th; she had rather a tedious labour, the face under pubes. I used forceps and the child came away without any force. She made a good recovery, got up on June 1st. I examined her on June 5th and found the uterus in good *position, the os just within reach of the index finger.*"

The above is a good illustrative case, indicating the phenomena resulting from relaxation of the pelvic floor. The operation was done before the need for colporrhaphy in prolapse with backward displacement became demonstrated as essential to success.

CASE 4.—Mrs. S., aged 25 years, married two and a half years, one child aged 20 months, one miscarriage. Patient of Dr. W. Stewart, of Bacup. Admitted to Southern Hospital on Nov. 11th, 1902. Previous to abortion in February, 1902, no uterine trouble. Since February menstruation every 14 days, profuse, improvement last two months. Chief symptoms at present time backache and *incontinence of urine* after any considerable exertion. *Examination*: uterus large, in acute *retroflexion*, not fixed, but difficult to raise. As pessaries of various kinds with rest had been *tried all the summer without favourable effect operation* was recommended. Ventrifixation, Nov. 25th, 1902. Routine proceedings. *Usual pessary to support. Nothing worthy of note in post-operation* history except irritability of the bladder as before operation. On Dec. 23rd a *note recording observation on vaginal portion*: "Posterior lips of os diminished in size; anterior lip hypertrophied." *Patient discharged* apparently well on Dec. 30th, 1902. Dr. Stewart, in *letter* dated May 20th, 1908, says: "The patient, Mrs. S——, became pregnant in March, 1904, *delivered* in December. Trouble with bladder the whole time; for last two months incontinence. Duration of labour 12 hours, normal. Pregnant again August, 1907, *delivered* April, 1908. Bladder trouble the first three months, after that no discomfort or bad symptoms. Duration of labour six hours, normal. *Examination yesterday*, involution perfect."

CASE 5.—M. D., aged 31 years, III. para; hospital case. Patient's first pregnancy went to full term five years ago. She was attended by a drunken midwife who neglected to obtain medical assistance during puerperal illness. Five weeks after confinement patient was sent to Withington Poor Law Infirmary suffering from severe abdominal pain and double mammary abscess. She was confined to bed for four months altogether after the confinement. The second pregnancy terminated at full term three and a *half* years after the first—Jan. 19th, 1903. The whole labour did not last more than two hours. Could not suckle the child. *Was able to* get up in 14 days after labour. After the first pregnancy she had complained of pain in the lower part of the abdomen, and *during* the course of the second pregnancy she had again much pain. The pain became very much worse in Nov., 1903, but she did *not seek medical* treatment for six months or so. She was admitted as in-patient of the Southern Hospital in May, 1904. *On examination*, tenderness and resistance in left iliac region but no definite tumour made out by external palpation. P.V. deep *laceration of the cervix with eversion.* Well-marked cicatricial band in left lateral fornix. Uterus in retroflexion, held down by *adhesions*; *tubo-ovarian tumour on both* sides.

Operation: After several weeks of palliative treatment it was resolved *to operate* by abdominal section. Operation, July 12th, 1904. Both ovaries were found imbedded and bound down in adhesions; capsules thickened and ovaries partly sclerosed. The uterus was also firmly bound down with omentum adherent. Both ovaries were resected, about one-third of the left ovary being removed; wounds in ovaries carefully sutured and shreds of adhesion bands cut away. *A fresh* extensive ostium abdominale was made in the right occluded and distended tube, the left tube appeared sufficiently sound to be let alone.
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and was more painful than usual. She came to out-patient room in November complaining of bearing-down. She was admitted for rest and *observation* and remained in the hospital for four weeks. Pregnancy apparently normal except for purely subjective symptoms. She remained under observation as out-patient until the end of April. Nothing unusual noted. Although slight pains began on *June 4th* the patient was not admitted to St. Mary's Hospital until the 6th. The second stage lasted six hours, the third half an-hour. Everything normal. Convalescence quite uneventful. For still another time in hospital cases after ventrifixation *parturition* was so normal that I was not informed until the day after labour. This patient was in much better condition than ever before and was able to suckle her child.

Note.—August 25th, 1906. Seen as out-patient. Involution of uterus complete; position normal; patient in very good health; plenty of milk in breasts.

CASE 6.—Mrs. S. W., *patient of* Dr. J. T. Fraser, Longsight, now aged 43 years, married 21 years. Ten children, seven living, oldest 19 years, youngest two months, at the breast. Has had three children since operation; oldest of these five years. Operation, ventrifixation, Dec. 19th, 1902. Obstetric history: Forceps were used at first three

TABLES OF TROPICAL DISEASES SHOWING OUR PRESENT KNOWLEDGE OF THEIR ETIOLOGY AND MEANS OF PROPAGATION (*Continued*).

TABLE II.—*Diseases Due to Animal Parasites.*

Name of disease.	Causative agent.	Mode of transmission.
Diseases due to Protozoa—		
Malarial fevers. Quartan.	*Plasmodium malariæ* (Laveran, 1881, *sensu stricto*).	Inoculated by mosquitoes of the sub-family *Anophelinæ*.
Malarial fevers. Tertian.	,, *vivax* (Grassi and Feletti, 1890)	
Malarial fevers. Subtertian. Quotidian.	*Laverania malariæ* (Grassi and Feletti, 1890).	
Trypanosomiasis (sleeping sickness).	*Trypanosoma gambiense* (Dutton, 1902).	Inoculated by *Glossina palpalis* and possibly other tsetse flies.
Kala azar	*Leishmania donovani* (Laveran and Mesnil, 1903)	Inoculated by *Cimex rotundatus* (suggested)
Oriental sore.	,, *furunculosa* (Firth, 1891).	Unknown
Relapsing fever. European form.	*Spiroschaudinnia recurrentis* (Lebert, 1874)	Inoculated probably by *Cimex lectularius* and *Pediculus corporis*.
Relapsing fever. African form.	,, *duttoni* (Novy and Knapp, 1906)	Inoculated by *Ornithodoros moubata*.
Yaws.	*Treponema pertenue* (Castellani, 1905).	Conveyed by flies on abraded surfaces—contact.
Dysentery. Balantidium dysentery.	*Balantidium coli* (Malmsten, 1857)	Fouled water or food, contaminated by sewage, flies, &c.
Dysentery. Amœbic ,, Tropical liver abscess	*Entamœba histolytica* (Schaudinn, 1903).	
Diseases due to Metazoan Parasites—		
Trematode infection (Distomatosis). Pulmonary (endemic hæmoptysis).	*Paragonimus westermanii* (Kerbert, 1878).	Probably food or water containing cercaria or other larval form
Hepatic.	*Clonorchis sinensis* (Cobbold, 1875).	
	Opisthorchis noverca Braun, 1903.	
	Fasciola hepatica Linnæus, 1758.	
Intestinal.	*Fasciolopsis buski* (Lankester, 1857).	
	,, *rathouisi* (Poirier, 1887)	
	Heterophyes heterophyes (Bilharz, 1852)	
	Gastrodiscus hominis (Lewis and McConnell, 1876)	
	Cladorchis watsoni (Conyngham, 1904)	
Vesical. (Endemic hæmaturia.)	*Schistosoma hæmatobium* (Bilharz, 1852)	Possibly by swallowing cercaria or other larval form. Infection through the skin, the urethra, or the anus suggested
	Schistosoma mansoni Sambon, 1907	
	,, *japonicum* Katsurada, 1904	
Cestode infection (Tæniasis). Intestinal.	*Tænia saginata* Goeze, 1782.	By eating beef infected with larval form (*Cysticercus bovis*).
	,, *africana* Linstow, 1900	Possibly by eating the flesh of the zebra.
	,, *hominis* Linstow, 1902.	Food containing cysticercus.
	,, *solium* (Linnæus, 1758)	By eating under-cooked or under-cured pork
	Hymenolepis nana (Siebold, 1852)	Food soiled by the excrements of rats and mice
	,, *diminuta* (Rudolphi, 1819)	Food containing infected larva or imago of *Asopia farinalis*
	Davainea madagascariensis (Davaine, 1869)	Food or water contaminated by cockroaches probable carriers of cystic stage.
	,, *asiatica* (Linstow, 1901)	Unknown.
	Dipylidium caninum (Linnæus, 1758)	May be conveyed by dogs in licking after biting infected fleas or lice.
	Dibothriocephalus latus (Linnæus, 1758)	Infection probably takes place through eating fish
	Diplogonoporus grandis (Blanchard, 1894)	
Somatic. (Hydatid disease.)	*Echinococcus granulosus* (Batsch, 1786, Zeder, 1803)	Contaminated food or water. Hands soiled in petting dogs.
	Sparganum mansoni (Cobbold, 1882)	Probably by means of water
	,, *baxteri* Sambon, 1907	
	,, *proliferum* (Ijima, 1905)	
Roundworm infection. Ankylostomiasis.	*Ankylostoma duodenale* Dubini, 1843	Either passively by means of contaminated food or by soiled hands, or actively through the skin.
	Necator americanus (Stiles, 1902)	
	Triodontophorus deminutus Railliet and Henry, 1905.	Unknown.
Strongyloidosis (Cochin China diarrhœa).	*Strongyloides stercoralis* (Bavay, 1877)	Either passively by means of contaminated food or actively through the skin
Ascaris.	*Ascaris lumbricoides* Linnæus, 1758.	Contaminated water, vegetables, and fruit. [illegible]
Oxyuriasis.	*Oxyuris vermicularis* (Linnæus, 1758)	Contaminated food. Soiled hands. Flies [illegible] eggs.
Trichocephaliasis.	*Trichocephalus trichiurus* (Linnæus, 1771)	Contaminated food or water.
	Œsophagostomum brumpti Railliet and Henry, 1905.	Probably by means of contaminated water.
	Physaloptera mordens Leiper, 1907	Unknown.
	Gnathostoma siamense (Levinsen, 1889)	

of the cæcum and appendix was the subject of one of the Arris and Gale lectures delivered at the Royal College of Surgeons of England in 1907. This lecture was founded upon the results of injection. I venture to think that the study of post-mortem pathology is equally useful and have confined my attention to that.

The Lymphatics Involved in Growths in the Cæcal Region.

This includes the growths which have also invaded the ascending colon or which are entirely in the latter portion of bowel at its commencement. There were 17 cases in all, of which 16 could be examined, 14 post mortem and two by the inspection of the specimens removed at operation. The situation of the glands was more or less constant. In only three-quarters of the cases were the enlarged glands infected. The glands were situated as follows. 1. In the ileo-colic angle there were always some found. The exact situation of these with relation to the bowel varied. Mostly they were more or less in close contact with the bowel, but at times they were at a little distance. 2. Continuous with (1) was a chain along the inner side of, and in close contact with, the ascending colon. The number of these and the height to which they ascended on the colon varied. In general they were only found on that part of the colon immediately above the ileo-cæcal valve. In a quarter of the cases these glands were not observed. In one case after excision of the growth I found some of this chain of glands left from a too low division of the colon. 3. Continuous with (1) were a few small glands on the upper border of the ileum. These varied in numbers. Generally only one or two were found. In one case a chain extended for five inches along the small intestine. 4. In two cases there were two or three glands found more posteriorly—that is behind the growth. In three the ileo-colic glands extended nearly to the bifurcation of the ileo-colic artery. In a further case of a very extensive growth, which had spread widely in the retroperitoneal tissues and the peritoneum, glands were found around the head of the pancreas. How the spread had taken place it was impossible to say, since the growth was very extensive and other glands, if any had been involved, had been swallowed up in the primary growth. In only this latter case could glandular involvement be said to be a factor prohibiting the radical operation. It was not, however, the only factor.

The operation for a growth in the cæcal region should be one which aims at the removal of the cæcum, ascending colon nearly to the hepatic flexure (this is necessary since the right colic artery must be sacrificed not because I have found any glands along the trunk of the vessel, but it often comes off in common with the ileo-colic, or, if not, at its commencement it lies very near to the latter, and if a free excision of the tissue around the ileo-colic is done the right colic cannot be spared), the retroperitoneal tissues and the leaf of peritoneum covering the two named vessels, the lower six inches or so of the ileum, and the termination of the mesentery corresponding to the ileal branch of the ileo-colic artery. This can be attained in the following manner. The abdominal wall is incised in the right semilunar line. The peritoneum is divided on the outer side of the cæcum and ascending colon. With two fingers in the hole so made used as a director the peritoneum can be divided up as high as the kidney. Caution must be exercised then because of the duodenum. When the latter is identified the peritoneum may be further divided and the colon separated from the kidney and duodenum. The cæcum, ascending colon, and some retroperitoneal tissue are then stripped up from the posterior abdominal wall towards the mid-line. The ureter and spermatic vessels are exposed and preserved. The lower ileum, cæcum, ascending colon, some retroperitoneal tissue, and a leaf of peritoneum can then be drawn out of the abdominal cavity. Removal is best commenced from above. The colon is cut somewhere about the level of the hepatic flexure. In a moderately spare subject the vessels can be recognised behind the leaf of peritoneum. These are the right colic and the ileo-colic arteries. They as often as not come from a common trunk. If they can be recognised so much the better. If not, by dividing along the line of uplifted peritoneum from above down, the first large vessel will be the right colic artery. The ileo-colic artery is then ligatured. The common trunk of these two vessels may only be encountered. This depends upon how far it has been possible to raise the peritoneum from the posterior abdominal wall and also upon the anatomical arrangement of the vessels. When the common trunk or the separate branches have been divided the section is carried down to the lower ileum so as to remove about the last six inches or so of it. Particular attention must be paid to the last intestinal branch of the superior mesenteric artery, and it should not be injured unless a corresponding length of small gut be removed. It is advisable to see this branch if possible and to plan the cut in the mesentery so that the ileum will be sectioned at the junction of the anastomosis of the ileo-colic and superior mesenteric arteries. In one case after removal of a cæcal growth there was gangrene of some length of small bowel. It will be easier to avoid cutting the intestinal branches of the superior mesenteric artery, I believe, if the section be commenced from above and the mesentery and lower ileum be left to the last. For by working in this way as more and more of the colon is freed it can be carried outside of the line of the direct field of operation, and by drawing upon it the lower mesentery can be stretched and a good view obtained of the anastomosis probably. There may be some glands behind the cæcum, but they are closely in contact with the latter and will readily strip off the iliac fossa. The end of the divided colon is closed and the ileum joined to the most accessible part of the transverse colon.

The Lymphatic Drain of the Bowel supplied by the Middle Colic Artery.

I confess my numbers here are far too small to be of any positive value and I only mention my results as being suggestive.

The hepatic flexure.—Five cases only in this series were at the hepatic flexure. Two of these were examined post mortem; in both glands were present near to the growth and also in the mesocolon at a variable distance from the transverse colon and extending some little way from the primary growth. One further case was successfully excised but is too recent to be of any value. Glands were present in the vicinity of the growth. In two cases the growth was adherent posteriorly and anastomosis was the only possibility. Growths in the hepatic flexure would seem to be peculiarly bad from the surgical standpoint. The arrangement of the peritoneum here varies; as often as not there is no mesentery to the colon which is in intimate contact with the duodenum and pancreas. No wonder is it that adhesions are early in these growths and that excision, as I judge from literature, has not been very often possible. The hepatic flexure is a more or less fixed part of the colon, but it can be readily made mobile. This is secured by a free division of the peritoneum on the outer side of the ascending colon and the serous membrane as it passes from the colon to the liver. If the gastro-colic omentum be also divided a considerable range of mobility is given to this part of the colon. This I should suggest as the plan of procedure in the removal of these growths. I suggest also that the corresponding half (or as much as can be) of the mesocolon requires removal in order to secure the lymphatics which pass here. The section of the bowel may be begun at the transverse colon and will be somewhere about the middle of the latter as the right branch of the artery will be cut. If the ascending colon has been freed by division of the peritoneum along the outer aspect it probably may be joined to the cut end of the transverse colon. In separating a growth from the pancreas and duodenum only a little of surrounding tissues can be removed. The amount will depend upon the extent and development of the mesentery in the region. By commencing the section at the transverse colon a clearer view of the parts will be given.

The transverse colon.—There were only three growths here. One was successfully excised. This was a large growth in the centre of the transverse colon. The glands in the immediate vicinity only were affected. Cancer cells were not found in the glands. Nearly three years later the patient developed intestinal obstruction and died. The obstruction was caused by adhesions. There was no evidence of any recurrence of the cancer. In a second case the growth was irremoveable. There were many enlarged glands in the mesocolon and in the great omentum. Lateral anastomosis was performed. One case was examined post mortem and here glands only close to the growth were enlarged.

germ from arm to arm. The mosquito not only conveys the malaria germ but *it also serves as* a medium in which that germ undergoes certain developmental changes necessary for its existence as a species, as well as for its successful introduction into a fresh human host. These changes are of a sexual nature and include impregnation of the female malaria germ by the male malaria germ, and result in the development of a multitude of young malaria germs which, should they chance on the opportunity of being introduced into human blood by their mosquito nurse and vector when she again bites a human victim, *live and multiply, generation following* generation for any time up to two or three years. Until the developmental changes occurring in the mosquito, changes which take some ten days to effect, are completed the mosquito may bite but she will not infect. The same principle holds good in the case of those other animal-intermediary-using protozoal germs whose life-histories have been worked out, and we are justified by analogy in conjecturing that they also apply to many similar protozoal germs whose life-histories have as yet not been fully ascertained.

. In a word, certain blood-haunting protozoa requiring an insect or other arthropod vector make use of that vector as a medium for sexual development. May we regard this as a general law applicable to *all* such blood-haunting protozoa ?

Unfortunately, there are certain of these pathogenic protozoa in respect to which, notwithstanding their employment of an insect or other arthropod vector, careful research by highly trained and competent investigators has failed to demonstrate convincingly sexual changes within their *respective vectors. The trypanosomes*, now known to be a large and important class of pathogenic protozoa, are notorious examples of this. An indubitable sexual stage of the germ of sleeping sickness, *Trypanosoma gambiense*, the most important of these, has not hitherto been clearly demonstrated in its vector, the tsetse fly, *Glossina palpalis.*

I shall endeavour to examine the case as regards this sleeping sickness trypanosome, for, depend upon it, if the law I have formulated applies to this trypanosome, or any trypanosome for that matter, it applies to all trypanosomes; if it does not apply to this trypanosome it does not apply to any trypanosome. If there be such a law it is of the utmost practical importance that we should not merely suspect its existence but that we should be sure of it. The subject is of more than theoretical interest. Accurate knowledge is the *true* and proper basis of practical medicine, especially of preventive medicine. Witness what it has done for the prevention of malaria and yellow fever. Half knowledge means half-hearted measures; full knowledge means hopefulness in endeavour, precision in directing, and economy in carrying out.

I propose to deal with the arguments both for and against this what I might designate hypothetical law, taking, as I have said, the sleeping sickness trypanosome as a text. I shall allude, though very briefly, to the arguments in favour of the law, more fully to those against it.

As regards the former, a principal argument is based on analogy. I am fully aware that this method of reasoning must not be carried too far. It has a certain value, however; in the present instance it is distinctly favourable.

There *can no longer* be any doubt that the trypanosome of sleeping sickness is conveyed principally, although *perhaps* not exclusively, by the tsetse fly, *Glossina palpalis*. Direct experiment—the correspondence of the topical as well as of the regional distribution of the fly and of the disease—practically proves this. If the fly acts merely as a mechanical vector of the trypanosome, why is the trypanosome not conveyed more frequently than is the case by other biting insects, such as mosquitoes, fleas, bugs, tabanidæ, &c., and therefore to be found along with its disease, sleeping sickness, not merely, as is the case, on the banks of African rivers and on the shores of African lakes, but everywhere where man-biting insects occur? You can vaccinate with a lancet, a needle, or even with a thorn; in fact, with anything that will scratch. Surely this predilection of the trypanosome for *Glossina palpalis* must be that *Glossina palpalis* is not merely mechanically serviceable to the trypanosome but physiologically necessary. What more probable than that this physiological necessity is identical with that of those other protozoal organisms under similar circumstances whose life-histories have been ascertained—namely, sexual development.

Most zoologists hold that all animals, protozoa as well as metazoa, require *from time to time to undergo sexual changes.* It is true that with many of the protozoa reproduction is effected principally by a process of division or by a process of budding carried through during many generations, hundreds or thousands it may be. But there comes a time, even in these, when the asexual reproductive energy is spent, as it were, and when the organism concerned to avert its extinction as a species has *to assume sexual characters and* reproduce sexually, a process which in some mysterious way resuscitates its asexual reproductive faculty, thereby enabling it once more to revert to simple division or budding for another hundred or thousand or more generations. It is so as regards the malaria parasite and its congeners, and it has been proved to be so as regards the humbler fresh water amœba. Surely the same must apply *to organisms so highly* developed as the trypanosomes. In those blood-haunting protozoa whose life-history we know—again I must adduce the malaria parasites—this sexual process is carried out in the insect vector, the mosquito, so may it be with the trypanosome in its insect vector, the tsetse fly. Indeed, special forms of the trypanosome occur in the blood of the vertebrate host which, in the opinion of some observers, are early sexual forms possessing sexual characters which are found to become more accentuated as they are followed into the alimentary canal of the tsetse fly. These forms, which though alive, are, as has *been proved experimentally, incapable* of multiplying in the vertebrate as the asexual forms so readily do. The reason for this failure of a particular phase of an organism otherwise so infective to infect is conjectured to be that the function of the phase concerned being sexual it lies outside the human body and can be carried out only in its appropriate medium—that is to say, the tsetse fly.

Such are the leading arguments in favour of a sexual phase within its insect vector in the case of *Trypanosoma gambiense. Similar arguments apply to similar* protozoa. These arguments distinctly support the law I plead for.

The leading arguments against such a law, against the occurrence of a sexual phase in the insect vectors of trypanosomes and similar protozoa, are: (1) a sexual phase has not been conclusively demonstrated in any trypanosome; (2) if there be a sexual phase it may be passed in the vertebrate and not in the insect host; (3) the trypanosomes can be inoculated artificially, sexual changes may therefore be unnecessary for their propagation; and (4) an insect intermediary is apparently unnecessary in at least one species of trypanosome and therefore is not a biological necessity in *Trypanosoma gambiense* or in any species of trypanosome.

1. A sexual phase has not been conclusively demonstrated in any trypanosome. This is one of those negative arguments to which experience in other departments of natural history has shown that too much weight must not be assigned. We must bear in mind the difficulty in working with an organism so minute as a trypanosome and also with one so refractory to experimentation and dissection as a tsetse fly. Several forms under such conditions might readily escape detection. The more or less positive argument of analogy may very well be set against this negative argument of non-detection.

2. If the trypanosome does possess a sexual phase this may be passed, as in the case of certain nematodes—notably the *blood worms*—in the vertebrate and not in the invertebrate host. Indeed, Breinl and Kinghorn have shown that in *Trypanosoma lewisi* and in *Trypanosoma gambiense* there occur at more or less definite intervals certain cytological phenomena which these observers suggest may be of a sexual nature. If this suggestion represents the truth then the respective insect intermediaries of these parasites may function merely as mechanical carriers. The observations referred to, though of great interest, have not as yet been carried to that point which *warrants the conclusion that the* cytological changes in question are really of a sexual nature. Even supposing they are of this nature, it does not follow that the sexual process is concluded in the vertebrate or that they are not preliminary to further and final changes in the insect, as in the case of the plasmodidæ.

3. It has been argued that as the trypanosomes can be successfully inoculated through a long series of vertebrate hosts their propagation does not necessitate at any time a sexual stage in the invertebrate intermediary. I *do not* attach much importance to this argument. We know of other protozoal germs which can be similarly transmitted

on until the inferior mesenteric artery itself be seen. By spreading out the loop of bowel the individual branches of the artery may be seen unless there be an excess of fat. The intestine is then divided above and the incision in the mesentery is carried in to the trunk of the sigmoid artery, which is ligatured. The section may then be carried down the mesentery so planned as to avoid the superior hæmorrhoidal artery which will be found in close proximity to the pelvic brim, but with the intestine and mesentery on the stretch of course it may be a little displaced. The lower end of the colon is divided somewhere about the level of the pelvic brim. This will insure the intactness of the superior hæmorrhoidal artery and in addition will leave sufficient stump to enable an intra-abdominal anastomosis to be performed. If the separate vessels are not identified because of excessive fat then the operation may be conducted in precisely the same manner. The bowel may be divided at the upper end almost as high as the iliac crest without danger of the left colic artery. If the mesentery be divided now directly inwards towards the base of the sacrum the first large trunk will be the sigmoid artery. This vessel can thus be identified and the rest of the operation is as before. If the growth be situated low down in the pelvic colon, that is in that part supplied by the superior hæmorrhoidal artery, then the latter must be sacrificed and also the retro-peritoneal tissues in front of the sacrum. This operation cannot probably be completed intra-abdominally. It has always seemed to me a colostomy could not be avoided. But if this portion of bowel can be spared the upper end of the divided colon, which has been rendered mobile by the division of the peritoneum on its outer border, can be brought straight down to it.

Since preparing the above I have read a very interesting paper by Mr. B. G. A. Moynihan. This is in direct contradiction to my observations. Mr. Moynihan says that there is always a gland on the inferior mesenteric artery which must be removed. This gland would presumably lie about an inch or so higher than the line of section which I have indicated. Personally, I have not been able to find glands here except in the few instances mentioned already. It is what I should have expected to be the natural finding. But finding it so rarely, and believing that it was not the glands which formed the great contra-indication to the radical operation, and also thinking that ligature of the inferior mesenteric artery would entail a very extensive resection of the descending colon, I have advised the more restricted removal than that advocated by Mr. Moynihan. In the cases in which I have seen glands on the inferior mesenteric artery there has been more than one, and I have considered in such cases that all attempts at a radical operation would be out of the question. Mr. Moynihan considers that this gland which he describes and has found constant is the highest of the chain and must always be removed. I have always considered that ligature of the inferior mesenteric artery would necessitate excision of the greater part of the descending colon and that union of the two ends would be impracticable. But Mr. Moynihan has shown that this is not so. He says that the upper end of the sigmoid flexure is freely supplied with blood even after the inferior mesenteric trunk has been divided. Mr. Moynihan describes the operation he practises for cancer in this region, and I cannot do otherwise than cordially recommend anyone interested in the subject to read the paper where everything is most clearly stated. The paper is in *Surgery, Gynæcology, and Obstetrics* for May, 1908.

Clinical Features.

It is best to differentiate the growths in the cæcal region in considering the clinical characters, for they are not in all respects similar to those elsewhere.

The main clinical characters of growths in the cæcal region.—There were 11 males and six females. The youngest patient was 30 and the oldest 73 years. The ages ranged in decades were as follows:—

Between 30 and 40 years...	2 cases
„ 40 „ 50 „	6 „
„ 50 „ 60 „	4 „
„ 60 „ 70 „	4 „
Over 70 years...	1 case.

In two cases there were apparently two separate abdominal growths. In one a small growth in the stomach and in the second an extensive one in the rectum were present in addition to that in the cæcal region. In the latter the abdominal symptoms were due to the rectal growth and it must remain unknown whether there were any which could be attributed to the cæcal one.

The most constant symptom is pain. This was in nine out of 15 cases of the nature of colic. In others it was a more or less persistent pain in the right iliac fossa without reference to any intestinal disturbance. Apart from the colicky pains in the majority there was no other evidence of chronic intestinal obstruction. The bowels were not constipated neither were any coils in peristalsis seen, and it may be mentioned that post-mortem examination often did not show any hypertrophy of the small gut, as would be anticipated if obstruction had been present. Two, however, did suffer definitely from obstruction which ended subacutely, and a further case gave a history of having been obstructed for three days a short time before he came under observation. In the latter three the bowels were definitely constipated, but in the others there was little alteration from what may be considered normal to each of the individual patients. One patient passed a large quantity of tarry material at the beginning of his illness (six months before coming under observation). This was presumably blood. In no other instance was any blood noticed by the patient. On two occasions there was at times diarrhœa, the motions containing a little mucus. Loss of flesh was constant in all and it was often a very noticeable feature of the illness.

The presence of a swelling was very constant in cæcal carcinoma. The growths here are often of the large, bossy, and luxuriantly growing type and form masses of large dimensions. But in addition also the cæcum is quite superficial and easily palpable. In two a large abscess was present and a tumour could not be felt. In one (the case which exhibited a rectal growth) the tumour was very small and not palpable. In one (an obese patient) a tumour was only felt under anæsthesia. In two cases chronic obstruction had ended subacutely and abdominal distension was marked when the patients first came under observation. In neither of these was a tumour palpable, but in all probability in a flat abdomen it would have been readily felt.

It must not be inferred that symptoms have been in existence for some time before a tumour may be detected clinically. In two the swelling was present practically from the time when the symptoms commenced. In two others it was known to be present very shortly after pain in the region was first experienced. In the remaining cases, judging from the size and easy palpation of the tumour, it could have in all probability been detected at a much earlier period.

The main symptoms of a cæcal growth may be said to be pain, colicky or a persistent ache, generally absence of true obstruction, normal regularity of the bowels, and the presence of a tumour, associated with a progressive loss of flesh and deterioration of health. It may be noted that it is not uncommon to have a little fever. The thermometer may register 99° F, or a little higher at times even in the absence of suppuration. This may be septic absorption or perhaps in some way due to the growth. This has occasionally been noted in uncomplicated growths elsewhere in the colon.

Three cases had the complication of suppuration around the growth. In one of these the onset was as a subacute appendicitis, but after draining the abscess for some weeks a firm swelling became palpable and later it fungated through the sinus. There were no symptoms of obstruction. In the second case there was a large abscess which had probably been present for some weeks. In the third case there was a very small collection of pus around the growth, not sufficient to cause adhesions which prevented removal. The similarity in such cases to appendicitis is marked, as it may be in uncomplicated cases of cæcal cancer.

Continued irritation as a possible etiological factor could not be asserted to be present in a single case. It may be thought that chronic constipation and an overloaded cæcum, stercoral ulceration, or a chronic appendicitis might have some influence, as irritation seems to play a part in some cases of cancer elsewhere. Chronic appendicitis seems not infrequently to have been present in many cases of carcinoma of the appendix. In not a single instance was it present in this series. Chronic constipation was nearly always absent. In only two cases have I noted it. Judging from the frequency which many writers of great experience regard cancer of the stomach to be preceded by a simple ulcer it might be thought that a similar condition would prevail in the rest doctrines of evolution. I have endeavoured to explain how a certain intimacy of association between intermediary and definitive host is essential for the parasites employing them, and how this association must not be confined exclusively, as regards either host or intermediary, to a single individual of each or either.

The protozoa and possibly the nematodes acknowledge, in my opinion, a very remote ancestry—that is to say, they became parasitic very early in the growth of the phylogenetic tree. There are other parasites, however, which manifestly must have adopted the parasitic habit very much later in the history of the animal kingdom. Certain insects, which probably from the beginning were closely associated with vertebrates and lived on the juices of these vertebrates, finding that they no longer required their wings, gradually dropped these wings and permanently attached themselves to their vertebrate food source. Such are many of the hemipterous and apterous insects, lice, &c. Similarly the ancestors of the acari, of some of the ticks, and other ectozoa have gradually fallen into complete or partial parasitic habits; certain bugs and ticks are even at the present day in process of acquiring this habit. I have no doubt that, as with the modern mosquitoes, ticks, and bugs, the ancestors of the existing huge ectozoal fauna of man and other vertebrates fostered parasites which they possessed in common with their respective vertebrate associates. What, you may ask, has become of these parasites? Have they failed to do what other parasites and the hosts of other parasites have succeeded in doing; have they failed to adapt themselves to their gradually changing environment? And if they have succeeded in adapting themselves how did they manage to overcome certain obvious difficulties, for example, that which I have indicated as being so necessary to such parasites, the go-between habit of at least one of the hosts, that necessity which is so efficiently subserved in the case of the malaria parasite by the mosquito?

I believe that this has been effected by a process of reversion, the asexual form of the parasite gradually re-acquiring, for purposes of propagation, the capacity and habit of direct passage from vertebrate to vertebrate, the necessity for sexual reinvigoration from time to time being still subserved by the ectozoal descendant of an originally free insect or other arthropod.

That is how I would explain the apparent absence of an insect intermediary in the trypanosome disease, dourine. Some apterous, hemipterous, or semi-parasitic insect phylogenetically allied to the tsetse flies is its intermediary. This insect has not been found, probably because it has not been looked for in the proper way.

I hold, therefore, that the existence of a sexual phase in the sleeping sickness trypanosome, *Trypanosoma gambiense*, and other trypanosomes is more than probable, that it has not been disproved, and that the argument founded on the natural direct communicability of dourine in the apparent absence of an insect intermediary for its germ, *Trypanosoma equiperdum*, is not valid, and that the evidence hitherto adduced is distinctly in favour of a law to the effect that blood-haunting protozoa having arthropod vectors require, and make use of, these vectors for necessary sexual development. Why the sexual stage of these parasites is passed in the arthropod and not in the vertebrate I cannot explain, any more than I can explain the contrary arrangement which obtains in the blood-haunting nematodes, the sexual stage in their case being passed in the vertebrate host, the asexual in the insect.

I have no doubt, while listening to these remarks, it has occurred to some of you, as it has often occurred to me, that the principles I have endeavoured to express have a wider application than that which I have directly indicated, that our disease germs and our ectozoa—insignificant though the latter appear to be—are correlated more frequently than is generally suspected, that, in fact, there is a necessary relationship between them. Indeed, in some instances we are beginning to find this to be the case. I have no doubt some of you dimly perceive that the whole of this subject, which recent studies in tropical medicine have done so much to develop, may have important practical bearings, that it is not an exclusively tropical one, and that in the near future it may find an application in the explanation of the pathogenesis and, therefore, an application in the prevention of many diseases of temperate as well as of tropical climates. It is a tempting theme to enlarge on. I must forbear. I feel I have already been sufficiently hypothetical. Perhaps some future Huxley lecturer will atone for my sins in this respect and supply the facts which, I acknowledge, are still lacking fully to establish the several hypotheses I have endeavoured to express.

THE TREATMENT OF INOPERABLE CANCER.[1]

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WHEN the Central Committee of the International Society of Surgery honoured me in March, 1906, by asking me to read a paper at the Congress in 1908 on the treatment of inoperable cancer they were, I believe, aware that I had opened a discussion on the same subject at the meeting of the British Medical Association at Manchester in August, 1902. It is now, as I write, about five and a half years since that discussion took place, and with but little exception the question stands to-day much as it did then. Increased experience and the mere lapse of time have enabled some of the methods then under consideration to be more justly appraised, and certain others which have since then been claimed to be cancer cures have been brought forward, but there has been, unfortunately, no definite advance towards the discovery of a reliable cure. If, therefore, I borrow somewhat freely from my former paper, it is on the old Greek principle that having once said what one wished to say, one can hardly say it twice, *δὶς δὲ οὐκ ἐνδέχεται*, except by repeating one's own words.

I will begin by quoting verbatim the definition I gave in 1902 of the meaning of the terms the "treatment of inoperable cancer."

"The term 'cancer' is used in a general sense to include all forms of malignant new growths, and therefore embraces rodent ulcer, sarcoma, and lympho-sarcoma, and endothelioma as well as epithelioma and other varieties of carcinoma. The term 'inoperable' means that the disease cannot be entirely eradicated, or permanent immunity hoped for, by a cutting operation, or by the actual cautery, or any escharotic aiding the knife. It does not imply that malignant disease is of constitutional as distinct from local origin and that as such it is ineradicable. On the contrary, I take it for granted that cancer is at first, and so far as rodent cancer is concerned throughout, a local disease. But even on this view there are four groups of inoperable cases. They are: (1) primary cancer affecting inaccessible parts and organs; (2) primary cancer which though originating in an accessible part or organ of the body has been allowed to extend beyond the limits within which an operation is prudent and complete removal possible; (3) certain cases of acute diffuse carcinoma and very rapidly growing or widely infiltrating new growths of exceptionally virulent character; and (4) recurrent cancer, where the disease has recurred in multiple metastatic foci or in parts beyond the limits of removal. Many of the cases included in these groups are submitted to operation for the purpose of palliating symptoms or prolonging life. Hence the term 'treatment' as applied to inoperable cancer means one of two things: (1) the employment of remedies and methods other than the knife, to cure, ameliorate, or retard the disease, as well as to prevent relapses after its removal; or (2) the employment of the knife to give relief from pain, to prolong life, to restore function, and otherwise to make the patient's condition more tolerable."

PALLIATIVE OPERATIONS.

In a paper which is intended merely to introduce a discussion it is of course quite impossible to consider all the many palliative operations which are resorted to in cancer of the various organs and regions of the body. Only the principal methods employed to combat cancer in the organs and parts most commonly affected will be referred to and these only with regard to their reputed or accredited beneficial results.

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[1] A paper read at the International Surgical Congress at Brussels on Sept. 24th, 1908.

on until the inferior mesenteric artery itself be seen. By spreading out the loop of bowel the individual branches of the artery may be seen unless there be an excess of fat. The intestine is then divided above and the incision in the mesentery is carried in to the trunk of the sigmoid artery, which is ligatured. The section may then be carried down, the mesentery so planned as to avoid the superior hæmorrhoidal artery which will be found in close proximity to the pelvic brim, but with the intestine and mesentery on the stretch of course it may be a little displaced. The lower end of the colon is divided somewhere about the level of the pelvic brim. This will insure the intactness of the superior hæmorrhoidal artery and in addition will leave sufficient stump to enable an intra-abdominal anastomosis to be performed. If the separate vessels are not identified because of excessive fat then the operation may be conducted in precisely the same manner. The bowel may be divided at the upper end almost as high as the iliac crest without danger of the left colic artery. If the mesentery be divided now directly inwards towards the base of the sacrum the first large trunk will be the sigmoid artery. This vessel can thus be identified and the rest of the operation is as before. If the growth be situated low down in the pelvic colon, that is in that part supplied by the superior hæmorrhoidal artery, then the latter must be sacrificed and also the retroperitoneal tissues in front of the sacrum. This operation cannot probably be completed intra-abdominally. It has always seemed to me a colostomy could not be avoided. But if this portion of bowel can be spared the upper end of the divided colon, which has been rendered mobile by the division of the peritoneum on its outer border, can be brought straight down to it.

Since preparing the above I have read a very interesting paper by Mr. B. G. A. Moynihan. This is in direct contradiction to my observations. Mr. Moynihan says that there is always a gland on the inferior mesenteric artery which must be removed. This gland would presumably lie about an inch or so higher than the line of section which I have indicated. Personally, I have not been able to find glands here except in the few instances mentioned already. It is what I should have expected to be the natural finding. But finding it so rarely, and believing that it was not the glands which formed the great contra-indication to the radical operation, and also thinking that ligature of the inferior mesenteric artery would entail a very extensive resection of the descending colon, I have advised the more restricted removal than that advocated by Mr. Moynihan. In the cases in which I have seen glands on the inferior mesenteric artery there has been more than one, and I have considered in such cases that all attempts at a radical operation would be out of the question. Mr. Moynihan considers that this gland which he describes and has found constant is the highest of the chain and must always be removed. I have always considered that ligature of the inferior mesenteric artery would necessitate excision of the greater part of the descending colon and that union of the two ends would be impracticable. But Mr. Moynihan has shown that this is not so. He says that the upper end of the sigmoid flexure is freely supplied with blood even after the inferior mesenteric trunk has been divided. Mr. Moynihan describes the operation he practises for cancer in this region, and I cannot do otherwise than cordially recommend anyone interested in the subject to read the paper where everything is most clearly stated. The paper is in *Surgery, Gynæcology, and Obstetrics* for May, 1908.

Clinical Features.

It is best to differentiate the growths in the cæcal region in considering the clinical characters, for they are not in all respects similar to those elsewhere.

The main clinical characters of growths in the cæcal region.—There were 11 males and six females. The youngest patient was 30 and the oldest 73 years. The ages ranged in decades were as follows:—

Between 30 and 40 years...	2 cases
„ 40 „ 50 „	6 „
„ 50 „ 60 „	4 „
„ 60 „ 70 „	4 „
Over 70 years...	1 case.

In two cases there were apparently two separate abdominal growths. In one a small growth in the stomach and in the second an extensive one in the rectum were present in addition to that in the cæcal region. In the latter the abdominal symptoms were due to the rectal growth and it must remain unknown whether there were any which could be attributed to the cæcal one.

The most constant symptom is pain. This was in nine out of 15 cases of the nature of colic. In others it was a more or less persistent pain in the right iliac fossa without reference to any intestinal disturbance. Apart from the colicky pains in the majority there was no other evidence of chronic intestinal obstruction. The bowels were not constipated neither were any coils in peristalsis seen, and it may be mentioned that post-mortem examination often did not show any hypertrophy of the small gut, as would be anticipated if obstruction had been present. Two, however, did suffer definitely from obstruction which ended subacutely, and a further case gave a history of having been obstructed for three days a short time before he came under observation. In the latter three the bowels were definitely constipated, but in the others there was little alteration from what may be considered normal to each of the individual patients. One patient passed a large quantity of tarry material at the beginning of his illness (six months before coming under observation). This was presumably blood. In no other instance was any blood noticed by the patient. On two occasions there was at times diarrhœa, the motions containing a little mucus. Loss of flesh was constant in all and it was often a very noticeable feature of the illness.

The presence of a swelling was very constant in cæcal carcinoma. The growths here are often of the large, bossy, and luxuriantly growing type and form masses of large dimensions. But in addition also the cæcum is quite superficial and easily palpable. In two a large abscess was present and a tumour could not be felt. In one (the case which exhibited a rectal growth) the tumour was very small and not palpable. In one (an obese patient) a tumour was only felt under anæsthesia. In two cases chronic obstruction had ended subacutely and abdominal distension was marked when the patients first came under observation. In neither of these was a tumour palpable, but in all probability in a flat abdomen it would have been readily felt.

It must not be inferred that symptoms have been in existence for some time before a tumour may be detected clinically. In two the swelling was present practically from the time when the symptoms commenced. In two others it was known to be present very shortly after pain in the region was first experienced. In the remaining cases, judging from the size and easy palpation of the tumour, it could have in all probability been detected at a much earlier period.

The main symptoms of a cæcal growth may be said to be pain, colicky or a persistent ache, generally absence of true obstruction, normal regularity of the bowels, and the presence of a tumour, associated with a progressive loss of flesh and deterioration of health. It may be noted that it is not uncommon to have a little fever. The thermometer may register 99° F. or a little higher at times even in the absence of suppuration. This may be septic absorption or perhaps in some way due to the growth. This has occasionally been noted in uncomplicated growths elsewhere in the colon.

Three cases had the complication of suppuration around the growth. In one of these the onset was as a subacute appendicitis, but after draining the abscess for some weeks a firm swelling became palpable and later it fungated through the sinus. There were no symptoms of obstruction. In the second case there was a large abscess which had probably been present for some weeks. In the third case there was a very small collection of pus around the growth, not sufficient to cause adhesions which prevented removal. The similarity in such cases to appendicitis is marked, as it may be in uncomplicated cases of cæcal cancer.

Continued irritation as a possible etiological factor could not be asserted to be present in a single case. It may be thought that chronic constipation and an overloaded cæcum, stercoral ulceration, or a chronic appendicitis might have some influence, as irritation seems to play a part in some cases of cancer elsewhere. Chronic appendicitis seems not infrequently to have been present in many cases of carcinoma of the appendix. In not a single instance was it present in this series. Chronic constipation was nearly always absent. In only two cases have I noted it. Judging from the frequency which many writers of great experience regard cancer of the stomach to be preceded by a simple ulcer it might be thought that a similar condition would prevail in the rest doctrines of evolution. I have endeavoured to explain how a certain intimacy of association between intermediary and definitive host is essential for the parasites employing them, and how this association must not be confined exclusively, as regards either host or intermediary, to a single individual of each or either.

The protozoa and possibly the nematodes acknowledge, in my opinion, a very remote ancestry—that is to say, they became parasitic very early in the growth of the phylogenetic tree. There are other parasites, however, which manifestly must have adopted the parasitic habit very much later in the history of the animal kingdom. Certain insects, which probably from the beginning were closely associated with vertebrates and lived on the juices of these vertebrates, finding that they no longer required their wings, gradually dropped these wings and permanently attached themselves to their vertebrate food source. Such are many of the hemipterous and apterous insects, lice, &c. Similarly the ancestors of the acari, of some of the ticks, and other ectozoa have gradually fallen into complete or partial parasitic habits; certain bugs and ticks are even at the present day in process of acquiring this habit. I have no doubt that, as with the modern mosquitoes, ticks, and bugs, the ancestors of the existing huge ectozoal fauna of man and other vertebrates fostered parasites which they possessed in common with their respective vertebrate associates. What, you may ask, has become of these parasites? Have they failed to do what other parasites and the hosts of other parasites have succeeded in doing; have they failed to adapt themselves to their gradually changing environment? And if they have succeeded in adapting themselves how did they manage to overcome certain obvious difficulties, for example, that which I have indicated as being so necessary to such parasites, the go-between habit of at least one of the hosts, that necessity which is so efficiently subserved in the case of the malaria parasite by the mosquito?

I believe that this has been effected by a process of reversion, the asexual form of the parasite gradually re-acquiring, for purposes of propagation, the capacity and habit of direct passage from vertebrate to vertebrate, the necessity for sexual reinvigoration from time to time being still subserved by the ectozoal descendant of an originally free insect or other arthropod.

That is how I would explain the apparent absence of an insect intermediary in the trypanosome disease, dourine. Some apterous, hemipterous, or semi-parasitic insect phylogenetically allied to the tsetse flies is its intermediary. This insect has not been found, probably because it has not been looked for in the proper way.

I hold, therefore, that the existence of a sexual phase in the sleeping sickness trypanosome, *Trypanosoma gambiense*, and other trypanosomes is more than probable, that it has not been disproved, and that the argument founded on the natural direct communicability of dourine in the apparent absence of an insect intermediary for its germ, *Trypanosoma equiperdum*, is not valid, and that the evidence hitherto adduced is distinctly in favour of a law to the effect that blood-haunting protozoa having arthropod vectors require, and make use of, these vectors for necessary sexual development. Why the sexual stage of these parasites is passed in the arthropod and not in the vertebrate I cannot explain, any more than I can explain the contrary arrangement which obtains in the blood-haunting nematodes, the sexual stage in their case being passed in the vertebrate host, the asexual in the insect.

I have no doubt, while listening to these remarks, it has occurred to some of you, as it has often occurred to me, that the principles I have endeavoured to express have a wider application than that which I have directly indicated, that our disease germs and our ectozoa—insignificant though the latter appear to be—are correlated more frequently than is generally suspected, that, in fact, there is a necessary relationship between them. Indeed, in some instances we are beginning to find this to be the case. I have no doubt some of you dimly perceive that the whole of this subject, which recent studies in tropical medicine have done so much to develop, may have important practical bearings, that it is not an exclusively tropical one, and that in the near future it may find an application in the explanation of the pathogenesis and, therefore, an application in the prevention of many diseases of temperate as well as of tropical climates. It is a tempting theme to enlarge on. I must forbear. I feel I have already been sufficiently hypothetical. Perhaps some future Huxley lecturer will atone for my sins in this respect and supply the facts which, I acknowledge, are still lacking fully to establish the several hypotheses I have endeavoured to express.

THE TREATMENT OF INOPERABLE CANCER.[1]

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WHEN the Central Committee of the International Society of Surgery honoured me in March, 1906, by asking me to read a paper at the Congress in 1908 on the treatment of inoperable cancer they were, I believe, aware that I had opened a discussion on the same subject at the meeting of the British Medical Association at Manchester in August, 1902. It is now, as I write, about five and a half years since that discussion took place, and with but little exception the question stands to-day much as it did then. Increased experience and the mere lapse of time have enabled some of the methods then under consideration to be more justly appraised, and certain others which have since then been claimed to be cancer cures have been brought forward, but there has been, unfortunately, no definite advance towards the discovery of a reliable cure. If, therefore, I borrow somewhat freely from my former paper, it is on the old Greek principle that having once said what one wished to say, one can hardly say it twice, δὶς δὲ οὐκ ἐνδέχεται, except by repeating one's own words.

I will begin by quoting verbatim the definition I gave in 1902 of the meaning of the terms the "treatment of inoperable cancer."

"The term 'cancer' is used in a general sense to include all forms of malignant new growths, and therefore embraces rodent ulcer, sarcoma, and lympho-sarcoma, and endothelioma as well as epithelioma and other varieties of carcinoma. The term 'inoperable' means that the disease cannot be entirely eradicated, or permanent immunity hoped for, by a cutting operation, or by the actual cautery, or any escharotic aiding the knife. It does not imply that malignant disease is of constitutional as distinct from local origin and that as such it is ineradicable. On the contrary, I take it for granted that cancer is at first, and so far as rodent cancer is concerned throughout, a local disease. But even on this view there are four groups of inoperable cases. They are: (1) primary cancer affecting inaccessible parts and organs; (2) primary cancer which though originating in an accessible part or organ of the body has been allowed to extend beyond the limits within which an operation is prudent and complete removal possible; (3) certain cases of acute diffuse carcinoma and very rapidly growing or widely infiltrating new growths of exceptionally virulent character; and (4) recurrent cancer, where the disease has recurred in multiple metastatic foci or in parts beyond the limits of removal. Many of the cases included in these groups are submitted to operation for the purpose of palliating symptoms or prolonging life. Hence the term 'treatment' as applied to inoperable cancer means one of two things: (1) the employment of remedies and methods other than the knife, to cure, ameliorate, or retard the disease, as well as to prevent relapses after its removal; or (2) the employment of the knife to give relief from pain, to prolong life, to restore function, and otherwise to make the patient's condition more tolerable."

PALLIATIVE OPERATIONS.

In a paper which is intended merely to introduce a discussion it is of course quite impossible to consider all the many palliative operations which are resorted to in cancer of the various organs and regions of the body. Only the principal methods employed to combat cancer in the organs and parts most commonly affected will be referred to and those only with regard to their reputed or accredited beneficial results.

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[1] A paper read at the International Surgical Congress at Brussels on Sept. 24th, 1908.

of bowel farther and farther away from the site of obstruction. Well-marked peristalsis of small and large intestine was seen showing that whatever may have been the previous history the obstruction had been present for some time. The diagnosis of the site of the obstruction when the latter was complete with well-marked distension and peristalsis was in the absence of any palpable tumour impossible. A tumour in such cases was felt in five cases only.

Suppuration or [illegible] occurred in 12 cases. In all except one [illegible] was in the peritoneal cavity. In this the growth was at the pelvic colon adherent in the iliac fossa. A large abscess was present in the iliac fossa behind the peritoneum and tracking upwards towards the lumbar region; this was traced directly to the growth. There are three ways in which the peritoneum may become infected:—

1. *An ulcer in the cæcum may perforate.* There were five cases in this series. In three this occurred during the period of complete obstruction. In each the peritonitis was diffused. The growth was in the pelvic colon in two and at the splenic flexure in one of these. In the two cases, although chronic obstruction had been present for some time, it had not terminated acutely. These growths were in the pelvic colon. In both the cæcum was much distended, as shown at operation. In one, in addition, a perforation had occurred just above the growth and the abscess had travelled up along the colon and formed a collection of pus under the left diaphragm around the spleen, with infection of the pleura.

2. In six cases the infection occurred *through the base of the growth.* In three of these the peritonitis was diffused. In only one of these three did the perforation occur when the obstruction was complete. In three a localised abscess formed around the growth, slowly and insidiously without any acute onset and not during the period of complete obstruction. In five the growth was in the pelvic colon and one at the splenic flexure.

3. In one case only did perforation of a stercoral ulcer above the growth occur and cause diffuse peritonitis. This occurred in the period of complete obstruction. The growth was in the pelvic colon.

In two cases there was an intestinal fistula. In both a growth in the pelvic colon had communicated with the bladder.

The occasions when it was feasible to perform a radical operation were comparatively few. In tabular form with contra-indications this is shown as follows:—

—	Removal possible.	Removal impossible.
Hepatic flexure.	2 cases. 1 was removed; the second complete obstruction, unsuccessful colostomy.	3 cases, adhesions posteriorly.
Transverse colon.	2 cases; only 1 operated upon.	1 case, fixed posteriorly.
The splenic flexure.	2 cases, both removed; 1 successful; 1 succumbed from obstruction due to adhesions.	8 cases. 1 had secondary deposit in liver, locally removeable; 1 secondary ovary and adherent to parietes, 2 diffusely adherent to small intestine; 2 fixed to parietes, 1 perforative peritonitis; 1 localised abscess.
Pelvic colon.	13 cases; 10 excised: eight successful, two deaths. 3 completely obstructed, unsuccessful colostomy.	24 cases. 1 case had diffusion of growth over the peritoneum, extensive glands and secondary liver; 1 secondary ovaries and liver; 2 adhesions and secondary liver, 6 adherent to pelvic brim or sacrum; 4 adherent to pelvis and small gut; 10 cases complicated by perforative peritonitis or localised suppuration.

In only 19 out of 55 cases would it have been possible to remove the growth. Adhesions to surrounding structures were the great barrier. Secondary visceral deposits were once of themselves the only cause. Glands was a possible cause in one case of a growth in the transverse colon and in three of the growths of the pelvic colon would have prevented removal, but there were other contra-indications also present in these three cases. I have considered that in all cases where perforation or localised suppuration has occurred removal was contra-indicated. It is possible that if some of the cases of perforation of the cæcum had been operated upon before the catastrophe removal might have been performed.

Results of Operation.

1. *Excision.*—One case of excision of the hepatic flexure is quite recent. One of resection of the transverse colon remained in perfect health for three years. He then developed acute obstruction from adhesions and died. There was not a trace of growth in the abdomen. One case of excision of the splenic flexure is well, six years after. Of eight resections of the pelvic colon only seven can be traced. One recurred in the glands and died nine months after the operation. A second recurred in the glands after the primary operation; these were excised and he was well four years afterwards. The remaining five are well at intervals of ten months, 14 months, 17 months, two years and ten months, and three years.

2. *Anastomosis.*—Two cases of growths in the hepatic flexure lived four and 13 months respectively. One case of the transverse colon lived eight months. One case of the splenic flexure (this was associated with local suppuration) lived four months, and the second nine months.

Harley-street, W.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NEW COMBINATION ELECTRIC WAVE APPARATUS AND ITS THERAPEUTIC VALUE.

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WE have been impressed by the results obtained by the use of what we believe to be a new modification of the three-phase electrical current in the treatment of atony of muscular tissue, either striped or unstriped. The instrument which we have recently clinically tested is known as the Lloyd combination wave apparatus; it is simple and inexpensive. A four-volt accumulator drives a motor generator with three commutators producing three currents; there is a device of a shunt across the armature for the production of three minor currents. These three major and minor currents, all of sine nature, are led to three ordinary induction coils, from which wires are connected to three-pad electrodes. An electrical brake on the motor and a rheostat render the speed of the contractions well under control. In treatment of atony of the alimentary canal one pad is placed in the lumbar or sacral region and the remaining two on the abdominal wall. The three minor waves seem to modify the effect of the three major waves as seen in the ordinary three-phase apparatus, and the effect is to produce a painless contraction of the muscles.

We have been using this apparatus for nearly a year and the following are notes of a few cases:—

CASE 1.—A. B., a slight pale lady with a congenitally small liver, never remembered having her bowels opened naturally, her motions always being of a very light colour. She was ordered an aperient strong enough to produce one motion a day and her diet was regulated. The three electrodes were used as described, the apparatus started in a manner to produce slow contraction, and with the two front pads the abdomen was massaged. After a fortnight's daily treatment of 10 to 15 minutes at a time the colour of the motions improved and she required less aperients. Aperients were entirely stopped at the end of three weeks, and the treatment was continued another week. Some three months later there had been no relapse.

CASE 2.—C. D., a little girl, aged eight years, pale, weak, and undersized, had not had her bowels opened without assistance since she was six months old. She was treated only 21 times in two months, at the end of which she was taking very little medicine and often doing without, the electric treatment sufficing.

CASE 3.—E. F., a middle-aged lady, had suffered with constipation for two years, her abdomen being lax and flabby with a loaded colon. She was treated daily for three weeks, also with gradually decreasing doses of aperients. She was entirely relieved at the end of this time, her spirits and appetite better, her figure much improved, and she was stronger in every [illegible].

CASE 4.—G. H. [illegible] She had been un[illegible] and had received no benefit. He [illegible] emptying of the stomach of its acid products and to the failure of the neutralisation of these products by the bile and pancreatic juice. This failure is caused by the absence from the duodenum of the hydrochloric acid which stimulates both the bile and the pancreatic juice to flow.

Rydygier has recently pointed out some of the drawbacks of gastro-jejunostomy.[3] M. M. Portis of Chicago,[4] in protesting against the "appalling increase in the number of gastro-enterostomies in the past few years," refers to the numerous recorded cases of ulcer of the jejunum following gastro-enterostomy and to the persistence of symptoms and sometimes the fatal termination which are consequences of the operation.

Other complications which gastro-enterostomy does not prevent, even if it does not assist in promoting, are the breaking down of the growth, hæmorrhages from the growth or from a recently formed jejunal ulcer, toxæmia or intoxication from fermentation products, and post-operative pulmonary infarcts and septic pulmonary complications which are far from uncommon in gastric cases.

Gastro-jejunostomy ought not to be proposed when cachexia and emaciation are very pronounced, when patients are seen very late, or when the growth does not cause obstruction of the pylorus or stasis of the contents of the stomach.

Mikulicz gives 9 per cent. as the operative mortality of simple laparotomy in the late stages of the disease. If cancer of the stomach was diagnosed early and operated upon as soon as recognised then pylorectomy and partial gastrectomy might entirely do away with gastro-enterostomy for carcinoma. The immediate mortality of partial gastrectomy in suitable and early cases is not greater than that of gastro-jejunostomy, whilst the comfort and relief from it are more permanent, and the prolongation of life, even if recurrence takes place, is stated by Jacobson[5] to be longer by one year.

Willis G. Macdonald of Albany[6] collected 43 cases of pylorectomy for carcinoma of the stomach in which the patients were living without recurrence three years after the operation; and there were patients in this group who were alive ten years after the primary operation without symptoms of recurrence.

In *rectal cancer* the proportion of cases which from their commencement are either unsuitable for excision, or have become so when the patient is seen for the first time by a surgeon, may be estimated from the figures given in the fifth edition of Harrison Cripps's book on "Cancer of the Rectum" just published. Of 380 cases in his own practice 283 were deemed suitable for operation and 97 unsuitable. Of 228 cases actually operated upon 85 were treated by excision and 143 by colotomy. 55 patients refused operation. Thus somewhat more than 74 per cent. of patients with cancer of the rectum either do not seek a surgeon's advice before it is too late or else have the disease in such a position as not to allow of any chance of cure by operation. Of the 85 cases of excision the disease recurred in 33, and in 15 of these 33 colotomy was subsequently performed.

Colotomy, besides entirely obviating the risk of death from intestinal obstruction, affords relief from many of the usual symptoms of rectal cancer and retards the rate of increase of the growth. Compared with the majority of cases in which the disease is left to take its natural course those persons on whom colotomy has been performed as a rule live longer and have a less uncomfortable existence. Cripps was able to follow up the histories of 97 of the patients upon whom he had performed colotomy and found that 62 lived from 12 months to three years, 14 others lived upwards of three years, and one of the 14 survived for eight years and three months.

The prospects from colotomy are much better when the operation is done before complete obstruction sets in. The mortality of the operation in 123 cases in which the operation was performed before obstruction occurred was only 4·6 per cent., whereas it was 55 per cent. in 20 cases done after obstruction had commenced. Happily, of late years colotomy has been resorted to at a much earlier stage than was the practice formerly.

From a glance at the tables of colotomy operations for cancer which were presented at the International Medical Congress at Copenhagen in 1884 by Mr. Thomas Bryant, Professor C. Studsgard, and myself[7] it will be seen how large a proportion of the colotomies up to that time were done only after the occurrence of complete obstruction. Twenty-four years ago colotomy was not firmly established or generally accepted, even in England, as an operation to be recommended and was, I believe, very rarely if at all practised in Germany and France. But subsequent experience of its efficacy as a palliative operation, together with the diminished and diminishing dread of surgical operations generally, have led the profession to recommend, and patients to submit to, colotomy at a much earlier stage instead of postponing it until days, and often many days, after complete obstruction had set in.

As substitute operations for colotomy when the disease is close to the anus linear proctotomy and erasion of the growth have sometimes proved to be temporarily beneficial. The median rectotomy as practised by the late M. Verneuil of Paris, and the lateral rectotomy followed by the use of Paquelin's cautery as recommended by the late Mr. John Marshall of London are now rarely if ever employed. In cases in which simple palliative means alone are permitted or available much benefit is often derived from the regulated *injection of an antiseptic solution through a large-sized* catheter or a small-sized tube passed along the bowel and beyond the growth.

The line of demarcation between operable and inoperable *cancers of the uterus* has recently undergone a change. Writing in 1902 I referred to the great improvements in the technique of vaginal hysterectomy, to the diminished death-rate of the operation, and to the freedom of the patients who had been submitted to it from dysmenorrhœa, hæmatometra, hæmatosalpinx and the other sequelæ of supravaginal amputation of the cervix. But having said this much I went on to remark: "No radical operation, however, is worth performing when the disease extends beyond the limits of the uterus into the connective tissue about the cervix, or into the utero-sacral or broad ligaments, or when the vagina is extensively involved. In such cases prolonged immunity, to say nothing of permanent benefit from an operation, is out of the question." To-day, Wertheim's method of operating has become better known and has in consequence brought many cases into the operable list which previously had been considered to be inoperable. The Vienna professor's operation has also by some gynæcologists been employed in cases which others consider well suitable for vaginal hysterectomy. By Wertheim's operation extensions of disease into the broad and the utero-sacral ligaments, affected glands lying in the fork between the external and internal iliac arteries, nodules of new growth outlying an inch or more from the cervix uteri, as well as disease in the upper part of the vagina, can be removed. The operation is unquestionably a very difficult and severe one, but Dr. Arthur Lewers[8] of the London Hospital, who has been employing it since 1905 in cases too advanced for vaginal hysterectomy, thinks well of the results he has obtained by it.

In cases of fungating carcinoma of the uterus and also of the anus and rectum the use of the curette followed by the application of zinc chloride either by means of pledgets of cotton wool soaked in a strong solution or by applying the solid salt itself to the margins and raw surfaces of the diseased area, which I frequently employed in my wards in the Middlesex Hospital, has met with increasing favour. Otto von Herff[9] is strongly in favour of its use in uterine carcinoma but is opposed to its application in endometritis. Gellhorn[10] follows up curetting with the application of acetone. Formalin he finds too painful when concentrated and without action when diluted. Curetting and the extensive use of the thermo-cautery or of concentrated carbolic acid[11] also give very good results. But with each of these methods the effects are only temporary and the procedure needs to be repeated at varying intervals.

In certain cases of *mammary carcinoma* the breast should be removed for palliative purposes even when there are present affected and irremovable glands and widespread

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[3] Von Rydygier: Annals of Surgery, November, 1906, p. 721.

[4] M. Portis: Idem, December, 1906, p. 901.

[5] Jacobson: The Operations of Surgery, fifth edition, 1907, vol. ii.

[6] W. G. Macdonald of Albany: Annals of Surgery, February, 1901.

[7] Vide Report of the Surgical Section of the International Medical Congress, 1884.

[8] A. H. N. Lewers: THE LANCET, March 7th, 1908, p. 704.

[9] O. von Herff: Munchener Medicinische Wochenschrift, Feb. 18th, 1908.

[10] Gellhorn: Idem, No. 51, Dec. 17th, 1907.

[11] Weindler: Zentralblatt für Gynäkologie, No. 22, 1907.

Reviews and Notices of Books.

The Substance of Faith Allied with Science: A Catechism for Parents and Teachers. By Sir OLIVER LODGE, F.R.S. London: Methuen and Co. Pp. 135. Price 2*s.* net.

To afford instruction in religious principles to children in such a manner as to be consonant with the knowledge which they acquire of science in the course of their secular education is a task which must of necessity present difficulties to parents and even to teachers owing to the lack of the special knowledge and experience required to reconcile apparent discrepancies which may present stumbling-blocks to the keen intelligence of the thoughtful child. Sir Oliver Lodge, fearful "lest the nation, in despair of a happier settlement, should consent to a system of compulsory secularism," endeavours in this small catechism to outline a scheme of instruction whereby the fundamental principles of religious belief shorn of sectarian or doctrinal complexities may be expressed in terms which are not in conflict with existing knowledge. In illustration the facts of nature as seen around us are employed and the essential truths of religion and science are thus taught in relation to one another, with the object of formulating a creed. The nature of man is first outlined, and the meaning of existence, of ancestry, of the general principle of evolution, and the development of man from lower forms of life is explained. Next the development of conscience and its meaning are traced, then the sense of responsibility and its relation to character and will, thence the duty of man to assist his fellows, to develop the higher phases of his nature, and to strive towards betterment is deduced. Good and evil are defined and their place in the scheme of nature is indicated and the means whereby to know good from evil are detailed. In defining evil the fact that it is not absolute but has reference to a standard of attainment is clearly emphasised, and as a corollary it is pointed out that evil is a necessary consequence of a rise in the scale of moral existence, and that, therefore, sin is the deliberate choice of evil where the good is possible. The general principle of Immanence or the Intelligence everywhere indicated in all the processes of nature is then developed:—

> "Earth's crammed with Heaven,
> And every common bush afire with God."

This, indeed, is the whole purpose of the book—to inculcate the lesson that the controlling Thought and Purpose is immanent in everything. Man's higher faculties, with special reference to the spiritual side of his nature, are next considered and in connexion therewith the idea of a beneficent Deity is evolved, One who is willing to help man in his struggle to higher things. Sir Oliver Lodge gives on p. 96 a creed expressing in simple words the general principles which he has illustrated. The subsequent sections are developments of some of the principles enunciated in this creed, including the conceptions of eternal life, of prayer, and of the Kingdom of Heaven.

The book is written in simple style, is throughout reverent, and inculcates Christian doctrines in a way that must commend it to all who are concerned in the religious instruction of children.

Manual of Midwifery. By T. W. EDEN, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin., Obstetric Physician, Charing Cross Hospital. New (second) edition. With 42 plates and 236 other illustrations. London: J. and A. Churchill. 1908. Pp. 555. Price 12*s.* 6*d.* net.

THE early appearance of a second edition of this book is a proof of the favour with which it has been received by students and practitioners, a favour which is well deserved. Dr. Eden has carried out a careful revision of this edition and by placing a number of the more important illustrations on separate plates he has succeeded in increasing the amount of letterpress without increasing the size of the volume. Several of the chapters have been partly rewritten and additions have been made, more especially to those on the sections dealing with abdominal palpation, the puerperium, and infant feeding, while a section has been added on premature rupture of the membranes, the consideration of which had been omitted in the first edition. A number of new illustrations, many of them original, have been introduced. The difficulty which the placenta seems to present to artists as a subject for illustration is well shown by Figs. 22 and 23, both of which are decidedly poor. The book as a whole is practically unaltered and forms a most excellent and trustworthy text-book, quite the best of its kind in the English language. Naturally we do not agree with all that the author says, nor do we think that there are not points in the book which would bear further emendation in future editions.

The importance of abdominal palpation is more fully recognised in the present edition than it was in the first and a good account of it is now given. The question of the exact size of the uterus at different periods of pregnancy always seems to be a stumbling block to the writers of text-books. Possibly this is due to the fact that different authors when discussing the height of the fundus uteri at the different months of pregnancy are not particular enough always to consider the subject with the body in the same position; thus some of the levels are measured with the patient standing upright and others with the body lying on the back. Dr. Eden tells us that measurements of the height of the fundus of the uterus above the pubes are somewhat fallacious, and in this statement we quite agree unless the conditions under which they are taken are clearly stated; at the same time, we think that the method of describing the level of the upper border of the uterus in relation to the position of the umbilicus is even more fallacious and misleading. We see no object in the author's recommendation to shift the grasp of the hand to the shank of the axis-traction forceps instead of continuing to pull on the traction rods, the correct method, when the head of the child is near the outlet of the pelvis; nor do we think that as a rule much is to be gained by removing the forceps before the delivery of the head. It is a pity that in the excellent plates representing delivery by the forceps the hands are not represented as covered by rubber gloves, possibly a counsel of perfection but none the less often an important precaution. In the treatment of ophthalmia neonatorum it would be better to give the exact strength of the solution of silver nitrate or protargol to be instilled into the eyes.

In spite of these minor criticisms we are of opinion that this is a most trustworthy book and we congratulate Dr. Eden on the success which it has attained.

A Manual of the Practice of Medicine. By FREDERICK TAYLOR, M.D. Lond., F.R.C.P. Lond., Consulting Physician to Guy's Hospital; Consulting Physician to the Evelina Hospital for Sick Children; Physician to the Seamen's Hospital, Greenwich. Eighth edition. London: J. and A. Churchill. 1908. Pp. 1111. Price 16*s.* net.

THIS text-book is too well known to require any words of introduction from us; suffice it to say that Dr. Taylor has succeeded in offering a short yet complete account of the present state of medical practice which will be useful to students and practitioners. He has devoted most attention to the description of symptoms, to diagnosis, to prognosis, and to treatment, rightly feeling that they are the divisions of the subject which best answer to the idea of practice. In the preparation of the present edition every part of the pylorectomy, whereas now too many of these patients drift on and are subjected at a late stage to the miseries preceding and following gastro-jejunostomy. So also in cancer of the larynx if the diagnosis were made early many patients would be cured by thyrotomy who are now submitted to the mutilating effects of total laryngectomy.

One of the greatest boons to be expected from the early recognition and early, and thereby curative, operative treatment of malignant disease would be the diminution in number and severity of the palliative operations now performed. In the course of my remarks I have already raised the doubt whether life after some of these operations is worth having.

The question of the expediency of performing operations when the duration of the comfort and improvement they afford is only a few weeks or a few months, may be considered an open one. But for my own part I entirely agree with Sir Felix Semon that "it is one thing to perform a brilliant operation, and thereby to prolong a patient's life, it is another to see him a few months afterwards dragging on a most pitiful existence." There ought to be a chance, even if remote, of the patient operated upon remaining free from the disease, or at any rate from the pain and other worst symptoms of the disease, if he submits to a serious operation, instead of a prospect of certain death within a few months under great suffering. In operations purely palliative in aim, such as gastro-jejunostomy, for example, this chance is not given. There is not the remotest hope or prospect of non-recurrence, because the disease is not removed; whilst certain death with great suffering, even though it may not come till after a spell of some few months of comparative health and comfort, stares the patient in the face throughout. Probably each of us has known instances, however, in which circumstances connected with the patient and his family have made it desirable, if not well-nigh imperative, to prolong life to its utmost limits—circumstances which have made the martyrdom of living worthy of the heroism which can face such an existence. This apart, the value of a palliative operation must be measured by its efficacy in securing ease and comfort to a patient whilst he is awaiting his end. I am disposed to think that some who speak so enthusiastically in favour of those operations for advanced cancer, of the stomach for instance, can hardly have been witnesses of the last stages of the patients who have undergone them. Nor is it warrantable to assume that because an abdominal tumour has entirely disappeared after the performance of a gastro-jejunostomy its doing so was an effect of the operation. Other cases are on record of cancerous tumours disappearing after cœliotomy, and a surgeon writing on epithelioma of the penis mentions a case in which the disease entirely disappeared in a man "who refusing operation eloped." In other cases in which no operation has been done tumours have vanished spontaneously. If we are to give credit to the gastro-jejunostomy in the one case how can we withhold it from the cœliotomy in the other, or from "elopement" in the third case; and are we to quote Proverbs xx. 3 with regard to spontaneously vanishing tumours and attribute their disappearance to not "meddling"?

OTHER METHODS OF TREATMENT.

I pass over the treatment by Finsen light, the Röntgen rays, and by radium, which are to form the subject of a separate discussion at this meeting. Neither shall I on this occasion refer to such local applications as strong liquid ammonia, cancroin, calcium carbide, methylene-blue, formalin, nosophen, corrosive sublimate; nor to the injection of cinnamate of sodium, of alcohol, acetic acid, gelatine, snake poison, turpentine; nor to the freezing process by means of carbonic acid described by Professor Homitz. Nor shall I stop to speak of the entirely negative results obtained after fair trials from alder leaves, violet leaves, marigold ointment, or molasses.

I have nothing new to say about thyroid feeding or Dr. J. H. Webb's treatment by injections of soap. Sir George Beatson's opinion of thyroid extract in cases of carcinoma generally is still favourable, provided it is given in small doses and is carefully watched. He administers it after ordinary operations for removal of carcinoma, continuing its use for long periods and he thinks with advantage.

The treatment by inoculation with a vaccine prepared from the micrococcus neoformans of Doyen, th[illegible] some to have been successful in certain cases, has been generally disappointing. Doyen's serum treatment is now, I believe almost universally, deemed to be of no value. Neither the vaccine nor the serum treatment with Otto Schmidt's cancer parasite, nor Wlaeff's serum obtained by inoculating asses with yeast parasites derived from carcinoma, has been found useful.

Schmidt's treatment by means of the injection of the sterilised "killed culture" was tried upon several cases in the cancer wards of the Middlesex Hospital in 1903–04 without any benefit whatever following.

The treatment by electric currents of high voltage and high frequency which in 1902 Dr. James Allan and others thought would prove to be of important therapeutic value in inoperable cancer has been of late actively advocated by Keating Hart. The treatment was tried in the cancer wards of the Middlesex Hospital by a brush discharge both with and without sparking, and was found to have a decided local influence upon an ulcerated surface whether simple or malignant. The ulcer shows a decided tendency to diminish, fungating areas sometimes break down, discharges decrease and become thin and less offensive. The patients are benefited in a general way and show increased tone and nutrition. But no successes attended by the disappearance of the growths such as were obtained by Dr. Allan could be recorded, and the treatment after fair trial in the cancer wing of the hospital was abandoned.

Keating Hart's method consists in removing with the knife the cancer tissue acted upon by exposure for from 5, 10, to over 40 minutes to the strongest possible "lightning spark pencil" at the distance of two to four centimetres and with frequent changing of the area exposed. After the cancerous tissue has been extirpated the wound surface is again exposed to "fulguration." The patient is anæsthetised all the time as the treatment is so painful. Czerny[17] has recently reported on Keating Hart's method after trial in 35 cases, only three of which were "inoperable," two being small epitheliomata on the inside of the cheek and the third a small rodent on the nose. These three cases were essentially cured by an exposure of 10 to 15 minutes' "fulguration," followed by scraping. They could all three have been cured by other methods, but not, adds Czerny, with so little inconvenience or disfigurement. The other cases were all "inoperable" and no cure was obtained. Pain associated with septic degeneration in growths is relieved, but the growth and sepsis return. Hæmorrhage can certainly be controlled by the method. Czerny considers his experience is of too brief duration to permit him to confirm the magnificent cures in inoperable cancer reported by Keating Hart, or to doubt them.

In the treatment of sarcoma I have continued to use the mixed toxins of the streptococcus of erysipelas and the bacillus prodigiosus—Coley's fluid; but I have no definite beneficial results to report. In some instances I have thought there has been improvement, as shown by delayed growth, lessened pain, and diminished tension, but in no case cure. I am at the present time using the standardised preparation proposed by Dr. Martha Tracy[18] on a case of recurrent sarcoma of the upper jaw. There have been relief from pain and some subsidence in the size of the growth, but what the ultimate result will be I cannot say.[19]

TRYPSIN TREATMENT.

The bacteriological study of malignant new growths having been barren of positive etiological or therapeutical results of general application, it was natural that other lines of research should be followed. With a return to the search for the explanation of cancer within the body itself, attention became directed to the weapons with which the body defends itself against obnoxious elements, or which are employed by parts of, the body when they require to live and grow, or with which to satisfy less urgent needs at the expense of other parts of the organism as a whole. According to prevailing conceptions these weapons are the ferments and their allies the "hormones" of Starling.

The important part played by intracellular digestion (phagocytosis) in the defence of the body has received

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[17] Czerny: Münchener Medicinische Wochenschrift, No. 6, 1908.

[18] M. Tracy: Medical Record, July 27th, 1907.

[19] After a brief period of slight relief from pain and from a feeling of great fulness and tension, the disease rapidly increased and death from [illegible] five weeks of the commencement of the

[illegible] Library
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occurred in 1·7 per cent.; poor and fair results—i.e., vision of less than 6/60—in 6·2 per cent. No details are given of the vision in the results considered good. The remainder of the work deals with after-complications and the treatment of complicated and soft cataracts. There is one phrase—"vitreous tension"—which occurs repeatedly in the book. It implies the tendency to prolapse of vitreous which is found in a certain fairly well-defined group of cases. The condition is one so entirely different from any to which the term tension is usually applied that the designation is undesirable and should be replaced by some other having greater regard for pathological accuracy.

Summing up, we may reiterate the opinion expressed at the commencement of this review. It is a book to be read and pondered over by experienced ophthalmologists. It is not suitable for the beginner who will be unnecessarily discouraged by it. Even the expert practising in more advantageous circumstances will be well advised to refrain from taking every statement *au pied de la lettre* but he cannot fail to find much which will prove of value.

The Theory of Ions: A Consideration of its Place in Biology and Therapeutics. By WILLIAM TIBBLES, M.D. Chicago, LL.D., M.R.C.S. Eng. London: Rebman, Limited. 1908. Pp 131. Price 2*s.* 6*d.*

WE may not agree with much that the author says in regard to the importance of the position occupied by the theory of ions, but we are bound to admit that he has succeeded in collecting an amount of information on the subject which brought together in the compass of the small volume before us will be distinctly helpful to those who are anxious to keep pace with modern ideas on those questions which bear upon vital phenomena.

In the author's view the ionisation of materials plays a rôle in the evolution of the living from non-living substances. The continuous adjustment of the internal relations of materials to the external relations is, he suggests, brought about by the ionisation of matter, the transformation of energy, and the definite combination of these heterogeneous changes both simultaneous and successive; and these, in correspondence with external co-existences and consequences, result in the development of the dead into the living, the inorganic into the organic. As far as human faculty can interpret things there would appear to be strong reason for believing that the ions are capable of appearing at one time as one substance and at another time as another substance—in a word, that the ion can serve as both a constructive and destructive agent. Ionisation thus takes place in living structures and the presence and activity of ions would seem to be essential in biological processes. There are chemists, of course, who reject this view, which, after all, is based on physical conceptions rather than chemical. They may, perhaps, be jealous of the claims of their science, but as Dr. J. S. Haldane said in his admirable address in the Physiological Section of the recent meeting of the British Association for the Advancement of Science at Dublin, while we have accumulating knowledge as to the physical and chemical sources and the ultimate destiny of the material and energy passing through the body we have an equally rapidly accumulating knowledge of an apparently teleological ordering of this material and energy, and for this teleological ordering we are at a loss for physico-chemical explanations. The spectre of vitalism, he added, meets us at every turn thinly disguised under such names as "cell autonomy," "vital processes," and so forth. The same argument, it seems to us, applies to ions. The theory of ions, in a word, expresses in a refined way the physico-chemical changes involved in biological processes. The theory is helpful inasmuch as it presents probably a more exact interpretation of biological phenomena. But there still remains the spectre of vitalism.

The theory of ions is also going to be helpful in the service of medical science in other directions, for it has already thrown some light on the fate and action of substances for medicinal purposes. To take one case and to quote Dr. Tibbles: "The effect of the salt is the algebraical sum of the effects of its individual ions. Anions and cations antagonise one another; cations precipitate, anions inhibit the precipitation in proportion to their power. All cations have certain physiological characters in common: they precipitate protein. They more or less increase the irritability of muscle and nerve; they excite intestinal activity and increase the blood pressure The anions have a solvent action on protein or, to speak more correctly, they inhibit the action of the cations in general. The physiological effect of the anions and their solvent action upon proteins increases through the scale from sulphate to sulphocyanate. The sulphates, citrates, and tartrates are protein precipitators, because the anion is associated with the over-balancing properties of the metallic ions, they are therefore cathartics. But in the nitrates, bromides, iodides, and sulphocyanates the anion has the predominating influence, the characteristic effect of which is sedative, attended by a decrease of blood pressure."

It is probable that subsequent investigation will prove that the theory of ions will eventually place many observed phenomena of medical science upon a more satisfactory scientific basis than hitherto, and the subject is therefore worthy of the attention of medical men, and a word of thanks is due to Dr. Tibbles for bringing together in this comparatively small volume the modern views upon the subject. We are surprised to find that he does not once mention the distinguished author of the theory. we refer to Michael Faraday.

LIBRARY TABLE.

A Short Practice of Midwifery for Nurses, as used in the Rotunda Hospital, Dublin, for the past Ten Years. By HENRY JELLETT, B.A., M.D. Dub., F R C.P. Irel, ex-Assistant Master, Rotunda Hospital. Third edition. London: J. and A. Churchill. 1908. Pp 463. Price 6*s* 6*d.* net.—*Infancy and Infant Rearing: an Introductory Manual.* By J. B. HELLIER, M D. Lond., Professor of Obstetrics in the University of Leeds. Second edition. London: Charles Griffin and Co 1908. Pp 164 Price 3*s* 6*d* net.—*Introduction to Infectious and Parasitic Diseases, including their Cause and Manner of Transmission* By MILLARD LANGFELD, A B., M B, Professor of Bacteriology and Clinical Medicine, John A. Creighton Medical College, Omaha. With an Introduction by LLEWELLYS F. BARKER, Professor of Medicine at the Johns Hopkins University. London: Rebman, Limited 1908. Pp. 260. Price 5*s.* 6*d* net.—*Practice of Medicine for Nurses* By GEORGE HOWARD HOXIE, A.M., M.D., Professor of Internal Medicine in the University of Kansas With a chapter on the Technic of Nursing by PEARL L. LAPTAD, Principal of the Training School for Nurses of the University of Kansas. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 284. Price 6*s.* 6*d.* net.—Text-books intended for nurses are multiplying with almost the same rapidity as those for the use of medical students We presume this supply is created by a demand and that it reflects an increased standard of examination knowledge required from nurses in the course of their training. We are inclined to think that it would be better to expect them to rely firstly upon their ward experience and secondly upon notes of the lectures given them at their own school, carefully revised under some tutorial system, and in the last place upon knowledge gained from text-books. The temptation which these afford to cram a superficial smattering of a obtained painlessly, thus adding to the comfort of the patient in a manner not so easily attainable by other means. [illegible]ann reports satisfactory results of treating an extensive epithelioma involving the external ear and side of the neck by dusting with pancreatin in powder. The cleansing action of the trypsin proceeded till all dead and septic tissue was removed. Then the ingrowth of skin sufficed to protect the tumour tissue from its action at the margins. The deep extension of the tumour was not affected and the patient died 15 months after the treatment was begun but was made more comfortable during life by it. Whether the local application of trypsin in this way and adequately diluted has advantages which will enjoin its use externally in future remains to be seen.

Pending the time when as we hope the experimental study of cancer in animals will yield results of positive value in treatment, discursive controversies on the value of this or that alleged remedy, though to be regretted, must be expected. In the employment of remedies for the cure of cancer in man it is necessary that several years should elapse before finality in judgment can be attained. In the case of trypsin the results of experiments were invoked by Dr. Beard in support of his contentions. Two mice suffering from Jensen's carcinoma exhibited symptoms after the injection of two and a half minims of 1½ per cent. solution of trypsin, which Dr. Beard ascribed to intoxication by "the products of the tumour (an alcohol ?), as extracted and digested by the large dose of trypsin." The tumours were found to be in an advanced state of degeneration and necrosis. This appearance in the tumours would have been startling if any evidence had been advanced by an adequate number of control experiments showing that degeneration and necrosis did not occur independently of the treatment. As a matter of fact, it has been shown by Bashford, Murray, and Bowen that 90 per cent. of the tumours obtained by propagating Jensen's carcinoma exhibit very extensive necrosis; only a thin shell of healthy tissue may remain. These observers also treated with trypsin mice suffering from adeno-carcinoma mammæ, squamous-celled carcinoma, malignant adenoma and sarcoma in many series of experiments. In doing so they paid attention to any evidence of the symptoms of intoxication, the induction of necrotic degeneration and inhibition of growth, or of the specific action of trypsin on cancer tissue while sparing other tissues as described by Beard—but without being able to confirm his statements.

In the first place, active trypsin solutions are not without action on normal tissues. On the contrary, the solutions employed by them (even when diluted to the strength of 1 in 1000 and injected subcutaneously into mice in doses of 0·3 cubic centimetre to 0·5 cubic centimetre) produced great irritation and digestion of the overlying skin, so that in the space of one to three hours after injection the hair over the site of the fluid fell out and a large moist ulcer formed. Hence the doses of active trypsin which it is possible to give to mice subcutaneously without local destruction of tissue, and which are perhaps not inferior to the doses applied to the treatment of the human subject, are so infinitesimal that the absence of influence on the growth of tumours in mice so treated is not astonishing. To meet this objection other methods of application were sought. Intraperitoneal injection is also followed by digestion of the abdominal wall at the site where the fluid collects, the destruction of tissue tending to advance along the tract of the needle used to inject it. In their highest degree the consequences are speedy ulceration of the abdominal wall and escape of the intestines which appear to be not attacked. Both the above methods of administering trypsin in doses sufficiently great to be effective cause the greatest inconvenience to mice which suffer obviously from great pain and have to be quickly destroyed. It was found, however, that relatively enormous doses could be injected directly into the venous system and tolerated without any visible discomfort. A quantity of fluid almost equal to the total amount of blood in a mouse can be so injected, and, weight for weight of animal, doses of trypsin 300 times greater than those advised for administration to the human subject have been introduced into the circulation within a short space of time. The negative results on the growth of tumours bore out those obtained with subcutaneous injection.

The effect on tumour growth was tested in yet a third way. Mice were treated by the direct introduction of trypsin into the circulation before inoculation with a transplantable tumour and the treatment continued during the succeeding ten days following inoculation—i.e., till that time had elapsed within which the new tumours usually develop. The treatment was powerless to prevent the inoculated tumour tissue from "taking." The results were found to be quite independent of the amount of trypsin injected. The fact that the newly implanted tissue established itself disposes of the hypothetical objection that the other methods of testing trypsin had failed because the tumour cells had in course of treatment been able to immunise themselves against trypsin. The subsequent growth of the tumours in the mice which had been previously treated and continued to be treated with trypsin showed no differences from that of the tumours in normal animals not treated by trypsin.

Cavendish-square, W.

ON PREGNANCY, PARTURITION, AND THE PUERPERIUM AFTER VENTRIFIXATION (HYSTEROPEXIS HYPOGASTRIA).

BY SIR WILLIAM J. SINCLAIR, M.D. ABERD.,
PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY, UNIVERSITY OF MANCHESTER.

IN a large proportion of the cases of old-standing chronic backward displacement of the uterus our ordinary methods of treatment do not give satisfactory results. When the body of the uterus has become considerably enlarged after backward displacement, or when even the slighter tubal and ovarian complications exist, what could be expected from more or less forcible turning forward of the body and the insertion of a pessary in the consulting-room? There is an element of levity in this method of dealing with a flexion producing symptoms.

When the patient can be persuaded to take to bed and remain as long as if she had to undergo an important operation some good can usually be done. The congestion of the body of the uterus can be relieved by tampons and douches, the amount of the relief being measured by the diminution in the tenderness to touch and by certain changes in the visible portion of the uterus. When the uterus has been restored by tampons almost or altogether to its normal position, then is the time for the introduction of a pessary. In some uncertain proportion of even old chronic cases this method of treatment gives sufficient relief to satisfy the patient, and a small number of cases are actually cured in time. As a general rule, it may be stated that the older the patient the more suitable the palliative treatment.

But in married women at the child-bearing time of life, and in many single women who cannot, or will not, lead restful lives, the treatment by mechanical support is highly unsatisfactory and something more must be done. Let me emphasise this fact: ventrifixation is suitable only for women at the child-bearing period of life; the atrophying uterus after the menopause requires other methods of treatment. Schultze's process may be dismissed with a word. It has never done positive harm to any patient of mine as far as I know, but upon the whole it has given no satisfaction. A blind manipulating of adhesions and displacements could hardly be considered the best attainable treatment. Massage is not a suitable method of treatment with a view to permanent cure in such ailments, and it is fortunately seldom mentioned in this country. Schücking's operation, and similar timid, futile, and yet obviously dangerous proceedings, I have never tried, and never will. Sänger,[1] in introducing his own operation, "Über Retrofixatio Colli Uteri Retroflexi," in 1891, was very sarcastic in his references to Schücking, and yet his own vaginal operation of shortening the sacro-uterine folds and partly closing the pouch of Douglas was neither thoroughly efficient nor permanent in such benefits as it conferred. Alexander's operation of shortening the round ligaments obtained great favour for many years and still holds its place as a valuable method of treatment in a certain limited class of cases. The eagerness with which it students and any attempt to assist them in understanding operations is well deserving of approval. This work is the English version of a work published in Germany in 1905; it consists of accounts of a number of the more important operations, illustrated by almost life-sized coloured plates, which show very clearly the structures concerned in each operation and the methods adopted. The utility of the book is greatly enlarged by plates showing the instruments employed in the operation. Some of the operations illustrated are tracheotomy, craniotomy, radical cure of inguinal hernia, ligature of the lingual artery, excision of the tongue, gastrostomy, gastro-enterostomy, and thyroidectomy. Many operations are of course omitted, but those which are given are well described and excellently illustrated, and the book will serve to give clear ideas on obscure subjects. For instance, many students find much difficulty in understanding the operation of gastro-enterostomy, but here it is clearly shown and should be readily understood by all. The English rendering is well carried out.

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[1] M. Sänger: Operative Behandlung der Retrodeviationen des Uterus und Schucking'sche Vaginalligatur, Centralblatt fur Gynäkologie, 1892, No. 1.

A Manual of Diseases of the Eye. By CHARLES H. MAY, M.D., New York, and CLAUD WORTH, F.R.C.S. Eng., Assistant Surgeon, Royal London Ophthalmic Hospital, Moorfields. Second edition. London: Baillière, Tindall, and Cox. 1908. Pp. 400. Price 10*s.* 6*d.* net.—The second edition of this manual differs little from the first which we have already reviewed. Some passages have been transposed and a few new ones introduced. The illustration of excision of the lacrymal sac to which we took exception has been replaced by one less open to criticism. A paragraph has been inserted on the Morax-Axenfeld diplo-bacillus, removing the ambiguity which previously existed, though no stress is laid upon the peculiar distribution of the congestion of the conjunctiva and lid margins in the conjunctivitis arising from infection with this organism. The book therefore remains the same in all essentials—a good introduction to the subject but one which admits of considerable improvement.

Public Health Laboratory Work. By HENRY R. KENWOOD, M.B. Edin., D.P.H., F.C.S., with a Part Dealing with Public Health Bacteriological Work contributed by W. G. SAVAGE, M.D., B.Sc. Lond., D.P.H. Fourth edition. With illustrations. London: H. K. Lewis. 1908. Pp. 468. Price 10*s.* net.—Our appreciation of this work in notices of previous editions has been justified by events. We still think the book one of the best for the requirements of the student of public health, and more particularly as a guide on practical issues. He can read and adopt with confidence the methods outlined for the examination of water, sewage, air, food, and so forth. The section on food is necessarily short but it is sufficient for imparting a good general knowledge. The chapter on spirits, though brief, is instructive and to the point and shows that more attention than has hitherto been the case is being given to those constituents of spirits which differentiate patent-still from pot-still spirit. The sections dealing with bacteriological work in regard to questions of public health are contributed by Dr. Savage. These are also written in a way calculated to be of distinct service to the student in the public health laboratory. On the whole, we do not know of a better guide to the kind of laboratory work which has been called into being and demanded by modern methods of public health administration.

THE ST. PANCRAS SCHOOL FOR MOTHERS.—We have been asked to say that Mr. H. B. Irving and Miss Dorothea Baird have promised to give a matinée during their autumn season at the Shaftesbury Theatre in aid of the Mothers' and Babies' Welcome, an institution for helping and feeding nursing mothers in Somers Town St. Pancras.

REPORT OF THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE-MINDED.

III.[1]

ON the establishment of the Commission in Lunacy in 1845 the number of paid Commissioners was, as it is now, six. At that time visits had to be paid to 25,000 lunatics. On Jan. 1st, 1906, the number of lunatics to be visited had risen to 116,361. Much evidence has come before the Royal Commission indicating, as might have been expected, that it has become impossible for the Commissioners in Lunacy to perform efficiently the duties assigned to them. One of them said: "The Commissioners are satisfied that they can no longer continue to discharge those duties in as complete a manner as they have hitherto endeavoured to discharge them unless they are strengthened by an addition to their number. ...... As it is, their duties have to be discharged so hurriedly as to be good for neither the work nor the workers." So also Dr. G. H. Savage in his evidence said: "I may say the visitation by Commissioners, when they talk of being able to see 800 patients in a day, although a large proportion are weak-minded, must mean very imperfect visitation."

Parallel with, and in some respects overlapping, the jurisdiction of the Commissioners in Lunacy is the authority exercised by the judges of the Supreme Court. The department which has to do with the work of this jurisdiction consists of Masters and Visitors, and its cost formed for the year ending March 31st, 1906, a grand total of £19,805. The number of patients with whom it has to do is 3782. On the other hand, the cost of the Commission in Lunacy for the year 1904–05 was £14,752 and the number of patients visited was 116,361. On the one hand is a jurisdiction of ancient origin, based on the prerogative of the Crown and protecting the few individuals of unsound mind who are possessed of property. On the other hand is the Commission in Lunacy established by statute for the purpose of preventing abuses and protecting the persons of lunatics irrespectively of property qualification. The work of the former body is at least not excessive, while the work of the latter is so excessive that it cannot be efficiently performed. It has therefore appeared to the Royal Commission advisable to consider whether an amalgamation of the two bodies would be expedient. The evidence disclosed a divergence of opinion between the Commission in Lunacy and the judicial authority as represented by the Masters in Lunacy and the Chancery Visitors. The Commissioners in Lunacy were of opinion that an amalgamation was necessary, while the Masters and the Visitors were strenuously of opinion that their isolated position should remain unimpaired. This latter view seems in part founded upon the dissimilarity of the constitution and work of the two bodies and in part upon the likelihood that the Chancery work would be performed less efficiently after the amalgamation and the work of the Commission in Lunacy not appreciably better performed. At present the Masters and Visitors have a considerable amount of work for which there is a sufficiency of workers, while the Commissioners have an excessive amount of work with a striking deficiency in the number of workers. As a result of its deliberations upon this part of the subject the Royal Commission has made certain recommendations for the immediate betterment of the administration. In the first place it is recommended that the Lord Chancellor should, acting under the Lunacy Act of 1890, amalgamate the office, duties, and staff of the Chancery Visitors with the office, duties, and staff of the Commissioners in Lunacy, that under the same Act he should appoint two additional medical Commissioners, and that by the immediate appointment of honorary Commissioners he should fill up the vacancies on the Board of the Commission in Lunacy.

How to provide for chronic and harmless patients otherwise than in asylums is a question to which the Royal Commission has paid considerable attention. Four alternatives presented themselves: 1. To build separate "intermediate" or "workhouse" hospitals, which would be fitted for the reception of senile dements and which might be of cheaper ventrifixation. Among the complications are enumerated marked retraction of the scar; constant hypogastric pain; retraction of the cervix even into the abdominal cavity, the anterior portion of the uterus becoming a thick fleshy mass or tumour obstructing labour, the posterior portion becoming thinned out and even rupturing; atony of the uterus to an extreme degree; malpresentations; besides the regular troubles of pregnancy in the most distressing forms. This is the operation of which Dr. Clarence Webster of Chicago says in his text-book it "may be recommended." His own operation for backward displacement is a method of shortening the round ligaments. He passes them through the broad ligaments, then under the utero-ovarian ligaments, and fixes them to the *posterior* wall of the uterus. What will happen after such an operation when the woman becomes pregnant does not appear to be as yet indicated by any volume of statistics. I have looked through most of the American manuals of gynæcology and it may be stated generally that the authors follow Kelly or do worse. Dr. E. C. Dudley of Chicago, for example, whose work is deservedly held in high esteem in the United States, "uses two formaldehyde catgut sutures, one on each side of the posterior wall of the corpus uteri."

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[1] Nos. I. and II. were published in THE LANCET of Sept. 19th (p. 890) and 26th (p. 959), 1908, respectively.

Among the books which are read in England for guidance is "Diseases of Women," by Dr. G. E. Herman. If I understand the author's meaning in the paragraph headed "How to Perform Ventral Fixation" I must say, with deep regret, that I regard his method as defective and faulty in almost every detail, even down to the "blunt" volsella. The first suture is made to enter close to the Fallopian tube; the abdominal muscle, not the peritoneum and fascia, is depended upon for adhesion, suspension, and support of the uterus; catgut is the material employed to fix the fundus in the wound and a silk thread is inserted still further back. Silk sutures passing through the skin and uterus are allowed to remain *in situ* for eight days, as if suppuration in the suture tracks was a thing to be aimed at. The patient is kept in bed only a fortnight—too short a time for the production of adhesions which will not be stretched by the weight of the uterus on exertion. The defects of the operation, described by Sutton and Giles, are in the material "fishing gut," which is referred to as if it stood on the same level of suitability with silk for buried sutures, and in the fewness of the sutures. The operation may be completed with one suture through the uterus and peritoneum only! "If desirable two or more sutures may be introduced." In the long run such suturing must inevitably produce a "new ligament," a bowel trap. Exercising such judgment as I am capable of, I cannot see why such operations should be designated ventral fixation, or why they should ever be expected to give more than temporary relief from the symptoms due to retroflexion. That relapse is common I am convinced from cases which I have had opportunities of examining after slipshod operations. The operation which used to be performed by Laroyenne of Lyons complied with all the requirements necessary to confer permanent benefit. Instead of using the volsella above the isthmus to steady and manipulate the uterus, Laroyenne employed a stem in the uterine canal which was managed by an assistant—a detail of the technique possessing obvious disadvantages. I understand that Laroyenne's disciples and followers have improved upon his methods in the direction which experience obviously indicated.

Some of the German operations appear to be worthy of imitation with modifications. Olshausen's method is defective in so far as he has adhered to his original method of fixing in the wound the cornua of the uterus and the Fallopian tube. The method, associated with the names of Leopold and Sippel, appears to be a good operation with the drawback that sutures pass through both the external integument and uterus. Ventrifixation is hardly mentioned by Küstner who writes the chapters on malpositions of the uterus in Veit's "Handbuch der Gynäkologie." Küstner makes much of the "beweglichkeit" of the uterus, but the need for mobility is a pure *a priori* assumption. He cannot find a shred of evidence in support of his objections in the practice of anyone who does an efficient operation by safeguarding the upper half of the corpus uteri. Compare also Döderlein and Krönig, "Abschätzung der verschiedenen Operationsmethoden gegeneinander" in Operative Gynäkologie.

The operation.—In performing the operation of ventrifixation I have discarded all suture material except catgut and the finest silk thread which can be conveniently manipulated. At first I used to try to close completely the vesico-uterine fold but now for several years I have introduced only two sutures, one at each side, well below the lowest point of the abdominal wound. This is quite sufficient practically to close the fold without interfering with the distension of the bladder, and it is therefore a preventive to any possible insinuation of intestine. The next step is to suture the peritoneum near the edge of the wound at each side. The fine silk sutures are introduced from the outside surface of the peritoneum, passed through the peritoneum, and after taking a good hold of the uterus low down and near its margin they are brought back through the peritoneum and firmly tied. The knot is thus always extra-peritoneal. Two or three such sutures are, as a rule, introduced on each side. The same process is now continued with this addition, that the next sutures include the fascia as well as the peritoneum on each side. The transverse sutures are next introduced. These are two or three in number; they consist of fine silk and include fascia and peritoneum at the sides, and each takes a fairly extensive hold of the anterior surface of the uterus. The highest of the sutures is placed less than half-way up from the isthmus to the fundus. In complicated cases, and when the prospect of pregnancy is very remote, the sutures have been placed occasionally a little higher. All the sutures that penetrate to any part of the uterine tissue are buried sutures at the finish. The abdominal wound is closed in the usual way, and it is an advantage to suture separately the edges of the fascia with fine silk. The last step in every case is the introduction of a glycerine pad pessary into the vagina to press forward and support the uterus as a splint during the formation of adhesions. The patients are kept in bed for about a month.

It will be seen that this operation of hysteropexis hypogastria differs in principle as well as in organic details from ventrifixation or ventrisuspension described in many articles and text-books. Among the most important of the differences in its bearing on pregnancy and parturition is the avoidance of thickening of the anterior walls of the uterus. My article on Hypertrophy and Erosion of the Lip of the Os Uteri, a Pathognomonic Sign of Chronic Flexion,[3] appears to me to have produced irrefragable proof by the logical method of concomitant variations that in chronic retroflexion the nutrition of the uterine walls varies with the relations of body to cervix, and in retroflexion there is always thickening of the posterior or concave wall of the uterus, the visible sign being hypertrophy with erosion of the posterior lip of the os uteri. If the uterus is brought into anteflexion to a pathological extent such thickening of the anterior wall and thinning of the posterior wall as to cause dystocia must be the result; if pregnancy occurs this thickening may even develop to the extent of requiring treatment by embryotomy or Cæsarean section. All ventrifixation operations in which sutures are introduced into the fundus uteri or farther back, and especially vagino-fixation operations, produce this pathological thickening of the anterior uterine wall and dangerous thinning of the posterior wall. Some very dreadful cases of complications resulting from this malposition have been reported from America and Germany. There are fewer from France, because of the prevalence of a better technique. On this subject, writing in the *L'Echo Médical du Nord* in 1904, Oui has been friendly enough to state: "The fixation of the fundus by Leopold, Mundé, and Noble, especially when it is fixed near the symphysis, is particularly objectionable. The only proper place for the insertion of the sutures is the anterior wall of the uterus below the line of insertion of the tubes. The methods of Sinclair and Laroyenne for this reason are preferable to those described by other authors." The aim of the operator should be to retain the uterus in a position the most nearly attainable to the normal anteversion without any undue dragging or tension at any point. If this rule is not observed the tissues of the uterus will resent the unnatural relationship, and if pregnancy occurs the most favourable result will be dystocia, the least favourable an obstetric disaster.

Another difference in favour of hysteropexis hypogastria is that it may justly claim to be an effective method for the cure of sterility. Pregnancy after operation instead of

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[3] Journal of Obstetrics and Gynæcology of the British Empire, September, 1903.

THE LANCET.

LONDON: SATURDAY, OCTOBER 3, 1908.

There is No Decay.

WE have before us a reprint of a lecture with this title delivered under the auspices of the Independent Lecture Society of Liverpool in the early part of this year and now published[1] at a popular price. We commend its perusal to medical men because the rapid evolution that is taking place in our science makes due appraisement both of our workers and our theorists very difficult, and the lecturer has many shrewd and humorous things to say upon this situation. Not infrequently we read indiscriminate praise of the heroes of to-day, while in other quarters we may find that it is the old masters who are especially praised, and unfortunately this is easiest done by belittling the period in which we live. It is especially against this latter form of criticism that the lecture is delivered, and the tendency to decry the great men of to-day is found in our profession perhaps as much as in other callings. The habit of detracting from contemporary performances, indeed, is not an uncommon one. It is not confined to those whose duty or pleasure it is to publish their views upon literature, art, science, philosophy, or religion, but it prompts the utterance in private circles of opinions held by persons who are scrupulous in other matters to accord to every man his due, and who would be keenly distressed to realise that they were denying justice in their ill-considered judgments. It is chiefly, according to our experience, in conversation that medical men appear to hold their leaders of to-day cheaply; public references to them in literature are usually much more generous. In the words of Mr. ROSS, "An overweening modesty in us seems to persuade us that it is quite impossible we should be fortunate enough to be the contemporaries of great men," and he attacks this particular phase of pessimism by showing that it has been manifested in all ages and countries, and against many to whom the mature judgment of succeeding generations has accorded undying fame. The very persons who are used to bring the modern celebrity into his right and modest place, in their turn, when they were modern, were subjected to analogous treatment. A lecturer in discussing this situation would naturally find his most striking instances of misleading criticism in opinions upon literature and art, which though delivered by the pundits of their day have since been proved absurd, but Mr. ROSS's words, as he himself perceived, also have their meaning for a scientific audience.

In literature and in art the need for special training, for knowledge, and for judicial qualities on the part of the critic is not recognised by the general public, and criticism is often accepted as sound and as evincing special discernment and acumen, merely because it voices the uneducated opinion of the average individual. The same does not quite hold good in science. The average individual himself, because he can see a picture so far as his eyes are concerned, and can read a romance or a poem so far as education in reading is concerned, believes himself qualified to pronounce upon it, and if he does not praise or condemn it in the public press or on the public platform he has no hesitation in according his meed of approval or disapproval to the utterances of those who do. The public press, in such matters at all events, is tempted by the line of least resistance, and the critic not too learned and not of too original a bent of mind is likely to find a smoother path before him than he who preaches to a limited but discerning audience in the wilderness. In science and in philosophy it is somewhat different, for so far as public or lay opinion is concerned the smatterer who cannot go to original sources and study for himself at first hand has to take his opinions from reviewers or critics who, in order to lay what is wanted before a special audience, must be themselves well trained. All great men of science have not, of course, experienced the pleasure of seeing their discoveries appreciated by their contemporaries, but the judgments, whether favourable or the reverse, have generally come from competent persons. In these circumstances Mr. ROSS finds examples of the want of appreciation accorded to art and literature by contemporary critics more frequent and more obvious than any similar mistakes made with regard to scientific performance. He instances the records of contemporary opinion denouncing the drama of EURIPEDES; he lays before us the opinion of GRAY that England made no advances in painting and sculpture, so that the poet wrote of these arts to a correspondent in 1763: "You are generous enough to wish, and sanguine enough to see, that art shall one day flourish in England! I, too, much wish but can hardly extend my hopes so far"; and he calls to our minds the reception accorded to such men as WORDSWORTH, COLERIDGE, BYRON, KEATS, SHELLEY, SWINBURNE, and ROSSETTI. He also emphasises the point in the passages which give the title to his lecture that even in periods in which posterity claims to find decay in a particular branch of intellectual development there has been no decay of intellect but a progressive development of it in fresh directions, due possibly to causes connected with the progress of public events, or perhaps to reasons less easily traced and assigned.

Admitting that the scope of his discourse is, strictly speaking, limited to literature and art, and disclaiming the right to speak with authority of science, Mr. ROSS here uses the progress of medicine in happy illustration of his theme. "Let us take medicine," he says. "Medicine is primarily based upon the study of anatomy or structure, of physiology, or the scheme of structure carried out in life, and of botany and chemistry as representing the vegetable and mineral worlds where the remedies are sought. Anatomy soon reaches a finite position when a sufficient number of careful dissections have been made; the other divisions used confinements and she had post-partum hæmorrhage every time. It was on account of flooding after the seventh labour that Dr. Fraser was first called in by a midwife in attendance. At the time the patient was seen by me in consultation with Dr. Fraser the cervix was found to be so badly lacerated that it simulated malignant disease. The uterus was acutely flexed backwards. Ventrifixation was considered to be the best treatment. Patient at interview (June, 1908) said that her three confinements since the operation have been much "better." No hæmorrhage after labour. No discomf[illegible] The uterus was found to be in normal position; [illegible] backward displacement. (This is Case 2 in [illegible] "Hypertrophy and Erosion ...... a Pathognomonic Sign" already referred to.)

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[1] There is No Decay a lecture delivered by Robert Ross in the Old Bluecoat School, Liverpool, on Feb. 12th, 1903. Liverpool, The Northern Publishing Company, Limited. Pp. 38. Price 1s.

CASE 7.—Mrs. W. L., aged 27 years; not been pregnant. Patient of Dr. A. Carmichael, Barrow-in-Furness. Retroflexion with symptoms; dysmenorrhœa worse since marriage. Examined under anæsthesia on May 11th, 1905. Uterus in acute retroflexion; body so large that it could not be manipulated forward without violence; not fixed by adhesion. *Hysteropexis on May 15th, 1905.* No divergence from the routine. Post-operative history without incident. Patient went home on June 21st. When pregnancy occurred in 1906 there were none of the usual symptoms, except amenorrhœa, and it was *only the increasing* volume of the uterus that settled the diagnosis. Labour began on Oct. 17th, 1906. It was rather slow at first and under anæsthesia occipito-posterior position was made out and rectified by manipulation. Forceps were then applied and labour completed without any incident worth noting. The puerperium was absolutely normal. The child was kept at the breast for some months, then the milk became scanty without apparent cause, except the maternal constitution.

These illustrative cases might be multiplied at intolerable length, but the present purpose can be served by the select few. The cases here given illustrate some of the chief points in the clinical history of pregnancy after hysteropexis. They are not chosen as the most favourable, but as characteristic some of them with even slightly unfavourable features.

The operation could not be pushed even though any one was foolish enough to try; it must be judged on its merits fairly stated, and proved by experience. I believe it will stand the test.

Manchester.

CANCER OF THE COLON: A STUDY OF 72 CASES.

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THE portion of bowel under consideration is that which reaches from the ileo-cæcal valve to the termination of the pelvic colon, that is about the level of the third piece of the sacrum. Cancer may occur anywhere in the colon, but it has a special selection for certain sites. It is convenient for the purposes of classification and treatment of cancer of the colon to divide the latter into its several arterial segments, by which I mean that the colon may be more or less divided into several portions by the vessels which supply it. Commencing at the cæcum these vessels are—the ileo-colic, the right colic, the middle colic, and the inferior mesenteric arteries. The ileo-colic and right colic arteries supply the cæcum and greater part of the ascending colon. It is better to consider this tract of bowel as one for the present purpose. The middle colic by its two main branches supplies the transverse colon and the termination of the ascending and commencement of the descending colons. The inferior mesenteric artery supplies the remainder. In this series of 72 cases the growths were distributed as follows:—

1. *Those in connexion with the ileo-colic and right colic arteries.*—17 were in this region. This site is conveniently called the cæcal region. The actual anatomical position of the growth is variable. In 16 of the cases the growth was examined either post mortem or as removed at operation. In only two was the cæcum entirely free from growth. The growth in these was in the ascending colon a little way above the site of the ileo-cæcal valve. In the remaining cases the cæcum was in whole or in part involved, often together with the ascending colon. Although all growths here are not strictly limited to the cæcum (on the contrary, a growth in the ascending colon may not invade the cæcum at all) I consider it better to include them under one heading since I believe that the lymphatic drain is very much the same, and hence from an operative point of view they are inseparable, and I think clinically they will generally not be distinguishable.

2. *Those in connexion with the middle colic artery.*—There were 18 in all situated in the bowel supplied by this artery. They were distributed as follows: (*a*) at the *hepatic flexure* there were five. These were more or less accurately at the flexure, but involved the colon on either side of the flexure also to some extent. (*b*) In the *transverse colon* without involvement of either flexure there were three. (*c*) In the region of the *splenic flexure* there were ten. The growth was not always strictly at the flexure, for in two cases it was at the commencement of the descending colon about two inches or so below the flexure. Such growths are in whole or in great part supplied by the middle colic artery and hence are included here.

3. *Those in connexion with the inferior mesenteric artery.*—There were 37 situated in the iliac and pelvic colons. The distinction of this part of the bowel into the *iliac* and *pelvic* colons is in accordance with anatomical description and founded upon the more common arrangement of the peritoneum. But the latter is very uncertain and for the present purpose it has no particular bearing and the bowel is best considered as one and called the *pelvic* colon. The only feature of importance which can be assigned to the division is that a growth occurring in the bowel which is fixed to the iliac fascia is more likely itself to become adherent than one in the bowel which is suspended by a mesentery.

The importance of determining which arterial segment bears the cancer is, I think, very prominently brought out in the study of the lymphatic drain of various parts of the colon. It seems to me of great importance to bear this in mind when operating for these growths. Any operation for cancer is not merely that of removal of the primary growth but also its lymphatic drain as thoroughly as can be performed in accordance with the anatomy of the part.

In the results which I am about to report it may be understood that all cases which were examined post mortem or specimens which were removed at operation were submitted to microscopic examination. Several sections of each gland were examined, but not serial sections.

Cancer of the Colon in many Cases a Local Disease.

Forty-one cases I have traced to the post-mortem room The duration of symptoms in these ranged from a week to three years. In only six were there any visceral deposits, that is, in just under 15 per cent. It may be pointed out that it was not in those which suffered from a long duration of symptoms that the visceral deposits occurred; on the contrary, however, for the duration of symptoms was comparatively short, varying from two to six months. In 20 further cases I have been able to trace the after history. Some of these were successful excisions, others were those upon whom colostomy had been performed. The latter were not microscoped, and hence the diagnosis must remain in doubt. But it is probable that most, if not all, were cancer, seeing that there are not many conditions which may be confused with cancer of the large intestine. Many of these cases I have seen personally; in others I am indebted to the medical practitioner in attendance for very kindly furnishing me with the notes. In only one was there evidence of secondary visceral deposit. In one other upon which an anastomosis had been performed the whole abdomen filled with growth before death, and it was impossible to say where it was. These clinical observations are obviously unsatisfactory, but they may at the least be regarde as suggestive and bearing out the post-mortem pathology. In the cases in which there were secondary visceral deposits post mortem the liver was involved in every one. In two in addition the ovaries were involved, in one case both ovaries, and in the second only one. In neither of these two was there any peritoneal deposit. Cancer of the ovary secondary to bowel cancer is well recognised and there are several papers upon the subject in the literature. The primary growth was in one at the commencement of the descending colon and in the other in the pelvic colon. In a further case the peritoneum was diffusely studded with tiny secondary growths, in addition to the infection of the liver. It may be gathered from these figures that cancer of the colon is in many cases a local disease and that secondary visceral deposits are not the great barrier to any radical operation.

The Lymphatic Spread.

In a communication to the *Practitioner* in 1903 I published some observations on cancer of the colon with especial reference to its lymphatic spread. Since that date I have had opportunities of extending those observations upon many more cases working on the same lines. The lymphatic drain come from a class of persons who lead reckless, intemperate, and poverty-stricken lives. Contrary to the general opinion, the Commissioners believe that prison life as it exists in Ireland does not in any way promote the development of tuberculous disease. That life consists of open-air employment, good and sufficient food, perfect cleanliness, and general hygienic conditions by night as well as by day, together with properly regulated association at labour and during exercise. The majority of prisoners are occupied for the greater part of the day in manual labour in the open air. Two of the chief employments—stone-breaking and firewood making—are entirely open-air work, and a considerable area of land is attached to most of the Irish prisons, on which many of the prisoners are employed in gardening. The classes working in association at bag-making and mat-making have the advantage either of constant open-air life or of well-ventilated workshops. The prison cells are in all cases well ventilated and well lighted, and are kept thoroughly clean. Smoking is allowed to a portion only of the prisoners, and to these only during the hours of exercise, so that there is less temptation to spit than in outside life—one dangerous source of infection is thus removed. The medical officers exercise great care in the treatment of individual prisoners, and they are authorised to prescribe for prisoners in cells, as well as for patients in hospital, such alterations in diet and exercise as to them seem necessary on medical grounds. To most of the prisoners this change in the conditions of life is definitely beneficial. As drinking to excess is the cause of most of the minor offences in Ireland, it will readily be understood that many of the prisoners on committal present the appearance of having been ill-fed as well as ill-clad, and of having been exposed to cold and wet and to the hardships of a badly regulated life. Many of them also are obviously the victims of intemperance. For such the shelter of prison, with its wholesome food, equable temperature, and healthy occupation, constitutes a veritable sanatorium. It is mentioned in the report that fresh milk enters largely into the composition of prison dietary, each prisoner consuming on the average a pint daily. In these circumstances, we are not surprised to learn that under the *régime* provided for them the prisoners of Ireland are improved in every way and that on their discharge they weigh more than on their committal to prison. Very complete statistics of disease and mortality among Irish prisoners are contained in the report and from these we gather that they enjoy remarkably good health. It appears to us that these institutions, under the admirable management of the Prisons Board, will prove a valuable asset in the crusade against tuberculosis now going on in Ireland.

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Syphilis in Uganda.

WE have received from Colonel F. J. LAMBKIN, of the Royal Army Medical Corps, under the title of "Syphilis in the Uganda Protectorate," a paper read by him before the United Services Medical Society, and containing the most ghastly account of the ravages of the disease which has appeared since the first publication of the history of the siege of Naples in the fifteenth century. Notwithstanding the terrible consequences of sleeping sickness in the Protectorate Colonel LAMBKIN is inclined to regard syphilis as a still greater evil, possibly because the trypanosome kills its victims, while the spirochæta of syphilis leaves them to transmit the consequences of their malady to future generations, and thus to lay the foundations of racial degeneracy or extinction. He tells us that while the opening up of Africa from the west has been responsible for the introduction of sleeping sickness, the opening up from the east has been the main cause of the visitation of syphilis. It is not that the disease was previously unknown, for there is evidence of its occasional presence for many years, and it is supposed to have been introduced originally about 1850, during the Arab invasion, but it existed only to a small extent. About 12 years ago there was a more or less sudden outbreak among the Baganda tribe who are the predominating inhabitants and who are described as of mixed negro type, sturdy in physique, extraordinarily intelligent, willing, hard-working, and on the whole honest. Colonel LAMBKIN quotes from Sir HARRY JOHNSTON a description of them as "the Japanese of the dark continent, the most naturally civilised, charming, kind, tactful, and courteous of black people." Since the introduction of syphilis among them it has gone on increasing, both numerically and in virulence, *until* at the present time more than half the population of the Protectorate is infected. In some districts it is estimated that 90 per cent. suffer; the *infant mortality which it* produces is as high as 50 or 60 per cent., *and it is the chief* cause of the sterility which exists throughout the country. As things are at present, the entire population is in danger of being exterminated by syphilis in a very few years, or of being left a degenerate race fit for nothing To complete the picture of the magnitude of the evil we are told that the Protectorate has an area of 130,000 square miles, and a population of 3,000,000, while the population of Uganda proper is about 1,000,000, of whom 100,000 are said to be Christians.

Colonel LAMBKIN describes the type of the disease as being that which is usual when it is implanted on virgin soil and allowed to run riot without treatment. It resembles the late Sir WILLIAM FERGUSSON's description of what he saw in like circumstances in Portugal in 1813—namely, mutilation everywhere. He said then of *Lisbon* that more cases of mutilation from syphilis could be seen in that city in one day than could be found anywhere else in a year. Under analogous conditions the disease has assumed its well-known characteristic virulence. In the primary form the true Hunterian chancre is the rule, and *this often takes* on a phagedænic character and produces wide destruction of surrounding parts. The second stage is characterised by intense and confluent eruptions, ulcerations of the mucous membranes, laryngitis, iritis, periostitis, affections of the joints, profound anæmia, cachexia, and general disturbances of nutrition. In some cases the principal secondary manifestations are of a nervous kind, as exemplified by neuralgic pains, asthenia, paralysis, and analgesia. The tertiary stage is represented by early rupial syphilides which extend rapidly and deeply over the body and limbs; osteo-arthritic manifestations, with s

The splenic flexure region.—There were ten cases of cancer here. The growth was practically at the flexure in eight and in two was really at the commencement of the descending colon. Seven were examined post mortem, but in only six have I a note of the glands. In one the growth was of large proportions and adherent to neighbouring structures and no glands could be found. In the five cases glands were enlarged in the vicinity of the primary growth, in the angle of the flexure or a little posterior to it in relation to the spleen, or to the inner side of the descending colon. In one case glands were found in the adjacent great omentum. In three glands were also present in the mesocolon near to the lower border of the proximal transverse colon. In a further case which was successfully excised the patient is well six years after. In this there was a chain of glands running along the transverse colon and half of the latter was removed. In four out of the six cases the glands were infected with cancer. Glands *per se* would not have prevented a radical operation in any one of these cases.

I would suggest that the removal of a growth in the splenic flexure region be planned on the same lines as that for one of the hepatic flexure. The splenic flexure may be mobilised by division of the peritoneum on the outer side of the descending colon and the costo-colic ligament. I would also suggest that the corresponding half of the transverse colon also requires removal in order to remove the lymphatic drain which is in the mesocolon. I have not seen glands in association with the left colic artery but it seems probable that the lymphatics may pass this way. The descending colon, after division of the peritoneum on its outer border, may be stripped inwards over the lower pole of the kidney and freely excised with the possible lymphatic drain along the left colic vessels.

The Lymphatic Drain of the Ilio-pelvic Colon.

The inferior mesenteric artery supplies this tract of bowel. Arising from the inferior mesenteric artery at about half to three-quarters of an inch from its commencement is the left colic artery. The latter runs upwards and to the left well over the iliac crest to the descending colon, anastomosing with the middle colic artery below the splenic flexure. The left colic artery may be said to supply that part of the colon from two inches or more below the splenic flexure to a point in the iliac fossa. The anastomosis between the left colic and the next vessel (the sigmoid artery) is a little below the level of the iliac crest. The sigmoid artery arises from the inferior mesenteric artery just below the left colic. It usually almost at once divides into two branches of nearly equal size. These vessels form arches which supply the loop of bowel from somewhere near the iliac crest to the lower end of the pelvic colon—that is, to about three inches or so above the peritoneal reflection at the base of the pelvis. The sigmoid vessels are for the most part between the layers of the mesentery of the pelvic colon but if the latter be absent in the iliac fossa for a short course the upper arteries may be retroperitoneal. The third vessel from the inferior mesenteric is the superior hæmorrhoidal artery. This passes over the pelvis in close contact with the brim and supplies the lower part of the pelvic colon.

Assuming that the glandular drain from the pelvic colon would more or less closely follow these vessels the first care is to determine from which arterial segment of bowel the cancer arises. This has been possible in many cases without any dissection. But in those cases where the mesentery is short the point may further be demonstrated after freeing the bowel by division of the peritoneum in the iliac fossa on its outer side and stripping it in towards the mid-line. The bowel is thus separated from the iliac fossa with the retroperitoneal tissue over the ureter and spermatic vessels to the origin of the inferior mesenteric trunk. By prolonging the incision in the peritoneum down along the pelvic wall, taking care to avoid the above-named structures, which have been already exposed and can therefore be readily protected, the whole ilio-pelvic colon may be separated from all its connexions, except the vascular supply and the leaf of peritoneum on the mid-line aspect. This enables the arteries to be freely exposed and it may be determined which vessel supplies the cancer-bearing portion of bowel.

Eighteen post-mortem examinations were made upon growths in the pelvic colon. In 16 of these the growth was in that part of the colon supplied by the sigmoid artery. In two it was quite low down and was supplied, anyhow in part, by the superior hæmorrhoidal artery. In no case was a growth situated in that part of the colon from two inches or so below the splenic flexure to the middle (about) of the iliac fossa. In some (two at least) of the growths in the splenic flexure region the left colic artery in part supplied it, or presumably it did as judged from its situation. I have not found any glands along this artery but then my chances have been too few to observe growths in this region, but nevertheless should consider that in such growths it would be advisable to remove the descending colon, the peritoneum, retroperitoneal tissues, and left colic artery. In 17 of the 18 cases enlarged glands were present. In every instance they were found in close proximity to the primary growth. In six glands were found at some distance from the primary growth near to, or at the base of, the mesentery. They were more or less in association with the vessels supplying the bowel. If the bowel were well freed as described above it was seen that the glands were not the retroperitoneal ones along the iliac vessels, but were actually situated between the layers of the mesentery. The extent of the glandular enlargement varied in these six cases, but in three it may be said that the highest gland was well below the origin of the sigmoid artery, whilst in three glands were higher than this and were more or less in connexion with the inferior mesenteric artery, and even higher than this, that is, they were the lumbar chain. Believing that the spread would tend to be finally along the inferior mesenteric artery I have always looked particularly for glands along the latter vessel, but have only found them in the cases indicated. In many cancer was absent in the glands, and, in fact, in only two-thirds of cases were cancer cells found. In addition to these post-mortem examinations there were eight cases of excision, with a very moderate resection of mesentery. In one a local and superficial glandular recurrence took place; this was excised and four years later there was no evidence of recurrence. A second recurred extensively in the lumbar glands. Five of the remaining six are in good health at intervals varying from ten months to three years. The sixth cannot be traced.

These figures incline one to the belief that cancer in this region is, for some time anyhow, a more or less local disease and involves those glands only in the immediate neighbourhood. It also shows that all enlarged glands are not necessarily cancerous, and it may be suggested that if the radical operation is thought impossible on account of glandular involvement only the operation need not be always at once renounced, but may be undertaken in the hopes that the level of an extensive resection will be above the most distal glandular cancer-infection. It may be mentioned here that in this series glandular involvement only was not in any single instance a barrier to the radical operation. In three cases, it is true, glandular infection would have, I think, prevented removal, but in these there were other contra-indications, such as adhesion of the primary growth.

Although a very fair amount of success has in this series been attained by the removal of a very moderate amount of the lymphatic tract it is not my intention to advocate such a limited resection. My observations lead me to the belief that in cases where the cancer is in that part of the bowel supplied by the sigmoid artery a resection of this loop with the contained mesentery to the origin of the vessel will be the most satisfactory method of dealing with it. It is quite easy to ligature the inferior mesenteric trunk nearly at its origin with the removal of the tissue around it, but in the cases I have examined with glands along this vessel this would not have been sufficient. It has always seemed to me that such a procedure would of necessity mean a colostomy, and having very serious doubts whether anything is gained by it I think that a resection just below this and the avoidance of a colostomy would in the majority of cases be equally efficient.

The operation in brief is as follows. A long left paramedian incision gives the best access. The peritoneum is then divided in the iliac fossa to the outer side of the colon; this division may extend up some distance along the descending colon if necessary, and may be prolonged downwards into the pelvis. The colon and the retroperitoneal tissues are stripped up from the iliac fossa over the ureter and spermatic vessels which are seen and guarded, and it is necessary to expose these before the incision is carried down into the pelvis. This freeing of the colon may be carried come from a class of persons who lead reckless, intemperate, and poverty-stricken lives. Contrary to the general opinion, the Commissioners believe that prison life as it exists in Ireland does not in any way promote the development of tuberculous disease. That life consists of open-air employment, good and sufficient food, perfect cleanliness, and general hygienic conditions by night as well as by day, together with properly regulated association at labour and during exercise. The majority of prisoners are occupied for the greater part of the day in manual labour in the open air. Two of the chief employments—stone-breaking and firewood making—are entirely open-air work, and a considerable area of land is attached to most of the Irish prisons, on which many of the prisoners are employed in gardening. The classes working in association at bag-making and mat-making have the advantage either of constant open-air life or of well-ventilated workshops. The prison cells are in all cases well ventilated and well lighted, and are kept thoroughly clean. Smoking is allowed to a portion only of the prisoners, and to these only during the hours of exercise, so that there is less temptation to spit than in outside life—one dangerous source of infection is thus removed. The medical officers exercise great care in the treatment of individual prisoners, and they are authorised to prescribe for prisoners in cells, as well as for patients in hospital, such alterations in diet and exercise as to them seem necessary on medical grounds. To most of the prisoners this change in the conditions of life is definitely beneficial. As drinking to excess is the cause of most of the minor offences in Ireland, it will readily be understood that many of the prisoners on committal present the appearance of having been ill-fed as well as ill-clad, and of having been exposed to cold and wet and to the hardships of a badly regulated life. Many of them also are obviously the victims of intemperance. For such the shelter of prison, with its wholesome food, equable temperature, and healthy occupation, constitutes a veritable sanatorium. It is mentioned in the report that fresh milk enters largely into the composition of prison dietary, each prisoner consuming on the average a pint daily. In these circumstances, we are not surprised to learn that under the *régime* provided for them the prisoners of Ireland are improved in every way and that on their discharge they weigh more than on their committal to prison. Very complete statistics of disease and mortality among Irish prisoners are contained in the report and from these we gather that they enjoy remarkably good health. It appears to us that these institutions, under the admirable management of the Prisons Board, will prove a valuable asset in the crusade against tuberculosis now going on in Ireland.

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Syphilis in Uganda.

WE have received from Colonel F. J. LAMBKIN, of the Royal Army Medical Corps, under the title of "Syphilis in the Uganda Protectorate," a paper read by him before the United Services Medical Society, and containing the most ghastly account of the ravages of the disease which has appeared since the first publication of the history of the siege of Naples in the fifteenth century. Notwithstanding the terrible consequences of sleeping sickness in the Protectorate Colonel LAMBKIN is inclined to regard syphilis as a still greater evil, possibly because the trypanosome kills its victims, while the spirochæta of syphilis leaves them to transmit the consequences of their malady to future generations, and thus to lay the foundations of racial degeneracy or extinction. He tells us that while the opening up of Africa from the west has been responsible for the introduction of sleeping sickness, the opening up from the east has been the main cause of the visitation of syphilis. It is not that the disease was previously unknown, for there is evidence of its occasional presence for many years, and it is supposed to have been introduced originally about 1850, during the Arab invasion, but it existed only to a small extent. About 12 years ago there was a more or less sudden outbreak among the Baganda tribe who are the predominating inhabitants and who are described as of mixed negro type, sturdy in physique, extraordinarily intelligent, willing, hard-working, and on the whole honest. Colonel LAMBKIN quotes from Sir HARRY JOHNSTON a description of them as "the Japanese of the dark continent, the most naturally civilised, charming, kind, tactful, and courteous of black people." Since the introduction of syphilis among them it has gone on increasing, both numerically and in virulence, until at the present time more than half the population of the Protectorate is infected. In some districts it is estimated that 90 per cent. suffer; the infant mortality which it produces is as high as 50 or 60 per cent., and it is the chief cause of the sterility which exists throughout the country. As things are at present, the entire population is in danger of being exterminated by syphilis in a very few years, or of being left a degenerate race fit for nothing To complete the picture of the magnitude of the evil we are told that the Protectorate has an area of 130,000 square miles, and a population of 3,000,000, while the population of Uganda proper is about 1,000,000, of whom 100,000 are said to be Christians.

Colonel LAMBKIN describes the type of the disease as being that which is usual when it is implanted on virgin soil and allowed to run riot without treatment. It resembles the late Sir WILLIAM FERGUSSON'S description of what he saw in like circumstances in Portugal in 1813—namely, mutilation everywhere. He said then of Lisbon that more cases of mutilation from syphilis could be seen in that city in one day than could be found anywhere else in a year. Under analogous conditions the disease has assumed its well-known characteristic virulence. In the primary form the true Hunterian chancre is the rule, and this often takes on a phagedænic character and produces wide destruction of surrounding parts. The second stage is characterised by intense and confluent eruptions, ulcerations of the mucous membranes, laryngitis, iritis, periostitis, affections of the joints, profound anæmia, cachexia, and general disturbances of nutrition. In some cases the principal secondary manifestations are of a nervous kind, as exemplified by neuralgic pains, asthenia, paralysis, and analgesia. The tertiary stage is represented by early rupial syphilides which extend rapidly and deeply over the body and limbs; osteo-arthritic manifestations, with severe of the alimentary canal. I have been particularly careful in my inquiries to ascertain the previous history, and in no case have I been able to suspect the sequence of simple inflammation and cancer in the intestine.

At the time when the patients came under observation it was only possible to excise the growth in five cases. Suppuration, adhesions to the posterior abdominal wall, to the anterior abdominal wall in one case and the small intestine were the reasons why extirpation could not be performed. I have traced two cases of excision. One was operated upon six years ago and is now in good health. In this the whole cæcum, ascending colon, and a part of the transverse colon with the lower ileum were removed. The second case, a less extensive resection of the colon, is well two years after.

Three cases of anastomosis I have been able to trace. Two died in five and seven months respectively. The third is alive but very weak nine months after the operation.

The clinical characters of growths elsewhere than in the cæcal region.—*Age incidence.*—The youngest was 15 and the oldest 89 years of age. Arranged in decades the numbers were as follows:—

Under 20 years				1 case.	
Between 30 and 40 years				5 cases.	
,,	40	,,	50 ,,	10	,,
,,	50	,,	60 ,,	17	,,
,,	60	,,	70 ,,	15	,,
,,	70	,,	80 ,,	6	,,
Over 80 (89) years				1 case.	

The sexes were about equally affected. There were 29 male and 26 female cases.

Of the 55 cases, I have been able to learn the previous history of 46. In eight of them there was a history of long-continued constipation. In three this had been present practically the whole lifetime. In the remainder it had been present for some years. But constipation was the only feature in these. It was never associated with any pain, diarrhœa, or hæmorrhage, neither was there any symptom elicited suggestive of a simple stricture. In other words, I have not traced in any case the relationship between malignant disease and simple inflammation of the bowel.

The onset of symptoms could practically in all cases be dated with precision. It invariably affected persons in otherwise good health with the exception of those who suffered from chronic constipation, and this was not regarded as anything other than normal by these patients. In a few cases the onset was not quite so definitely fixed. The patients described their symptoms as of a few weeks' or months' duration. But in by far the majority of cases the onset was more or less abrupt and its time of occurrence could be fixed with great precision. The symptoms of cancer are, of course, those which are directly dependent upon a progressive narrowing of the lumen of the bowel and the consequent hypertrophy of the gut above. Recurrent spasms of pain, gurgling of flatus as it is forced through the stricture, the discomfort caused by the inhibition of free passage of intestinal contents, anorexia, gradual failure of health and weight, and a progressive difficulty in the evacuation of the bowels are the main features. The hypertrophied gut above the stricture may be felt, or might be brought into prominence by a little gentle rubbing of the abdominal wall. This ought to be an early sign of a progressive stricture. Such symptoms were in general present in this series. They are all familiar and require no special comment. There are other clinical characters of which brief mention may be made. These are (1) the characters of the motions, and (2) the presence of an abdominal tumour.

1. There is constipation in the majority from the very commencement of the illness. But in a few this has not been so. In this series in about one-ninth this was said not to be present until some time after other symptoms. But in all it sooner or later was present. It may be that the bowels do not move daily or every other day, but what is of equal importance is that the quantity of fæces passed is distinctly less than normal. Attacks of diarrhœa sometimes occurred. Such were noted in about one-sixth of cases only, and in these the growth was in the pelvic colon with one exception, where it was at the splenic flexure. These attacks generally occur after a period of more than usually obstinate constipation. Some catarrh is no doubt set up by the retained and irritating intestinal contents. When the stricture relaxes and allows of a passage once more these catarrhal products are hurriedly rushed along and the result is that several loose motions may be passed for a day or so. Such motions may contain mucus and even blood. This was not a common symptom in this series. It is what is generally referred to as alternating constipation and diarrhœa. Constipation was the characteristic and diarrhœa the exception. When such spurious diarrhœa occurred it was unusual to have more than two or three attacks, and it would be very misleading to give as a symptom of cancer of the colon alternating constipation and diarrhœa. Apart from this diarrhœa mucus was observed in the motions on five occasions. Four of these were growths in the pelvic colon and in one the growth was at the splenic flexure. Blood in the motions was absent in the majority of cases. By this is understood visible blood; in no case was a microscopical or chemical examination made to determine its presence or absence. In one in the transverse colon, two at the splenic flexure, and in only 14 out of 37 growths in the pelvic colon was blood noted. In all it was particularly asked for and the stools were examined whenever possible.

2. *A palpable tumour.*—A tumour was by no means always felt. Its presence will depend upon its situation, its size, and the state of distension of the abdomen. When the abdomen was not too distended to permit of examination a tumour was felt in this series as follows. In two cases out of three at the hepatic flexure, every case (three) at the transverse colon, in three cases out of seven at the splenic flexure, and in seven cases out of 22 in the pelvic colon. In two additional growths in the latter region a mass of undetermined connexions was felt through the vagina. A tumour was palpable therefore in 15 cases out 35 in which the condition of the abdomen permitted of examination—that is, in about 43 per cent. of cases.

The duration of the symptoms of incomplete intestinal obstruction varied considerably before becoming complete. In one the earliest symptom was acute obstruction. No previous history of intestinal trouble could be elicited in this case. The patient was first seen when obstruction had been present for three days and the abdomen was generally distended without evidence of the site of obstruction. That the obstruction was chronic was easily seen from the hypertrophy of bowel. Compensation had been so well maintained that previous to the sudden obstruction there had been no trouble whatever. In two further cases the onset was ten and 12 days previously with an attack of subacute obstruction which yielded to simple measures. Obstinate constipation was present during the succeeding few days which culminated in complete obstruction. Obvious bowel hypertrophy of some duration was present in these cases. The duration of symptoms in the others was from two months to three years. About one-third during this period had suffered from one or more attacks of threatened obstruction which had yielded to aperients or enemata. It may be mentioned that in many (about two-fifths) the administration of frequent and strong aperients had probably actually produced the final obstruction. This may be considered as a warning.

In considering the causes of the terminal obstruction it may be said that there was not one case of volvulus of the bowel above nor one of intussusception, both of which are given as occurring sometimes. In one case the obstruction seemed to be enhanced by the kinking and adhesion of a lengthy loop of bowel above the growth. In two others it was probable that an abscess around the growth determined in part the obstruction. In no case could the impaction of a foreign body or fæcal accumulation be said to be the cause of obstruction.

The onset and progress of the terminal obstruction varied somewhat. In three acute dilatation of the cæcum was the earliest sign. So sudden was this and so pronounced was the distended cæcum that a volvulus or some other mechanical acute obstruction might have been suspected. All three cases gave a comparatively short history. In three in which the symptoms had been by no means urgent but merely those of chronic obstruction an acute dilatation of the colon occurred. The abdomen rapidly became swollen, vomiting was profuse and foul-smelling, and collapse was decidedly marked. Compensation in these had been maintained up to a certain point and then it would appear that the colon suddenly gave out. Possibly antiperistalsis may explain the cases of acute dilatation of the cæcum. In the majority the obstruction was more slowly progressive. The abdomen more slowly distended due to the more or less gradual distension

£200 per annum. Such an inordinate amount of attendance—day and night—was called for that they found it impossible to give it. They have now refused to continue the arrangement, offering, however, to attend all who cannot afford to pay anything for a fixed stipend of £50 per annum, other people to be charged according to their financial position from 6*d.* to 5*s.* an ordinary visit and more for night visits. It is very doubtful if these by no means exorbitant terms will commend themselves to the good people of Bellinzona after they have been accustomed to knock up a medical man at all hours of the day and night without any thought of extra expense to themselves.

A THEORY AND A CRITICISM.

WE publish on p. 1051 a letter from Mr. G. Sherman Bigg which purports to be a criticism of the views generally current of the causal relation of bacteria to disease and offers as a theory the view that bacteria develop in disease after the diseased condition has been engendered by some other agency, and that so far from being the cause of disease bacteria are "Nature's remedy to cure" it. Mr. Sherman Bigg supports his views by a chain of reasoning which is palpably defective, and makes statements which are demonstrably incorrect deductions from observed facts. He begins his letter by the statement that diversity of opinion inevitably tends to the advancement of science, which is in itself an *obiter dictum* which is open to question. It would be more correct to say that thoughtful criticism or difference of opinion, backed by carefully considered evidence, tends towards the advancement of science. He next states that "in many instances the presence of bacteria has been considered the sole proof of the existence of a specified disease." This again is an incomplete and an incorrect statement, since it is only when they conform to certain well-recognised critical conditions—the well-known criteria of Koch—that they are recognised as the causal agents in a given disease. It is precisely these conditions that the opponents of the bacterial origin of infective diseases, who are, by the way, usually out of touch with laboratory methods, lose sight of. It is well recognised that bacteria, even pathogenic bacteria, may be present in an animal organism without actually producing disease, since questions of dose, of virulence, and of resisting power of the host are all concerned, and what people are prone to do in this connexion in concentrating attention upon one factor in a complex process the result of the coincident action of several agencies is to lose sight of, or to ignore, the others. Mr. Sherman Bigg then makes the assertion that "bacteria do not exist in the early stage of disease." The only evidence offered in support of this statement is that bacteriological investigation sometimes fails to establish the specific nature of the disease in some cases until the diagnosis is established by other means. The further assumption is then made, that since pathogenic bacteria "are constantly being inhaled or swallowed without producing any evil result," bacteria cannot flourish in a healthy subject and can only develop in diseased surroundings, and that therefore bacteria are beneficent agents combating the morbid processes. This assumption ignores all the interesting observations which have been made regarding the action of pathogenic bacteria, the isolation of toxins from them, the genesis of disease in animals by inoculation of pure cultures, and indeed the whole of the carefully devised experiments which have resulted in such great advance in our methods of recognising, treating, and preventing infective diseases. We draw attention to Mr. Sherman Bigg's letter, because a similar attitude of mind towards bacteriology and its achievements is not so very uncommon. In spite of the great advances made by the science in the comparatively short space of time which has elapsed since its inception, it should be remembered that it is yet in its infancy, and instead of casting doubt upon its fundamental relation to the pathology of infective diseases, because in certain cases the methods so far evolved as regards diagnosis and treatment may be disappointing, it is better to wait for improvements in these and meanwhile to utilise the undoubted advantages which it has afforded us, and in any case to avoid disparaging those advantages without a careful and critical examination of all the material available.

THE PRESENT PANDEMIC OF PLAGUE.

A VALUABLE report has just been drawn up by Assistant Surgeon-General J. M. Eager, of the Public Health and Marine Hospital Service of the United States, and issued in the form of a pamphlet of 30 pages by the United States Treasury Department, tracing the lines of march taken by bubonic plague during the past 14 years. The revival of plague dates from the year 1894, when it escaped from the remote endemic focus of the disease in the province of Yunnan, China, eventually reaching numerous countries in all quarters of the globe, and in many instances becoming established in defiance of most carefully planned preventive measures. It first reached Canton and then began a series of ramifications that have since become world-wide. All classes among the native population suffered and rats were observed to be affected. In the year 1896 the attention of sanitarians was focussed on the threatening epidemic by the menacing appearance of the disease in Bombay. Although the source of this outbreak is uncertain it is probable that it was imported from Southern China. Notwithstanding considerable opposition founded on the religious prejudices of the native population active sanitary measures were adopted, but these had to be modified later owing to the civil disturbances provoked by the violation of caste distinctions. In the same year the disease reappeared in Hong-Kong and in Canton and two cases occurred at St. Petersburg. In 1897 the Bombay Presidency suffered from a more severe epidemic, resulting in 55,000 deaths, and the disease was present in the Punjab, at Karachi and Madras, and at the Turkish seaport of Jeddah where it was introduced by pilgrims. In 1898 the number of plague cases and deaths in India as compared with the preceding year was more than doubled, great increases occurring in Bombay, Rajputana, and the Punjab. The Presidency of Madras and the State of Hyderabad were invaded and the disease, extending far from its endemic home, reached Madagascar and Mauritius. The spread of the plague westward by Mussulman pilgrimages led at this time to the improvement of quarantines and the prevention of clandestine pilgrimages. Plague continued to increase in India in 1899, 135,000 deaths being reported, and from Hong-Kong it spread to the Straits Settlements. In Europe it visited Portugal, Russia, and Austria, and in South America it reached Paraguay, Brazil, and Argentina. In the year 1900 the disease was present in every quarter of the world, but it was less prevalent in India than in the previous year. Australia then became a plague centre and has lodged the disease ever since. Several notable extensions of the disease took place in Europe, cases being reported at Oporto, Glasgow, London, Cardiff, and Bremen. In 1901 the disease in India increased threefold, 278,000 deaths being recorded. The further history of plague is largely a chronicle of intra-continental expansion, the disease having become established in every continent. It continued to increase alarmingly in India until 1904, when it caused over 1,000,000 deaths. In the same year it was reported at Aden and in Siam, China, Japan, Uralsk, Egypt, South Africa, Mauritius, New Zealand, Australia, the Philippine Islands, South America, and of the alimentary canal. I have been particularly careful in my inquiries to ascertain the previous history, and in no case have I been able to suspect the sequence of simple inflammation and cancer in the intestine.

At the time when the patients came under observation it was only possible to excise the growth in five cases. Suppuration, adhesions to the posterior abdominal wall, to the anterior abdominal wall in one case and the small intestine were the reasons why extirpation could not be performed. I have traced two cases of excision. One was operated upon six years ago and is now in good health. In this the whole cæcum, ascending colon, and a part of the transverse colon with the lower ileum were removed. The second case, a less extensive resection of the colon, is well two years after.

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1. There is constipation in the majority from the very commencement of the illness. But in a few this has not been so. In this series in about one-ninth this was said not to be present until some time after other symptoms. But in all it sooner or later was present. It may be that the bowels do not move daily or every other day, but what is of equal importance is that the quantity of fæces passed is distinctly less than normal. Attacks of diarrhœa sometimes occurred. Such were noted in about one-sixth of cases only, and in these the growth was in the pelvic colon with one exception, where it was at the splenic flexure. These attacks generally occur after a period of more than usually obstinate constipation. Some catarrh is no doubt set up by the retained and irritating intestinal contents. When the stricture relaxes and allows of a passage once more these catarrhal products are hurriedly rushed along and the result is that several loose motions may be passed for a day or so. Such motions may contain mucus and even blood. This was not a common symptom in this series. It is what is generally referred to as alternating constipation and diarrhœa. Constipation was the characteristic and diarrhœa the exception. When such spurious diarrhœa occurred it was unusual to have more than two or three attacks, and it would be very misleading to give as a symptom of cancer of the colon alternating constipation and diarrhœa. Apart from this diarrhœa mucus was observed in the motions on five occasions. Four of these were growths in the pelvic colon and in one the growth was at the splenic flexure. Blood in the motions was absent in the majority of cases. By this is understood visible blood; in no case was a microscopical or chemical examination made to determine its presence or absence. In one in the transverse colon, two at the splenic flexure, and in only 14 out of 37 growths in the pelvic colon was blood noted. In all it was particularly asked for and the stools were examined whenever possible.

2. *A palpable tumour.*—A tumour was by no means alway felt. Its presence will depend upon its situation, its size, and the state of distension of the abdomen. When the abdomen was not too distended to permit of examination a tumour was felt in this series as follows. In two cases out of three at the hepatic flexure, every case (three) at the transverse colon, in three cases out of seven at the splenic flexure, and in seven cases out of 22 in the pelvic colon. In two additional growths in the latter region a mass of undetermined connexions was felt through the vagina. A tumour was palpable therefore in 15 cases out 35 in which the condition of the abdomen permitted of examination—that is, in about 43 per cent. of cases.

The duration of the symptoms of incomplete intestinal obstruction varied considerably before becoming complete. In one the earliest symptom was acute obstruction. No previous history of intestinal trouble could be elicited in this case. The patient was first seen when obstruction had been present for three days and the abdomen was generally distended without evidence of the site of obstruction. That the obstruction was chronic was easily seen from the hypertrophy of bowel. Compensation had been so well maintained that previous to the sudden obstruction there had been no trouble whatever. In two further cases the onset was ten and 12 days previously with an attack of subacute obstruction which yielded to simple measures. Obstinate constipation was present during the succeeding few days which culminated in complete obstruction. Obvious bowel hypertrophy of some duration was present in these cases. The duration of symptoms in the others was from two months to three years. About one-third during this period had suffered from one or more attacks of threatened obstruction which had yielded to aperients or enemata. It may be mentioned that in many (about two-fifths) the administration of frequent and strong aperients had probably actually produced the final obstruction. This may be considered as a warning.

In considering the causes of the terminal obstruction it may be said that there was not one case of volvulus of the bowel above nor one of intussusception, both of which are given as occurring sometimes. In one case the obstruction seemed to be enhanced by the kinking and adhesion of a lengthy loop of bowel above the growth. In two others it was probable that an abscess around the growth determined in part the obstruction. In no case could the impaction of a foreign body or fæcal accumulation be said to be the cause of obstruction.

The onset and progress of the terminal obstruction varied somewhat. In three acute dilatation of the cæcum was the earliest sign. So sudden was this and so pronounced was the distended cæcum that a volvulus or some other mechanical acute obstruction might have been suspected. All three cases gave a comparatively short history. In three in which the symptoms had been by no means urgent but merely those of chronic obstruction an acute dilatation of the colon occurred. The abdomen rapidly became swollen, vomiting was profuse and foul-smelling, and collapse was decidedly marked. Compensation in these had been maintained up to a certain point and then it would appear that the colon suddenly gave out. Possibly antiperistalsis may explain the cases of acute dilatation of the cæcum. In the majority the obstruction was more slowly progressive. The abdomen more slowly distended due to the more or less gradual distension it would be in exposing themselves to the risk of infection at a time when there would be no likelihood of their taking it if they held aloof from that one particular case. The idea of a medical practitioner or nurse running away to a non-infected area in times of epidemic is, we hope, inconceivable. But we are ready and proud to admit that cases of special medical heroism in such times do occur which are particularly worthy of such practical recognition as Mr. Carnegie offers. Ready instances may be quoted from Ireland where it happens often that a district medical officer has to treat typhus fever with no available assistance and perhaps in opposition to an ignorant and frightened peasantry. Many will recall the death of William Smyth seven years ago after his splendid struggle waged against the waves of Donegal and still more against the human cowardice that refused him and his brave colleague, Dr. McCarthy, any aid in rowing over a crazy boat to fetch the patients suffering from typhus fever under his charge from their hovels on Arranmore Island to the hospital on the mainland where they could be treated properly. It will be remembered how Smyth contracted the disease and died, a martyr to duty, if ever there was one. At that time in appealing for a memorial fund to help his widow and eight children we wrote: "If he ever knew that he had accomplished the work that he set himself to do he died without thought of the praise his deed would earn for his memory but only with the consciousness that he was leaving those he loved to face the world before he had time to make provision for them." That bitterness may now be spared to the medical man whose life shall be required of him as the price of his admission to the ranks of such heroes. The profession will be no less grateful that their brothers who have suffered severely in the cause of science or humanity but who have escaped with their lives will be remembered under the benefits of Mr. Carnegie's new trust fund, and in this connexion there will be a general hope that its administration may have the case of Mr. J. Hall-Edwards, whose civil list pension is incommensurate with his injuries, brought prominently before them. Whilst he and many others have sustained grievous hurt in the legitimate pursuit of science it is perhaps well to point out that some have to show less honourable because unnecessary scars. Impetuous youth, especially, in medicine as in all other fields of effort, will continue to mistake carelessness for courage and foolhardiness for devotion to duty. We hope that this fund may not seem to put a premium upon such professional rashness, and we could almost wish that its trustees would debar from its benefits any who, for example, suffer direct infection in a bacteriological laboratory through habitual disregard of common-sense precautions, or who seek to remove diphtheritic membrane from a tracheotomy tube by sucking it, a proceeding which is quite unnecessary when proper provision has been made for emergency, but one which seemingly has an evergreen appeal to popular sentiment.

CATS AS PREVENTERS OF PLAGUE.

THE *Indian Medical Gazette* for August prints another article by Lieutenant-Colonel Andrew Buchanan, I.M.S., advocating the up-keep of cats as the best method of counteracting plague. The paper is rather discursive, but it nevertheless contains a large amount of interesting and valuable information. During the past plague season, says the writer, there have been epidemics of plague in 54 towns and villages in Amroati district, and investigations have been made in nearly all of these to find how far the presence or absence of the disease could be accounted for by the absence or presence of cats. The investigations were made by "assistant surgeons, hospital assistants, tahsildars, patwaris, police, vaccinators, and others," but the results were verified in a general way by Colonel Buchanan himself. The reports that he received were too numerous and too voluminous for the inclusion of even a brief outline of them all in a short paper, but it was, he said, "perfectly clear from a perusal of them that the keeping of cats is *the* method of preventing plague." To all other methods, in his opinion, there are objections more or less grave, but to the keeping of cats there are next to none. Hindus object to killing rats because the rat is the *Sowari* (means of locomotion) of their god Gunpati. Some of them even catch rats in order to let them go free in the fields. Jains, it is true, object to cats, but in small towns they are few in number and in villages they are rarely to be found. In Saur plague was severe among the Bhowani Dhers, but the Mallies, who keep buffaloes and consequently cats, which are attracted by the milk, escaped completely. The Dher is not allowed to keep cats because when a cat has kittens or dies in his house he is put out of caste. Some Dhers living in wattle huts escaped the plague entirely. This at first puzzled Colonel Buchanan until he found that rats do not harbour in that kind of structure. Other Dhers living in mud huts were severely visited by the plague. So greatly was the Dher community impressed by these facts that now many of them keep male cats, thus avoiding the caste penalty so far as the birth of kittens is concerned. "It is a great pity," continues Colonel Buchanan, "that the members of the recent Plague Commission did not make some experiments on the cat as a rat destroyer. Neither the members of the Plague Commission nor Professor Haffkine in his recent lecture on the 'Present Methods of Combating Plague' have, as far as I have seen, said a word about the cat. One member of the Commission gives a whole page of figures to show that, in spite of vigorous efforts for a whole year, the number of rats could not be considerably reduced by traps. He does not tell us whether there was one trap or fifty, but I can assure him that his whole argument would be completely upset if a few cats were introduced." Colonel Buchanan looks upon rat destruction and inoculation as temporary expedients capable in certain circumstances of yielding useful results but both in the main hurtful because they distract attention from the only true remedy. "The more attention we give to inoculation," he says in conclusion, "the less we are certain to give to the only sound common-sense method of preventing plague—viz., the keeping of the natural enemy of the animal that is responsible for spreading the disease."

MORTALITY FROM TUBERCULOUS DISEASE IN THE UNITED KINGDOM.

THE annual report relating to 1907 recently issued by the Registrar-General for Ireland contains an interesting comparison of the relative death-rates from tuberculous disease in England and Wales, Scotland, and Ireland during the 43 years 1864–1906. A diagram in this report shows that in the year 1864 the death-rate from all forms of tuberculous disease was equal to 3·3 per 1000 of the estimated population in England and Wales and to 3·6 per 1000 in Scotland, whereas it did not exceed 2·4 per 1000 in Ireland. We referred to this diagram and to several other points which are raised in the communication which follows, but many of the remarks of our correspondent are interesting, so that we publish them in spite of the occasional repetitions. "In England and Wales the annual death-rate from tuberculous disease has steadily declined during the 43 years referred to, and had fallen to 1·6 per 1000 in 1905 and in 1906, this decline being equal to 51·5 per cent. In Scotland the annual death-rate from this one on each temple. Two morning applications gave her relief for the day, but as the pain came on again at night for three days she was treated twice a day, for nine days once a day, and for a few days longer on alternate days. Except for a few short attacks soon after treatment commenced she had no further pain.

In cases of bladder trouble it has not proved so successful in our hands as is reported from other sources, but one case is worthy of note.

CASE 5.—J. K., a hard-working, sensible girl, had been troubled all her life with frequent micturition, having during cold and damp weather to micturate every ten minutes. For some years past she had to stop from work during winter months. The whole trouble was purely nervous. She had had various medical treatments and had been in nursing homes, receiving little or no benefit. We applied one pad over the lumbar region and the other two well down over the pubes, taking care that they did not touch each other and (as in all cases where it is suspected that the nerves are at fault) the current was used as rapid as possible. This patient improved at once and was able to keep to her work all the winter, but if the treatment stopped for a fortnight she began to relapse, which resulted in her coming for treatment two or three times a week during the cold months.

This form of electrical treatment gives relief in pains of rheumatoid arthritis but we have not been able to give it a fair trial in this class of disease. We ought to mention some difficulties that may arise in treatment. If there is the least break in the cuticle, as a scratch or pimple, the current is painful at this point; such places are best protected with rubber strapping. Laparotomy scars also often give considerable pain during treatment.

The following is a tabulated list of the cases which have been treated with this combination wave-current:—

Condition.	Result.
Constipation with atony of colon.	Recovery 88 per cent.
Alternating constipation and diarrhœa.	Unsatisfactory.
Nervous debility.	Recovery 70 per cent.
Alcoholic neuroses and general paralysis of the insane.	*Nil.*
Rheumatoid arthritis.	Appears to be beneficial.
Dyspepsia.	" " "
Enuresis.	Improvement while under treatment 80 per cent.

Liscard.

NOTES ON A CASE OF ACCIDENTAL POISONING BY CHLORIDE OF ANTIMONY.

BY J. MIDDLETON, M.D. EDIN.

ON account of the clinical features presented, not less than the comparative rarity of accidental poisoning by the salts of antimony, it appears desirable to place on record the following case which recently came under observation.

About 4 P.M., during the temporary absence of the mother in an adjoining part of the house, a male child, aged 16 months—the child is said to have walked since he was nine months old—crawled from his cradle placed on the floor, crossed the apartment, and mounting on a chair managed to reach the top of a dresser standing fully four feet high, near the centre of which stood a firmly-corked bottle containing a preparation which the father, a shepherd, was in the habit of using as a dressing for the feet of sheep affected with foot-rot. Withdrawing the cork, the child put the bottle into his mouth and swallowed a portion of its contents, whereupon the mother was attracted by his screams. It is, of course, very difficult, if not absolutely impossible, to estimate with any measure of accuracy the actual amount of the poison swallowed, but making full allowance for what was spilt on the child's clothes and about him, and having regard to the father's estimate of the quantity contained in the bottle, which had been reduced by fully three tablespoonfuls, it appears probable that the child must have swallowed at least two teaspoonfuls of the liquid. About half an hour before taking the poison the child had a small quantity of milk and a little bread and butter.

Immediately upon discovering what had happened the friends administered hot salt and water and continued to do so at short intervals till my arrival. I then learned that the child had vomited pretty frequently and that the vomit which at first appeared to contain little else than particles of bread and curdled milk, gradually changed to a dark coffee-ground appearance, and this statement I was able to confirm by an examination of the earlier and later vomits, all of which had been retained for inspection. The bottle from which the child had drunk was found to be correctly and carefully labelled "butter of antimony," and still contained about three ounces of a dark orange-coloured fluid, a few drops of which when added to water yielded a whitish-yellow precipitate. When seen about an hour after the poison had been taken the child presented the following symptoms. He lay in a heavy, drowsy state extended on the knees of a neighbour, his head being thrown forcibly back, from time to time exhibiting a struggling and choking sensation, clutching at and complaining of pain in his throat. The lower limbs were alternately forcibly extended or drawn upwards and flexed over the abdomen. Both upper and lower extremities were markedly and persistently cold. The pulse was barely perceptible; the pupils were widely dilated and inactive and there were frequent muscular twitchings. The general condition, indeed, was one of pronounced collapse. The chin, lips, tongue, the whole interior of the mouth, and the fauces were whitened in the same manner as by the action of strong carbolic acid and there was some difficulty in swallowing, accompanied by considerable regurgitation from the nares. There was a very marked tendency to doze but the child could be readily roused to take fluids, his thirst being intense. The vomiting of dark coffee-ground matter continued, though at lengthening intervals, during the greater part of the following day and diarrhœa presenting similar characteristics set in about 16 hours after the poison had been taken and persisted for fully 48 hours. Even after the diarrhœa was checked the fæces continued for some days to present a preternaturally dark colour. When the vomited matter was submitted to Reinsch's process abundant evidence was afforded of the presence of antimony, and the urine when similarly treated yielded traces of the metal during the two following days The child was fed with milk and white of egg for the first 24 hours, after which barley water or rice water was added. A mixture containing equal parts of compound tincture of cinchona and tincture of calumba was given first at short and later at gradually lengthening intervals, and in about a week from the taking of the poison the child was apparently in his normal health and taking his customary food.

Manorhead, Stow.

A CASE OF RHEUMATIC HYPERPYREXIA.

BY THOS. E. B. MEYLER, L.R.C.P. & S. IREL.

THE rarity of hyperpyrexia during the course of acute rheumatism in children makes any example worth recording.

The patient, a boy aged nine years, was seen by me for the first time on August 30th, 1908. For the past seven weeks he had complained of a stiff neck, which was painful on movement, and of slight pain in the legs, but he was able to attend school. I was called in because when he awoke in the morning he could not move the left arm. I found him in bed, free from pain except in the neck which was not swollen or tender. The pulse-rate was 136 and the temperature was 99·6° F. The tongue was clean and the patient was perspiring. The apex beat was in the left nipple line, about one inch lower than the normal. Impulse was forcible but there was no thrill. The aortic second sound was clear. There was a loud mitral pre-systolic murmur and a systolic murmur was well heard at the left scapular angle. The lungs were healthy. The left upper extremity was completely paralysed and flaccid. The other limbs were not affected. The urine was high-coloured and was free from albumin. There was no change in the condition of the patient until Sept. 3rd, when I was hastily called to him at 6 A.M. I found him deeply comatose and breathing stertorously. The pupils were contracted, the face was cyanosed, and the skin was hot and very dry. The temperature was 109·2° and the pulse was uncountable. Violent purging took place. Ice not being available cold sponging was used, but the patient died in an hour, the temperature rising to 110° just before death.

Experience has shown that hyperpyrexia is most frequent in first attacks of rheumatism, also in cases which run a mild course. Both these points are illustrated by this case.

Chevening road, W

All the symptoms continued to show improvement. By the next morning—60 hours after the first carbolic injection—the pain in the head was much better and the mouth could be opened and the neck moved; the reflex spasms, too, had disappeared, also the photophobia, and the pain in the foot. Two more injections were given on that day and one on each of the two following days, at the end of which time—i.e., five days from the commencement of the treatment—all the distinctive symptoms of tetanus had disappeared. The urine was carefully examined all through and no signs of carbolic acid poisoning were detected. The patient was able to leave her bed in a few days, when general lassitude and marked weakness of the jaw and right side only remained. The carbolic treatment of tetanus, combined with the administration of chloral or antitetanic serum, has of late attracted a certain amount of attention, and is generally associated with the name of Professor Baccelli, though it does not seem certain that he was the first to employ it. It has the great advantage of being always at hand, and although the hypodermic method of administration is usually adopted, the solution may be given by the mouth or per rectum. Dr. Osherovski more than 13 years ago reported in a Russian medical journal[1] the case of a man who ten days after a gunshot wound in the leg began to show symptoms of tetanus which in spite of huge doses of morphine and chloral increased in severity for another ten days. Carbolic acid was then tried. Of this a 2 per cent. solution was employed and 12 drops were administered hypodermically every three hours. In two days there was a marked improvement and the patient was convalescent after 28 injections. Dr. Shrana[2] used a 2 per cent. solution of carbolic acid successfully in the case of an Arab who developed tetanus after receiving a wound which had been dressed with cobwebs and washed with urine. Mr. A. B. J. Eddowes of Loughborough reported in THE LANCET, Jan. 16th, 1897, p. 168, the case of a man who had received a punctured wound in the great toe of the left foot which suppurated and was followed in three weeks by stiffness of the jaw, which rapidly became more marked and a week later, in spite of treatment by bromides and chloral, convulsions occurred. Hypodermic injections of 5 minims of a 2 per cent. solution of carbolic acid were then given night and morning for four days, when the patient's condition was greatly improved. He made a good recovery. Professor Baccelli[3] has treated a considerable number of cases with carbolic acid. He seems at first to have employed a 1 per cent. solution, but afterwards to have increased the strength to 2, 3, 4, and even 5 per cent. Symmers[4] gives a review of 75 cases treated by carbolic acid with a total mortality of only 23 per cent. Felici and Maremmi[5] also publish successful cases.

THE LADIES' HOME AT CANNES.

SITUATED above the town of Cannes, in the healthiest surroundings, the Ladies' Home, which was established a quarter of a century ago with the object of affording rest and change of scene to British and American ladies of small means who are in feeble health or are suffering from the effects of overwork, continues to fulfil the purpose for which it was founded. The inmates, who must not be in actual ill health or invalids requiring constant nursing, pay their own fares out and home and £1 per week for maintenance. Mental cases or cases of an unfavourable tuberculous character are not admitted. A private room is provided for each inmate, while there are a common dining-room and a sitting-room and also a private chapel. The home is under the supervision of two British physicians of Cannes whose services are given gratuitously during the season which extends from Nov. 1st to the end of April. There are also an experienced lady superintendent and a trained nurse on the staff. The accommodation provided is for 34 ladies. This institution does excellent work, and is entirely supported by subscriptions and donations of the British and American residents and visitors to Cannes. It deserves wider recognition and it should only be necessary to make the existence of the institution better known to the medical profession of this country to insure an increased financial support and an increased supply of fitting candidates. Application should be made to Miss Hankey (Hôtel des Anglais, Cannes, during the winter, and the Palace, Much Hadham, Herts, in the summer), who will be pleased to give full particulars.

THE CHOLERA IN RUSSIA.

THE extension of cholera to the Black Sea has affected several southern Russian ports. The disease has been officially reported as having occurred recently at Odessa, Rostov, Kieff, Kherson, Kronstadt, and Ekaterinoslav; while newspaper accounts also mention its presence at Warsaw, Kertch, Taganrog, Theodosia, Nicolaieff, and Azov. Similar reports from St. Petersburg state that there is a decline in the number of cases, the daily returns now being well below 300. Whereas on Sept. 22nd the incidence had reached 419 cases with 177 deaths, on Sept. 30th 228 cases with 93 deaths were reported, the returns from the provinces showing a like decline. The disease has been chiefly confined to the poorer classes. It is to be hoped that this drastic lesson will induce the authorities of the Russian capital to instal a proper water-supply and drainage system throughout the city, even though they disregarded the even more terrible warning which the cholera gave them in the last decade of the last century. At the very least it may be expected that adequate provision of infectious wards may be made against the contingency of another outbreak. The reports of the overcrowding of dying patients and the deficiency of sanitary equipment are only redeemed by the accounts of the devoted service which the medical officers attached to the hospitals have given despite such grave disabilities. Concerning the etiology of the disease a correspondent has forwarded us the following curious communication from a relative resident in the neighbourhood of Minsk and Bobrinsk: "A doctor in Petersburg told E—— earlier in the year that there was sure to be a bad outbreak of cholera this autumn in the town as the influenza outbreak in the winter was always accompanied by colic and pain in the stomach, and he said whenever this happened there was always an outbreak of cholera the next autumn. True enough, it has come." Our correspondent asks if there can be some mysterious connexion between the two diseases. The observation is interesting but we are not aware that any causal relationship has been recognised by expert observers between the gastric form of influenza and cholera. It is perfectly true that severe epidemic enteritis is often the precursor of an outbreak of cholera in eastern countries, but it is more than probable that the name "choleraic diarrhœa" is simply an euphemism for the dreaded disease itself and that its employment to allay public anxiety has often been fraught with grave danger to a community which would otherwise have faced the evil squarely and taken early measures to mitigate its ravages. It is, however, quite legitimate to suppose that a number of persons whose powers of resistance have been weakened by a severe outbreak of influenza, especially when it has taken a gastric or enteric form, would afford an excellent soil for the development one on each temple. Two morning applications gave her relief for the day, but as the pain came on again at night for three days she was treated twice a day, for nine days once a day, and for a few days longer on alternate days. Except for a few short attacks soon after treatment commenced she had no further pain.

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[1] For abstract see THE LANCET, July 20th, 1895, p. 169.

[2] Riforma Medica, March 16th, 1898, quoted Brit. Med. Jour.-Epitome, [illegible]

[3] [illegible], 1901, p. 527; 1904, p. 684; 1905, p. 577.

[4] [illegible], August 15th, 1903, quoted in the Medical Annual, 1904, p. 577.

[5] Il Policlinico, January, 1906, quoted in the Medical Annual, 1907, p. 553.

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BY THOS. E. B. MEYLER, L.R.C.P. & S. IREL.

THE rarity of hyperpyrexia during the course of acute rheumatism in children makes any example worth recording.

The patient, a boy aged nine years, was seen by me for the first time on August 30th, 1908. For the past seven weeks he had complained of a stiff neck, which was painful on movement, and of slight pain in the legs, but he was able to attend school. I was called in because when he awoke in the morning he could not move the left arm. I *found* him in bed, free from pain except in the neck which was not swollen or tender. The pulse-rate was 136 and the temperature was 99·6° F. The tongue was clean and the patient was perspiring. The apex beat was in the left nipple line, about *one inch lower* than the normal. Impulse was forcible but there was no thrill. The aortic second sound was clear. There was a loud mitral pre-systolic murmur and a systolic murmur was well heard at the left scapular angle. The lungs were healthy. The left upper extremity was completely paralysed and flaccid. The other limbs were not affected. The urine was high-coloured and was free from albumin. There was no change in the condition of the patient until Sept. 3rd, when I was hastily called to him at 6 A.M. I found him deeply comatose and breathing stertorously. The pupils were contracted, the face was cyanosed, and the skin was hot and very dry. The temperature was 109·2° and the pulse was uncountable. Violent purging took place. *Ice not being available* cold sponging was used, but the patient died in an hour, the temperature rising to 110° just before death.

Experience has shown that hyperpyrexia is most frequent in first attacks of *rheumatism*, also in cases which run a mild course. Both these points are illustrated by this case.

Chevening road, W.

account of them. At the risk of making these young men blush he would say that they had a very good opinion of them. They had won golden opinions during the four months they had been there and the report of Fleet-Surgeon Bassett-Smith to the Director-General stated:—

> In the past session considerable changes have been made in the instructional course, subjects of the greatest practical utility for surgeons in the navy have received extra attention, particularly the examination of recruits, management and treatment of venereal cases, and the administration of anæsthetics. They have also received practical demonstrations in shallow and deep water diving and in submarine vessels. I have to report that the surgeons have shown great interest in the subjects under their study throughout the course. They have been diligent in their work and have taken full advantage of the facilities for instruction which have been offered to them, much of which was new but of importance in their future career. In carrying out the professional duties required of them in the wards, the surgeons, as a whole, have received special commendation from the senior medical officers, having given general satisfaction. The following officers have been specially mentioned for zeal and ability—Surgeons Atkinson, Austen, Custance, Fisher, Hayes, and Rivers. For proficiency in anæsthetics Surgeons Atkinson, Austen, and Fisher are noted, and Surgeon Robinson for skill in radiography. Special reference is due to Surgeon Atkinson, who, assisted by Surgeon Custance, devoted much time and skill, with very considerable success, to the treatment of difficult cases with gonococcal vaccines.

Inspector-General Gimlette added that the naval medical officers could congratulate themselves very much on having so strong an addition to their professional forces.

Dr. Macnamara then presented the prizes as follows:—

Naval hygiene group.—Gold medal awarded to Surgeon A. T. Rivers, of Guy's Hospital, Surgeon A. R. Fisher being second.

Tropical medicine group.—Microscope awarded to Surgeon W. H. Edgar, of St. Mary's Hospital, Surgeon A. R. Fisher being second.

Practical analysis group.—Silver medal and books awarded to Surgeon E. L. Atkinson, of St. Thomas's Hospital, Surgeon J. S. Austen being second.

The order of merit on passing out of Haslar was:—

	Marks.		Marks,
1. A. T. Rivers	4662	9. G. H. C. Given	3766
2. J. S. Austen	4529	10. J. M. Hayes	3350
3. G. W. M. Custance ...	4353	11. P. B. Egan	3342
4. A. R. Fisher	4308	12. F. H. Stephens	3280
5. W. H. Edgar	4218	13. S. Bradbury	3235
6. E. L. Atkinson	4024	14. R. M. Riggall	3059
7. A. L. Robinson	3844	15. G. A. Bradshaw	2742
8. C. J. Aveling	3827		

Subsequently to presenting the prizes, Dr. MACNAMARA delivered the following address: "You will believe me when I say that I am honoured to take part in to-day's function. You are entering a great public service, the greatest, I think, the world has ever known. And in that great service you have been called to a peculiarly responsible function. Our bluejackets and marines are fine men—I think them finer every time I meet them. Their training is long and costly, and we cannot rapidly and cheaply replace them as we could do a hundred years ago. We call upon them even in peace times to serve their King and country in all climes and under conditions that are very often physically arduous and exacting. And whether duty calls them to the plague-stricken swamp, the fever-laden lowlands, or the frost-bitten coast their response is always a resplendent reflection of the traditions of the service to which they belong. Further, we can give them no choice as to their medical attendant. Therefore we are bound, as I think, to furnish them when they fall sick from hard campaigning, or exposure, or—may God forbid that it should come in our time—from the fiendish ravages of modern naval warfare, with the very best the country can provide in the way of medical and surgical services. And, Gentlemen, I want you and the medical schools generally to understand that, so far as the Admiralty is concerned, we mean to do it. We mean our hospitals to be well-found and our doctors as good as any in their great profession. But you on your part are bound to help us. You are bound to be ever up-to-date, keen and enthusiastic in your calling. You enter a field of practice second to none in width, variety, and interest. You must not only be ready to apply the latest knowledge for the curing of the ailing; you must also be alert with the most scientific measures for the prevention of disease. More than ever the safety of this far-flung empire depends upon the efficiency of the fleet. And, certainly, more than ever, the efficiency of the fleet depends upon the man behind the gun. And behind that man you stand, ready to play your arduous and responsible part. Gentlemen, I have always heard that the four great Nelsonic qualities which go to make up the efficiency of the naval officer are: (1) fearlessness of responsibility; (2) fertility of resource; (3) power of initiative; and (4) self reliance. How acutely they apply in his field of duty to the naval medical officer! Do your part and we will do ours. Your careers are in your own hands. Ample opportunities will be afforded you to continue your studies by post-graduate courses of instruction. The school of tropical medicine will be opened to you periodically and the fresh discoveries of medical science will be found waiting for you and at your disposal on your return from commission. I hear men spoken of as 'having had all the luck.' But, behind that luck, I have invariably found tireless patience, indomitable perseverance, and unquenchable enthusiasm. So far as we are concerned we mean that zeal and enthusiasm shall receive all the encouragement we can give them. Remember, that in your profession the one fatal thing is to get rusty. And rusty you will get if you fail to remember that, even on the day of your retirement, you are barely on the threshold of knowledge. If I had the choice I think I would prefer a natural death to the ministrations of a rusty doctor. You are privileged to follow, let me also say, in the footsteps of great and distinguished men. Professor Huxley entered the service as a naval medical officer in 1846 and served the first part of his time in this very hospital. Sir Joseph Hooker, the botanist, director of Kew Gardens from 1865 to 1885, and President of the Royal Society 1873–77, served officially as an assistant surgeon in the *Erebus* during Ross's voyage in the Antarctic Seas. Sir Joseph Hooker, I may say, is still a naval medical officer on the retired list. Smollett, the novelist, entered the Navy as a doctor in 1739, and served in the operations against Carthagena in 1741. Thomas Dover, famous for ever through 'Dover's powders,' sailed in 1708 on a privateering voyage round the world during which he found Alexander Selkirk on Juan Fernandez and brought him home. Sir Gilbert Blane served in the Navy under Rodney, and Charles Darwin was also in the Navy as a naturalist on board the *Beagle*. And to this incomplete record I might very well add the names of naval medical officers whose gallantry on the field of action has won the Victoria Cross and many distinguished service Orders. But I know you too well to appear even to make a parade of this. Gentlemen, good-bye. Permit the son of a man who fought in the trenches before Sevastopol, one who began life in a British barrack-room, and one who well knows the gentleness, the tender sympathy, and the generous-heartedness of the medical men of both services, to wish you God-speed in the noble calling which you have elected to follow."

At the close a vote of thanks was accorded to Dr. Macnamara for his attendance, on the proposition of the Director-General.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8140 births and 4115 deaths were registered during the week ending Sept. 26th. The annual rate of mortality in these towns, which had steadily declined in the five preceding weeks from 15·8 to 13·9 per 1000, further fell to 13·2 during the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged 13·4 per 1000, and in London the mean rate in the same period did not exceed 12·5. The lowest annual death-rates in these towns during the week under notice were 3·6 in Walthamstow, 6·2 in Hastings, 7·1 in Bury, and 7·4 in Aston Manor; the rates in the other towns ranged upwards, however, to 18·8 in Blackburn, 18·9 in Tynemouth, 19·8 in Warrington, and 20·0 in Salford. In London the death-rate during the week was 13·3 per 1000. The 4115 deaths from all causes in the 76 towns showed a further decline of 222 from the decreasing numbers in the four preceding weeks, and included 527 which were referred to the principal epidemic diseases, against numbers declining from 1343 to 677 in the four previous weeks; of these 527 deaths, 353 resulted from diarrhœa, 42 from whooping-cough, 39 from diphtheria, 35 from "fever" (principally enteric), 31 from measles, and 27 from scarlet work has been carefully revised and the necessary corrections and additions have been made so as to bring the whole fully up to date. The latest researches in regard to the etiology of sleeping sickness and of yellow fever have been duly recorded, and changes have been made in the sections dealing with the examination of the nervous system and in the description of the diseases of the blood. Entirely new matter has been introduced on the subject of opsonins and opsonic methods, paratyphoid fever, kala-azar, senile paraplegia, diseases of the sympathetic nervous system, diseases of the muscles, heart block, Vincent's angina, congenital hypertrophic stenosis of the pylorus, and ochronosis. An interesting account is given of Stokes-Adams disease and the part which is played in its pathology by the bundle of His is carefully explained. The sanatorium treatment of pulmonary tuberculosis is scarcely described at sufficient length. The rules which govern exercise, both as regards nature and amount, could with advantage be given more fully in future editions, but the symptomatic treatment is more usefully detailed.

Students will find this manual a satisfactory one to read for examination purposes but its employment must of course be supplemented by practical work in the wards and out-patient rooms. For practitioners the work will prove of value for rapid reference and for refreshing the memory when they are discharging the actual practice of their profession.

Cataract Extraction. By H. HERBERT, F.R.C.S. Eng., late Lieutenant-Colonel I.M.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College, and in Charge of the Cowasjee Jehangir Ophthalmic Hospital, Bombay. London: Baillière, Tindall, and Cox. 1908. Pp. 391. Price 12*s.* 6*d.* net.

THIS is a book which no ophthalmic surgeon should fail to read. It gives in considerable detail the methods and opinions of a surgeon who has had great experience in the extraction of senile cataract amongst the natives of India, a country notorious for the prevalence of the disease and one to which we are already indebted for many valuable communications on this branch of ophthalmology. We are told in the preface that the volume embodies an experience of about 5000 extractions, "a comparatively small experience for an ophthalmic surgeon of standing in India." Such a remark is likely to prejudice the reader adversely at the outset, for it savours somewhat of unnecessary modesty. How many surgeons in India have performed more than 5000 extractions?

The first chapter deals with operable cataract, a description of its forms and stages, and the question of artificial ripening. In discussing the conditions which determine fitness for operation we are told that it is accepted that infection of the conjunctiva from the nose by way of the lacrymal passage does not take place, an unduly dogmatic statement. In dealing with the general health in the same connexion no reference is made to the condition of the mouth and teeth; the dangers of oral sepsis should not be ignored in an exhaustive treatise of this nature. It is interesting to note that the author's measurements of lenses show that the average normal lens of the native of Bombay is probably appreciably smaller than that taken from Priestley Smith's measurements in England, in correspondence with the poorer average physique in Bombay. On Priestley Smith's theory this would account for the comparative rarity of primary glaucoma. The description of the operation which the author favours occupies 136 pages. After a brief account of the various kinds of section which have been advocated in the past the instruments and irrigators are described. In addition to preliminary sterilisation by boiling the cystitome, forceps and irrigator nozzle were frequently sterilised in the flame. Cocaine, with or without adrenalin, was used for rendering the eye anæsthetic. During the operation a mouth-screen of flannel stretched over a wire frame was employed. Two points require special mention among the initial steps. In addition to the great prevalence of chronic conjunctivitis the natives of Bombay apparently produce an enormous amount of Meibomian secretion. Expression of this secretion with the fingers was therefore invariably performed. Great stress is laid upon the importance of irrigation of the conjunctival sac with perchloride of mercury lotion. Lieutenant-Colonel Herbert used a strength of 1 in 3000 applied for from one minute to one and three-quarter minutes. The usual operation was the ordinary sclero-corneal section with a conjunctival flap combined with iridectomy. The individual steps are described at length and in great detail; they differ little from those commonly adopted. A single vertical incision with a cystitome was generally employed for opening the capsule; the lens was expressed with a tenotomy hook. Irrigation to remove lens cortex was apparently used fairly frequently by means of a simple syphon douche containing 0·7 per cent. salt solution. At the conclusion of the operation the curette was passed lightly over the whole of the palpebral conjunctival surface to remove mucus.

The third chapter is devoted to expulsive hæmorrhage and vitreous accidents. The fourth chapter treats of variations in procedure and their value. Noteworthy here are the indications for the use of Czermak's downward section with subconjunctival pouch and of simple extraction; the latter method was seldom adopted though the author was using it more often towards the end of his time in Bombay. Ophthalmologists will read with interest Lieutenant-Colonel Herbert's remarks on extraction of the lens in its capsule. The revival of this method, inaugurated in India by Mulrony at Armitsar in 1890, has received an impetus from the work of Smith at Jullundur, some account of which has been given in THE LANCET recently by this surgeon.[1] The author's strictures on Smith's claims, contained in the first paragraph under operative procedure on p. 253, however true they may be, coming from a colleague in the same service had better been expressed otherwise. We think that the advantages and disadvantages of the operation are discussed judicially and with a proper sense of the gravity of the subject. The conclusion that the method is one of strictly limited applicability is, we consider, inevitable, and will ultimately be the generally accepted view.

In the matter of asepsis the author is to be congratulated upon his results: he had no suppurations amongst the last 1655 extractions and only one in the previous 1172. Panophthalmitis with total loss of the eye is clearly meant, for cases of slighter infection are recorded. It is difficult to follow up cases in India, and perhaps the results would appear less favourable if this could have been done more fully. All ophthalmic surgeons are cognisant of cases which go wrong in spite of minute precautions, and we are strongly of the opinion that the author is extremely ill-advised to have allowed the following sentences to occur in his book: "The general trend of recent work is to fix the responsibility for infective accidents very definitely upon the surgeon. In the not distant future we may find this responsibility recognised by the patient and possibly upheld in law courts." Surely this is going much farther than is warranted by the facts, and is the more deplorable in that it is likely to be quoted in the law courts as the authoritative opinion of an expert.

The analysis of visual results does not reveal such exceptional statistics. In 1262 cases operated upon in 1905–06 bad results—i.e., loss of vision or vision of moving bodies—only

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[1] THE LANCET, August 15th, 1908, p. 452.

1st South Midland Mounted Brigade Field Ambulance: William Henderson Stephen to be Captain (dated July 31st, 1908). Thomas Henderson Forrest to be Lieutenant (dated July 31st, 1908).

3rd East Anglian Field Ambulance: Surgeon-Captain Daniel Mowat, from the 3rd Volunteer Battalion, The Essex Regiment, to be Major (dated April 1st, 1908). Surgeon-Captain Josiah Oldfield, from the 1st Volunteer Battalion, The Essex Regiment to be Captain (dated April 1st, 1908).

2nd Home Counties Field Ambulance: Lieutenant Albert Richard Henchley, from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). Lieutenant William Henry Flint, from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Herbert Stanley Hollis to be Lieutenant (dated April 27th, 1908). David Livingston Hamilton (late Surgeon-Lieutenant, 4th Volunteer Battalion, The Manchester Regiment) to be Lieutenant (dated May 5th, 1908). Raby Montague Grogono to be Lieutenant (dated May 5th, 1908).

3rd London Field Ambulance: Quartermaster and Honorary Captain James W. Bennett is granted the honorary rank of Major (dated August 31st, 1908).

1st West Riding Field Ambulance: James Mackinnon to be Lieutenant (dated April 1st, 1908).

3rd Wessex Field Ambulance: Alexander Milne-Thomson (late Surgeon-Major, the 9th New Zealand Mounted Rifles, South African Field Force) to be Lieutenant (dated July 6th, 1908).

1st London General Hospital, Royal Army Medical Corps: The undermentioned to be officers whose services will be available on mobilisation (dated July 31st, 1908):—To be Lieutenant-Colonels: Norman Moore, William Harrison Cripps, Samuel West, and William Bruce Clarke. To be Majors: Joseph Arderne Ormerod, Anthony Alfred Bowlby, C.M.G., Wilmot Parker Herringham, Charles Barrett Lockwood, Howard Henry Tooth, C.M.G., D'Arcy Power, Archibald Edward Garrod, and Holburt Jacob Waring. To be Captains: James Calvert, William McAdam Eccles, Herbert Morley Fletcher, Robert Cozens Bailey, John Hannah Drysdale, Louis Bathe Rawling, Percival Horton-Smith-Hartley, M.V.O., and George Ernest Gask. 5th Northern General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Sept. 30th, 1908):—To be Lieutenant-Colonels: Frank Montague Pope, George Cooper Franklin, Reginald Pratt, and Claude Douglas. To be Majors: Astley Vavasour Clarke, Robert Sevestre, Thomas Villiers Crosby, John Thomas Horron Davies, Henry John Blakesley, Cecil Edward Marriott, John Stretton Sloane, and James Duncan Slight. To be Captains: Robert Stewart, Joseph Edward Waite, Felix Bolton Carter, Ernest Lewis Lilley, Richard Milbourne West, Robert Robertson Young, James Williamson Patrick, Edgar Vaughan Phillips, Sidney Frederick Smith, Ralph Michell, Leonard Erasmus Ellis, Frederick William Bennett, Robert Wallace Wesley Henry, Louis Kenneth Harrison, Wilfred Ernest Gibbons, Robert Hilton Fagge, Robert Basil Stamford, and William Moffat Holmes.

3rd Scottish General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated July 3rd, 1908:—To be Lieutenant-Colonels: Sir Hector Clare Cameron, Samson Gemmell, Ralph Stockman, and Robert Muir. To be Majors: Thomas Kennedy Dalziel, Henry Rutherfurd, James Henderson Nicoll, Walter King Hunter, John Marshall Cowan, James Walker Downie, Andrew Maitland Ramsay, and Duncan Macartney. To be Captains: William McLennan, James Laurie, Robert Barclay Ness, John McCubbin Johnston, James Carslaw, John Towart, John Morton, Alfred Alexander Young, William Walls Christie, Alexander MacLennan, Ernest George Fortune, James Campbell McClure, Robert Fullarton, John Gilchrist, Alexander Henry Edwards, Mathew Logan Taylor, John Gracie, Leonard Findlay, Charles Campbell Cuthbert, and Archibald Wilson Harrington.

4th Scottish General Hospital: the undermentioned to be officers whose services will be available on mobilisation (dated July 3rd, 1908):—To be Lieutenant-Colonels: Alexander Napier, James Crawford Renton, John Barlow, and George Stevenson Middleton. To be Majors: Robert Henry Parry, James Hogarth Pringle, Thomas Kirkpatrick Monro, James Grant Andrew, John Binnie McKenzie Anderson, Andrew Freeland Fergus, James Kerr Love, and David Couper. To be Captains: James Hamilton, Andrew Nicholson McGregor, Adam Brown Kelly, Andrew Stewart Tindal, Douglas Wills Russell, David Lamb, James Maclean, George Burnside Buchanan, Hugh Walker, Farquhar Macrae, Edward Mackay, James Weir, John Allan Cragie Macewan, James Donald Holmes, John Henderson, James Robert Chalmers, Alexander Fraser, David Fyfe, John Stoddart Barr, and Joseph Goodwin Tomkinson.

1st Southern General Hospital: the undermentioned to be officers whose services will be available on mobilisation (dated July 3rd, 1908):—To be Lieutenant-Colonels: Robert Saundby, Harry Gilbert Barling, Arthur Foxwell, and Frank Marsh. To be Majors: Robert Michael Simon, William Frederick Haslam, Otto Jackson Kauffman, James Thomas Jackman Morrison, Thomas Sydney Short, Harry Eales, John Douglas Stanley, and Charles Albert Leedham-Green. To be Captains: James William Russell, George Heaton, Joseph George Emanuel, William Billington, Arthur Stanley Barnes, Albert Lucas, Leonard George Joseph Mackey, Leonard Parker Gamgee, William Henry Wynn, Frederick Victor Milward, Frank Barnes, James Martin Young, and Walter James Clarke.

2nd Southern General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Sept. 30th, 1908):—To be Lieutenant-Colonels: Robert Shingleton Smith; Edmund Comer Board, John Michell Clarke, and George Munro Smith. To be Majors: Arthur Bancks Prowse, James Swain, George Parker, Charles Alexander Morton, Patrick Watson Williams, Robert Guthrie Poole Lansdown, Cyril Hutchinson Walker, and William Robert Ackland. To be Captains: Francis Henry Edgeworth, John Lacy Firth, John Odery Symes, Thomas Carwardine, James Taylor, Henry Greville Kyle, Carey Franklin Coombs, Harold Frederick Mole, Edward Cecil Williams, Ernest William Hey Groves, John Matthew Fortescue-Brickdale, Edward Hugh Edwards Stack, John Freeman, John Dacre, Joseph John Scammell Lucas, Herbert Elwin Harris, William Cotton, Hedley Hill, and William Stuart Vernon Stock.

5th Southern General Hospital: Surgeon-Major Bonner Harris Mumby from the 3rd (Duke of Connaught's Own) Volunteer Battalion, the Hampshire Regiment, to be Major with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd Western General Hospital: John Kyffin (late Surgeon-Captain, 1st Hampshire Royal Engineers (Volunteers)) to be Captain (dated June 25th, 1908); George Arthur Wright to be Lieutenant-Colonel (dated July 2nd, 1908); Captain and Honorary Major William Thorburn (late 2nd Volunteer Battalion, The Manchester Regiment) from the Retired List, to be Major (dated July 2nd, 1908). The undermentioned to be officers whose services will be available on mobilisation (dated July 2nd, 1908):—To be Lieutenant-Colonels: Graham Steell, Frederick Armitage Southam, Abraham Matthewson Edge, and Alfred Harry Young. To be Majors: Edmund Taylor Milner, Judson Sykes Bury, James Niven, John Edward Platt, Alexander Hill Griffith, Ernest Septimus Reynolds, William Milligan, and Robert Briggs Wild. To be Captains: Alexander Wilson, James Lorrain Smith, Arthur Henry Burgess, Henry Richmond Hutton, John Howson Ray, Richard Thomas Williamson, Evelyn Davison Telford, Ernest Nicholson Cunliffe, Philip Roscoe Wrigley, Charles Herbert Melland, William James Storey Bythell, Frederick Craven Moore, Richard Walter Marsden, Garnett Wright, George Edward Loveday, Albert Ramsbottom, John Wharton, Arthur Sellars, and William Arthur Hooton.

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers).—1st Aberdeenshire: Surgeon-Captain William A. Macnaughton resigns his commission (dated March 31st, 1908). 1st Banff: Surgeon-Lieutenant-Colonel William Fergusson is granted the honorary rank of Surgeon-Colonel (dated March 30th, 1908). Second Lieutenant Alfred L. Smith resigns his commission (dated March 31st, 1908). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel William Fergusson resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908). 1st Fifeshire: Surgeon-Lieutenant William E. Henderson resigns his commission (dated wider field of facts than enter into a useful or even legitimate mental equipment for the nurse must be irresistible to many young women of retentive memory and quick intellect; and the encouragement which their consequent examination successes bring them may well give them enough assurance to "put the doctor right" to their patient on some matter in which his treatment is founded upon a knowledge of those Institutes of Medicine of which they have the baldest and often merely parrot-like acquaintance. Doubtless many nurses with the requisite opportunities for a proper and statutory training would make admirable medical practitioners, but if their profession is to be nursing and not medicine we regard the present movement to give them a sort of bastard medical education to be unfortunate as tending to minimise the very important duties of nursing pure and simple. It is fair to say, however, that a number of text-books are published for nurses which have a perfectly legitimate function.

Of the four volumes before us that on midwifery has a special reason for its existence in that it is intended for the instruction of a legally recognised subordinate class of practitioners of midwifery as well as for nurses who act under constant medical instruction. Midwifery, too, is a subject which, even in its most elementary study, presents problems such as the mechanism of labour that can be greatly elucidated by an intelligently written text-book, and such a one is Dr. Jellett's, the success of which has been proclaimed by the issue of this third edition. Dr. Jellett is careful to define in his preface the limitation of the nurse's sphere of action. His claim to have simplified the book in this edition is justified and there is now no need to repeat the criticism which we were obliged to make upon its first appearance in the present guise. The scope of the work has been indicated in our columns previously. The present edition contains the rules of the Central Midwives Board for the regulation of midwives' practice and a glossary of terms which should be of service for nurses. We note that Dr. Jellett, in the preface, disclaims any connexion between this work and a book of similar aim written by a former Rotunda colleague.—Dr. Hellier addresses his manual on *Infancy and Infant Rearing* to an even wider audience, to wit, firstly, pupil midwives; secondly, health lecturers; and thirdly, students and practitioners. It will be seen that he has set himself a difficult task, for much that would be useful instruction to the last class would be entirely unnecessary for the needs of the two others. The book, however, contains little that could not be learnt with advantage by an intelligent midwife or "health-visitor," and we should imagine that its appeal to medical students was an afterthought of the author; if this were the case the afterthought was justified, for there are many hints in it concerning the normal progress of childhood a knowledge of which will redound to the credit of young practitioners. The important sections on feeding are done carefully and not too elaborately, and Dr. Hellier's pages contain certain shrewd observations which lift it above the level of many books about babies. The sections on infants' diseases are quite insufficient for the student's needs, which is as well, considering that they are addressed to others to whom fuller instruction might be dangerous.

The other two volumes hail from America. Dr. Langfeld's book on *Infectious and Parasitic Diseases* is another volume which though "primarily intended for nurses" has been extended to meet the requirements of medical students. This book is of a class that seems to us quite unsuited for the instruction of nurses, for we regard the author's statement that "the trained nurse's position as medical assistant to the doctor and as a sanitarian has developed into one of such extraordinary importance" to be an overstatement. We consider the nurse's duties as a nurse to be of paramount importance. No nurse requires instruction concerning antibodies or on the methods of making cultures and blood films. The volume, which is nicely printed, affords a useful little introductory manual to parasitology for medical students; its chief claim to utility and originality is in its etiological consideration of infective disorders. The chapter on animal parasites is well written. If a future edition should be called for Dr. Langfeld would do well to amplify it and to address it to medical students and practitioners alone, unless the conception of the nurse's functions differs widely in America from that held in this country.—Dr. Hoxie, in the preface to his *Practice of Medicine for Nurses*, the last of this batch, acknowledges that the nurse should neither diagnose nor prescribe. He states further that his book's part purpose is to help those who care for the sick in the home. We think that his work would be an unwise addition to recommend for a layman's bookshelf; there are quite enough home medicine books in circulation already. The author has hardly gauged correctly the educational needs of the nurse or he would not have included a bacteriological account of venereal disease. An elaborate classification of insanity, including Kraepelin's four varieties of dementia præcox, is also sadly beside the mark. The book contains some excellent pictures, but certain of them, notably that of a case of pathological obesity opposite p. 134, are quite unnecessary. Much, however, can be said on the other side. Such chapters as those on typhoid fever, pneumonia, and acute rheumatism are excellently done from the point of view of nursing, more especially the second of these. A chapter with the quaint heading "Two Popular Disorders, Catarrh and Asthma," contains a useful explanation of the former loosely employed term. The chapter on surgical nursing is commendably short. Practice, and practice alone, makes for efficiency in that branch of work. The medical information in the book appears to be sound except for the remark that as long as a patient suffering from Addison's disease takes adrenalin extract "he gets on well," which is surely an over-optimistic statement. The book concludes with an elaborate list of abbreviations used in medicine. We trust that nowadays no nurse requires the knowledge of such mysteries, for her instructions should always be written in plain English. One specimen of the present collection is entirely new to us, and in any case would appear to be only of interest to the druggist's errand boy. It runs, "N. tr. s. num.—*Ne tradas sine nummo.* Do not deliver unless paid."

Detection of Common Food Adulterants. By EDWIN M. BRUCE. London: Archibald Constable and Co., Limited. 1907. Pp. 84. Price 5*s.* net.—The compilation of this book is the outcome of recent agitation of the pure food question throughout the United States. We have no doubt that the series of qualitative tests given will be useful to those who have not made an exhaustive study of analytical chemistry. To the practising analyst the book will be of little value. The tests described, so far as we have examined them, are trustworthy, but some of them might easily go wrong in inexperienced hands. To do the author justice, he refers the reader who may wish to go further into the subject to the admittedly standard works on food adulteration and analyses. There is no reference in the chapter on beverages to malt liquors or spirituous drinks.

Atlas of Typical Operations in Surgery. By Dr. Ph. BOCKENHEIMER and Dr. FRITZ FROHSE. Adapted English version by J. HOWELL EVANS, M.A., M.B., M.Ch. Oxon., F.R.C.S. Eng., Demonstrator of Operative Surgery at St. George's Hospital, London, &c. London and New York: Rebman, Limited. 1906. Plates lx. and pp. 250.—The book descriptions of operations are often hardly intelligible to urine in the early stages and the cardiac sounds were muffled, especially the aortic systolic. With treatment these advanced cases got relief, but death usually claimed them after their third relapse. The nerve changes were noticeable in the early stages by their absence.

The post-mortem examination revealed an abundance of yellowish subcutaneous fat, an increase of serous fluid in the serous cavities, more particularly the pleural and pericardial, and in the latter it was richly pigmented. The heart was dilated and flabby, and exhibited fatty degeneration to a marked degree and was loaded with fat, and milk patches were common on the front wall of the left ventricle. The endocardium was pale and fatty. The valves were normal and clots—pale and gelatinous—existed in the auricles. The blood was very fluid and dark and the sternal marrow was soft, oily, and sanguineous. The lungs were congested and the liver was enlarged, very friable, and exhibited chronic venous congestion and fatty changes; no waxy degeneration. Bile was increased and thickened and the gall-bladder walls hypertrophied, and in many cases flint-like facetted calculi were common. The stomach was dilated and there was a great deal of emphysematous fatty tissue around the kidneys; the capsule easily stripped off and on section they showed fatty changes and venous congestion; the Malpighian bodies were prominent, pointing to a condition of parenchymatous nephritis. The spleen was enlarged and fatty and covered all over with fatty peduncular growths, and it cut like cheese, was very dark purple as if severely congested, and the trabeculæ were very prominent and of a pale colour. The pancreas seemed normal.

From the above it will be seen that there are many points in common in beri-beri with scorbutus and post-anæsthetic poisoning or fatty acid intoxication arising from faulty glycogenesis and disordered tissue metabolism.

I am, Sir, yours faithfully,
JAMES MONTEITH, M.B., C.M. Edin.
Oldham, Sept. 25th, 1908.

THE PREVENTION OF TUBERCULOSIS (IRELAND) BILL.

To the Editor of THE LANCET.

SIR,—I have read the letter of Dr. J. C. McWalter in your issue of Sept. 19th, to which I take grave exception and on which I beg to join issue. Dr. McWalter says: "Knowing what I do of the Irish people I believe that the compulsory notification clauses will excite so much suspicion and dread as effectually to undo any good result heretofore obtained from the tuberculosis campaign." That is Dr. McWalter's opinion; but as it is a forecast of what he thinks will happen in the future to a movement which he fully recognises "has done much good," I do not feel bound to vie with him in the rôle of prophet of evil. "The evil which men do lives after them," but in this instance I hope that the good which has been admittedly done by Lady Aberdeen and those who have had the honour and the privilege of working with her in the anti-tuberculosis movement in Ireland will live and extend. Dr. McWalter says that the movement "has a source of weakness in not being controlled by those *in close touch* with the popular party." Is Dr. McWalter entitled to speak for the popular party? Is he *in close touch* with that party? Whom does he desire to place *in control* of the movement which he admits has accomplished so much good? I am of the popular party. So far as I know I am not quite out of touch with it. I know the feelings, the hopes, the fears, the aspirations, aye, even the prejudices of our people as well as Dr. McWalter. I have been north and south and east and west from no selfish or sordid motives. Like others in the movement, I have been willing to sacrifice time and ease and convenience to try and do something towards saving our perishing people. Dr. McWalter tells us of his success in dealing with public boards in Dublin, because they are satisfied that "he is acting unselfishly." "But," he adds, "members of such boards are prone to suspicion; and it is difficult to assure them that a practitioner is entirely unbiassed if he advocates a system *which will put half-crowns in his pocket*, whilst it impales for life the person notified." I protest most strongly against this unworthy and unwarrantable suggestion of Dr. McWalter. It strikes at the honesty and integrity of the members of our profession in Ireland and impugns the motives of those who are acting, as they believe, for the public good without hope of fee or reward. Their conduct is as unselfish and as free from taint of unworthy suspicion as Dr. McWalter's. The question is too urgent, the issue too grave, to be brushed aside in deference to prejudices or suspicions which, if they exist, are ill-founded and baseless, and which educated and enlightened public men like Dr. McWalter should endeavour to combat and overcome, not foment and foster.

I am, Sir, yours faithfully,
MICHAEL F. COX, M.D. R.U.I., F.R.C.P. Irel., M.R.I.A.,
Physician to St. Vincent's Hospital.
Dublin, Sept. 21st, 1908.

To the Editor of THE LANCET.

SIR,—I feel constrained much against my will to brea lance with Dr. McWalter over his attitude towards the at Bill. As a member of a sanitary authority he is no doub close touch with the prejudices of those who will be m largely affected and must be therefore fully aware h necessary it is not to do or say or write anything that w strengthen or accentuate those prejudices. The Bill has be framed by the Irish Local Government Board with t obvious desire to interfere as little as possible with the u fortunate subjects of the disease and only those provisio of the Infectious Disease (Prevention) Acts which a absolutely necessary to safeguard both the patients and t public are made applicable to tuberculosis. Whilst th Scottish Local Government Board unhesitatingly expresse its opinion that tuberculosis as an infectious disease cou be added to the list of notifiable diseases under the 1889 Ac and urged sanitary authorities to make applications to the for that purpose, the English and Irish boards absolutel refused to yield to the supplications of certain of thei sanitary authorities on the ground that, if such were done all the pains and penalties that attend the notification o such diseases as scarlatina, small-pox, and diphtheria woul be exercisable against notified cases of tuberculosis. In consequence of the enormous amount of public feeling that ha been aroused on this question and in response to the almos universal demand on the part of public representative bodie in Ireland, the Irish Local Government has introduced a Bill so framed as to make tuberculosis a notifiable disease and at the same time avoid even the appearance of harshness or official interference. In order to have a proper knowledge of the existence and prevalence of the disease which is essentially necessary if we are to cope with it successfully the first thing is to get information as to its whereabouts. And this can only be obtained by a system of notification, and under the system formulated in the Bill there is not the slightest excuse for anyone, much less one possessed of the legal acumen and mental calibre of Dr. McWalter, to suggest that there is the least probability of any person being treated as a leper or in any respect avoided either in his home or workshop. The bugbear about expense is also a mere shadow: outside the large cities the half-crowns that will gravitate to the pockets of the medical profession will be inconsiderable and will, I hope, in a few years reach vanishing point. When Dr. McWalter says the anti-tuberculosis movement in Ireland has an inherent source of weakness in not being largely controlled by those in close touch with the popular party I must confess I cannot understand what he means. No similar movement ever had such united and general support. It brought together men and women of all classes and creeds and all shades of politics. It collected on one platform the clergy of all denominations; professional men vied with each other in their efforts to acquire and dispense information, and, in fact, the whole country was alive with enthusiasm. However, Dr. McWalter thinks we should "go gently." We have been going gently for the past 30 years and what has been the result? We are in sanitary matters at least 30 years behind either England or Scotland. The English Public Health Act dates from 1875, the Irish Act from 1878; both are framed on exactly the same lines, and in addition the Irish Act established a complete system of medical officers of health by making all the dispensary doctors health officers for their respective districts. Instead of carrying out the intentions of the Act and calling upon the sanitary authorities to combine and appoint medical superintendent officers of health the then Local Government Board adopted the very construction and less expensive to work than the county asylums as they are at present. 2. To settle suitable patients in family colonies or in cottages and small buildings in connexion with some central organisation formed for the care of mentally defective persons. The Royal Commission has examined the system provided at Dun-sur-Auron in France and that obtaining at Gheel near Antwerp, where accommodation is provided for patients in the neighbourhood of an asylum, and it has come to the conclusion that a system of family care or guardianship adopted with well-defined sanitary and medical safeguards is well worthy of consideration and might with advantage be adopted in this country. 3. To board out the mentally feeble of this class as is done in the "family guardianship" system which obtains in Scotland. It appears that in that country this method, though of recent establishment, works smoothly and satisfactorily and has been adopted in certain parts as a form of industry. 4. To place patients in large farm colonies on the lines of certain colonies established in the United States and in Canada. Quite extraordinary results appear to be produced in these farm colonies by men whose lives are devoted to the care of the mentally defective, results which may throw light even on the methods of education of normal scholars in public elementary schools. The last alternative whereby the patients would be returned to the workhouses is rejected summarily and it is laid down that the workhouses should cease to be asylums for lunatics. It is interesting while considering the cost of these various schemes to quote the evidence of Mr. Clare, the clerk to the Lancashire Asylums Board: "I should not like to commit myself to any figures, because one sees the variation in the cost of asylums recently built; there is only one thing that seems invariable—namely, an increase in cost as time goes on, largely owing, of course, to the increased cost of wages and material, and partly to carrying out the latest scientific ideas, or philanthropic ideas, for dealing with pauper lunatics, without any evidence really to show that the increased expenditure has benefited lunacy; in fact, as far as I can see, all the expenditure during the last 20 years on lunacy has not been any benefit to lunatics. I will not say it has done any harm, but there has been no substantial benefit derived." Even if this is only in part true, it is plain that some method of dealing with the pauper lunatic without incurring a large initial expenditure is well worth consideration.

To house the hopelessly insane in such a way that they may be efficiently and economically looked after forms an important part of the problem set before the Commission, but another equally important part is that which is concerned with persons commencing to be mentally ill. It has been widely recognised as an undoubted hardship that the patient who is at the commencement of his illness should forthwith be certified as a lunatic. The consequences to the individual's career are often disastrous as a direct result of this procedure and a stigma forthwith attaches to him which may render him unemployable in his occupation. It is to this unfortunate state of things that we must to a large extent attribute the too frequent postponement of treatment, so important in an early stage, to the day when the patient is hopelessly ill and his chances of recovery are enormously reduced. Certain methods of meeting the difficulty were suggested to the Commission. The first is the establishment of "observation" or "reception" houses or wards where a patient who is suffering from any form of mental disorder may be admitted freely and at once with a view to his being treated at an early stage of his disorder and without certification. We have before commented in these columns on the excellent results obtained in certain institutions of this character in Scotland and we believe the possible establishment of similar institutions in this country to be the fondest hope of those practising psychological medicine. The observation wards of the Eastern District Hospital of Glasgow were opened in June, 1904, and since then large numbers of patients suffering from various kinds of mental disorder have been treated there. Of these no less than 61 per cent. were discharged either cured or relieved. It is no wonder that there is a general consensus of opinion in favour of the utility of these wards. The change, as the Commission points out, marks a further step towards the substitution of the hospital for the asylum. The procedure for entering the wards is simple and merely involves the production of a medical certificate to the effect that it is desirable that the patient should be observed and treated. It is not a certificate of detention. The method permits of a more scientific handling of the problems of mental defect than is at present possible and allows of the disease being combated at the earliest possible moment. Dr. F. S. Toogood, the medical officer of the Lewisham Infirmary, brought before the Commission an interesting account of a similar method of dealing with cases of mental illness adopted by him at Lewisham. The relieving officer conveys the patient to the workhouse or to the infirmary, either upon his own authority or upon the direction of a justice of the peace after a medical examination, and the patient is there detained until fit to be discharged or sufficiently confirmed in his illness to be sent to the county asylum. In Dr. Toogood's words, "The great majority of cases treated in these wards, although temporarily insane and requiring control and observation, are not asylum cases." The disease is dealt with apart from the "stigma of lunacy," for "friends do not object to the detention in infirmaries or workhouses but they have a very keen horror of an asylum." The Royal Commission reaches the conclusion that by arrangement between the Board of Control and the local authority there should be reception wards or houses wherever they may be necessary and that whatever legal provision is required for their establishment should be made without delay. It is not thought necessary that large and expensive buildings should be erected but that separate wards in workhouses or in general hospitals might be used under contract. The report points out the special advantages of these wards for the clinical study of mental disease and the probability that the hospitals, especially those to which medical schools were attached, would be glad to provide them on their own premises.

The report is favourable to a procedure which is borrowed from Scotland and which is applicable as a temporary measure to "unconfirmed cases." The certifying medical attendant declares that his patient is afflicted with a certain disease and that with a view to his recovery it is desirable that he should be placed in such and such place for a temporary residence, the term not exceeding six months. It is not necessary to put in the certificate anything indicating that the illness is mental, but it is usual to put in some reference to mental or nervous disturbance. It is proposed that if this procedure is adopted in this country the Board of Control shall be required to undertake the registration, supervision, and inspection of all houses in which two or more mentally defective persons are maintained for private profit.

With regard to certification the most important recommendations of the Commission are, first, that the word "lunatic" should be replaced by "mentally defective person" and the word "pauper" eliminated; secondly, that the local committee may present a petition, as next friend, where it thinks that such a petition should be presented, either at the request of the friends or when the friends have failed to act; and thirdly, that the judicial authority may select a suitable institution or house or leave the selection to the committee in cases where the friends have failed to act.

The report, besides the chapters which we have attempted to summarise, contains others bearing upon the causation of mental defect, upon finance in connexion with the new schemes, upon epileptics, and finally, special chapters upon the conditions of the mentally defective in Scotland and Ireland. The whole report is replete with the most interesting and valuable information as well as with the reasoned conclusions of a body of men eminently fitted to grapple with the serious problems presented for their consideration. We earnestly hope that the report may not follow many of its forerunners to that limbo of forgetfulness where lie unused so much priceless information and knowledge bred of unique experience.

ST. MARY'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).—Award of entrance scholarships, 1908. Open scholarships in natural science: £145, B. W. Armstrong, Boston Grammar School; 75 guineas, F. P. Bennett, University College, Cardiff; 50 guineas, J. R. M. Whigham, Westminster City School; 50 guineas, F. C. Robbs, Clarence College, Gravesend. University scholarships: 60 guineas, A. W. Bourne, B.A., Downing College, Cambridge; 60 guineas, W. A. Berry, Queen's College, Belfast. Epsom College scholar: E. P. Langley.

know of none, as the work both of the Protection Society and of the Union includes not only defence against actions for alleged negligence but advice and assistance in all matters pertaining to the medical profession, illustrations of which can be found in the annual report of either society. If we were to confine our duties solely to cases of alleged negligence such as insurance companies may possibly undertake, a very large proportion of our assistance to the members would cease, to their great disadvantage. The scope of our work is far-reaching and would be impossible to other than purely medical professional organisations with many years' experience and with an expert staff.

I am, Sir, yours faithfully,
A. G. BATEMAN,
General Secretary.
Medical Defence Union, 4, Trafalgar-square,
London, W.C., Sept. 26th, 1908.

To the Editor of THE LANCET.

SIR,—In reply to "Practitioner's" inquiry in your current issue there are two well-known medical defence societies, one with offices at 4, Trafalgar-square, W.C., and the other, The London and Counties Medical Protection Society, of 31, Craven-street, Strand. Both of these societies undertake to defend members in actions for malpraxis but contribute nothing towards damages arising from such actions in cases of adverse verdicts. *Re* "Practitioner's" second query, the policy he requires can be obtained from Messrs. Aked and Aked, 43, Warwick-street, S.W., who are, I believe, the sole agents.

I am, Sir, yours faithfully,
VINCENT P. NORMAN, L.M.S.S.A. (Lond.).
Stepney Green, E., Sept. 29th, 1908.

AMYL NITRITE IN UTERINE HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—It would be most useful to know if in uterine hæmorrhage nitroglycerine could be given by the mouth instead of inhaling amyl nitrite, as nitroglycerine is said to be more persistent and slower in its action.

I am, Sir, yours faithfully,
G. P.
Sept. 24th, 1908.

COLLES'S FRACTURE.

To the Editor of THE LANCET.

SIR,—To the *Journal of the American Medical Association* some weeks ago Dr. L. W. Ely of New York contributed a paper on Colles's fracture. It is important to bear in mind that Colles described a very definite fracture with a definite displacement and therefore the title Colles's fracture should be limited to this variety or it should be given up entirely. Dr. Ely's paper is of great interest in that it endeavours to explain the mode of production of the fracture from the structure of the bone. He appears to consider that fracture of the styloid process of the ulna is an essential accompaniment, but skiagrams, which have taught us so much about Colles's fracture, tell us that the lesion of the ulna, though frequent, is not essential. Dr. Ely also condemns strongly the idea that the impaction should not be interfered with and I agree with him, but surely nowadays no one advances the opinion which he attacks.

It may be interesting to recall the exact circumstances in which Colles's fracture received the name which for nearly a century has been given to a certain form of fracture in the neighbourhood of the lower end of the radius. Dr. A. Colles, who was one of the professors of anatomy and surgery in the Royal College of Surgeons in Ireland, wrote a short article which appeared in the April number of the *Edinburgh Medical and Surgical Journal* of the year 1814, entitled "On the Fracture of the Carpal Extremity of the Radius," and in it is given for the first time a very clear and exact account of that fracture which is still called "Colles's fracture." Colles describes the fracture as occurring about an inch and a half above the carpal extremity of the radius, and he mentions the displacement backwards of the carpus, combined with the tilting backwards of the lower extremity of the radius. He describes the method of reduction and the great tendency to recurrence which exists. It may reasonably be asked, "Was not this fracture recognised earlier?" Doubtless it was, but for the most part it is probable that the cases of this form of fracture were diagnosed as dislocations of the wrist or perhaps as examples of Dessault's dislocation of the lower end of the radius.

I am, Sir, yours faithfully,
F.R.C.S.
Sept. 25th, 1908.

THE PRESENT CONDITION OF PHARMACY.

To the Editor of THE LANCET.

SIR,—In reading your leading article published last week under the above heading there came prominently to my mind the contrast between the relationships existing in two seaside towns in the West of England between their medical practitioners and their pharmacists. In one it is (or was two years back) a state of antagonism, in the other a state of coöperation. In illustration of the former case I need only quote the grievance of a prominent pharmaceutical chemist who complained to me that a certain practitioner not only dispensed his own medicines but that he undersold him by supplying elastic bandages to his patients at a bare margin of profit. But the object of this letter is to heal and not to fret a sore, so I will pass to the practice obtaining in the other town. In that place an arrangement has been made between several medical men who formerly "did their own dispensing" and a pharmaceutical chemist, by which the former are relieved of all that irksome business, whilst the latter comes by much more of his legitimate custom than he could hope to under the old system. The arrangement in question is based on the well-known fact that patients who pay 3*s.* 6*d.* or 5*s.* for advice do not like to have to pay for their medicine too. The medical man writes his prescription which the patient takes to the chemist in question, the latter makes it up, gives him the medicine, and charges the medical man from 5*d.* to 6*d.* a bottle for it. This simply means that his fee for consultation, including medicine, is 6*d.* more than for advice without medicine. The great point is that the patient only pays one charge instead of two; incidentally, he probably gets more elegant pharmacy than in the days when the medical man dispensed his own medicines, the evening labours of the practitioner are greatly lightened, whilst the chemist earns far more in sixpences than he used to earn in eighteenpences. The whole thing is perfectly fair and aboveboard. There is no question of "secret commissions," for the system is fully explained to the patients. The practice may be general in small towns, for which it is specially suitable, but I am constrained to mention it by the memory of that other place where medicine and her chief handmaiden are (or were) at such unhappy loggerheads.

I am, Sir, yours faithfully,
LIVE AND LET LIVE.
Sept. 29th, 1908.

THE SECOND CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY AT BRUSSELS.

(FROM OUR SPECIAL CORRESPONDENTS.)

(*Continued from p. 975.*)

THREE years ago the International Society of Surgery decided to discuss in 1908 Cancer, the Surgery of the Liver, Anæsthesia, and Hernia.

Cancer.

The subject of cancer was taken first and a series of formal reports was in the hands of the members at the time of the meeting. The first of these reports was by Dr. ROSWELL PARK (Buffalo) who maintained that cancer was essentially infective and that the disease must therefore be treated on the same lines as a filth disease. Cremation should supersede earth burial after death from cancer. All soiled dressings and discharges should be destroyed by fire, whilst rooms and even houses inhabited by cancer patients should be most thoroughly disinfected, both during illness and after death. As regards the individual Dr. Roswell Park held cancer to be essentially a local infection at first, generalisation taking place quickly, though the rate of spreading varied wonderfully in different individuals and with different forms of cancer. The treatment, therefore, was bound up with early to look like promising endless developments but there is reason to suppose that they, too, as far as medicine is concerned, have reached a sterile perfection. The *microscope is perfected up to a point* which mechanicians think cannot be improved upon, so that those ultimate elements of physiology which depend upon the observation of minute structure are known to us." He proceeds to say that he will not labour the point by applying it to botany or to chemistry where he perceives that the finality of our work is by no means clear, but he suggests *that the result of a feeling that not much more is* to be got from minute observation with the tools at the disposal of the medical man has been the shunting of the brightest intellects and most inventive work into more imaginative channels. "There are no men," he says, "who guess so brilliantly as men of science, so that science in that respect has attained the dignity of theology. ...... *But the human intellect,* especially if it is scientific, cannot, I imagine, like an actor, go on repeating or feigning the same emotion. ...... The tree of knowledge is an evergreen, and in science no more than in arts is there any decay."

Such suggestive criticism of the position of modern medicine is welcome, whether we agree with it *in toto* or find in the propositions of the lecturer, tinged as they are with irony and expressed in frequent paradox, material for dissent. Mr. Ross is careful to warn us against the danger of according exaggerated praise to the unworthy in the desire to acclaim merit, and he does so in terms which may be quoted as containing a suggestion of the aims to which modern medicine should be directed. "I do not ask you," he says, "to adopt the habit against which MATTHEW ARNOLD directed one of his witty essays, the habit of expressing a too unctuous satisfaction with the age and time in which we are living. There are problems of poverty, injustice, disease, and unhappiness which should make the most prosperous and most selfish of us chafe; but I do urge that we should not suspect the art and literature of our time, the intellectual manifestations of our age, whether scientific or literary." In the practical application of medical science the resolution of some of those problems may be found; and the present time is the opportunity of the man of science and of those in sympathy with him to make their mark and to prove that this is an age not of decay but of progress; while it is in resistance to such progress that the carping spirit which claims to detect decay in all modern development will most openly show itself. Intelligent appreciation must ever be based upon knowledge of the thing criticised, upon some sympathetic insight into the aims and motives of the worker, and must be guided resolutely in accordance with the principles of truth. When the hymner exclaimed, "Change and decay in all around I see," he was in a frankly despondent mood. Those who feel like him may take heart from the fact that change and decay are not synonymous terms. Cessation of effort may occur in one place, but if it is replaced by activity of the finest sort in another the net result will be progress and not decay. And this is Mr. Ross's message, and we congratulate him upon the humour and knowledge with which it is delivered.

Report on the General Prisons Board for Ireland, 1907-08.

WITHIN the last few days we have received from the Irish Stationery Office two Blue-books which are of more than ordinary importance. To the first of these—the report of the Registrar-General of Ireland for last year—we devoted an article in THE LANCET of Sept. 26th (p. 946). The second Blue-book embodies the report of the Commissioners of the General Prisons Board for Ireland; and inasmuch as it contains matter of considerable medical interest we proceed to notice it briefly on the present occasion.

Passing over the merely statistical portion of the document as of mainly local interest, we observe that the Commissioners devote particular attention to reformatory work among the juvenile offenders of Ireland. The "Borstal" system is in operation at several of the prisons in Ireland, and respecting the good effects of this system the Commissioners report in terms of high appreciation. From a full description of the system in the report we summarise the following particulars. Under the Borstal system all boys, immediately on committal, are strictly isolated from contact with the ordinary adult prisoners. They are fed on generous diet and special attention is paid to every detail of their health and education. They are employed during specified hours in learning useful trades and in times of recreation they are carefully looked after by the chaplains and other officials. On their discharge from prison the "Borstal" boys invariably appear improved in physique and they are certainly better mannered than on their committal. In fact, in the words of the Commissioners, "While undergoing their term of punishment every inducement is held out to them to keep away from vicious habits in future and the results are most encouraging." The principal drawback to the success of the "Borstal" system appears to be the shortness of the sentences inflicted on many of the "juvenile-adults," which in the case of a large proportion of the lads sent to Clonmel last year were for the minimum period of nine months. This drawback, however, will to some extent be remedied in the event of the passing of the Prevention of Crime Bill now before Parliament, one year being the minimum period of detention proposed by that measure in Borstal institutions. The Prevention of Crime Bill is intended to deal with two classes of offenders who occupy the extremes of the present prison population—namely, the young offender and the habitual criminal. The Bill provides in both these classes for the compulsory detention of the offender—in the first class with a view to his reformation and reclamation; and in the second class, for the protection of the public, the mode of incarceration in the latter case being known as "preventive detention."

The health of the prisoners throughout Ireland is stated in the report to have been very good. Commenting on the fact that of the three divisions of the United Kingdom Ireland has now the largest proportion of tuberculosis amongst its general population, the Commissioners remark that the amount of this disease in the Irish prisons is very small, as compared either with prisons in other countries or with the general population of Ireland, although so many prisoners

Dr. S. B. Atkinson, since that date her services have ceased. A large baby show which has been held recently in the centre of Stepney is regarded as affording a good opportunity for starting a motherhood bureau or some centre whence information on all matters of infantile hygiene could be readily obtained. It will be a valuable thing for the community if this expectation is realised; at present the poor nursing mother of Stepney gets none of the assistance which might be so valuable to her.

I now went on to Rotherhithe, and nowhere can conditions be found more favourable for studying the problem of the rearing of poor children. Rotherhithe, which once was prosperous, has long since fallen from its high estate. Much of its trade has departed, though its position on the bank of the Thames still necessitates the employment of a considerable number of dock workers. Unfortunately, the supply largely exceeds the demand, and many men can only obtain casual employment. Their wives and families are in a condition of continual poverty. The brunt of the physical suffering, the natural hunger, is borne, of course, by the women and children, and the women suffer even more severely than the children because of their ready self-sacrifice of themselves. It is the ordinary sequence of events that a man obtains a few days' employment, having had no work for a week or two. When he procures this casual job his wife is able to obtain credit and food is secured, of which the man must consume by far the largest portion or he cannot do his work. The woman in most instances stints herself to a bare subsistence for the sake of the children. The woman exists upon the minimum of food that will support existence, and if she happens to be pregnant it can be conceived that the chances for the offspring are very black. It is in a locality like Rotherhithe that expectant and nursing mothers of the poorer class especially need nourishment, and none of the dread lest pauperisation by charity should lead to loss of self-respect need enter into the question. Women who starve themselves for their children do not lose moral fibre because they are helped to feed those children, and a too severe attitude of organised charity would be out of place in Rotherhithe. The Bermondsey Settlement, the headquarters of which are at St. George's House, Bermondsey, but which has its women's house and its women and children's house in Rotherhithe, has attempted to grapple with some of the difficulties which young mothers meet with there. Miss Simmons is at the head of the women's work. At St. George's House, Bermondsey, babies' breakfasts are given through the winter up to May and bread and milk is given to children too young to come under the school feeding system and too troublesome to be cared for at the same time as the other children. In connexion with the Settlement what is known as a Babies' Institute has been established. A good-sized house, known as Beatrice House, has been hired in Rotherhithe in which on certain days of the week mothers' meetings are held and advice is given by competent women in regard to the bringing up of young children. At this house on one day of the week infants are inspected and weighed. A nurse and two ladies connected with the Settlement supervise these proceedings and a medical man attends at intervals to inspect the infants medically, to give advice, and to recommend treatment when necessary. Pamphlets and leaflets containing instructions as to the proper mode of rearing infants are distributed, setting forth the aim of the institute and the principles of hygiene to be followed in the bringing up of infants. To help mothers, especially young mothers, to prepare for the birth of children, and to take efficient care of themselves and the baby, both before it comes into the world and for the first year of its life, a provident maternity club is to be established, and it is intended, if sufficient support can be obtained, to adopt to some extent the system of feeding expectant and nursing mothers. This is done already on a very small scale, and all who know the conditions hope that the movement may spread in this poverty-stricken neighbourhood. I was present at one of the mothers' meetings, at which babies were inspected and weighed. Both mothers and infants as a lot were anæmic and ill-nourished. The women took, as usual, the keenest interest in the weighing of the babies and the spirit of emulation which is invariably aroused in these circumstances soon began to prevail among them. The increase of weight of their respective offspring became a matter of personal dignity to themselves. Also, they seemed to pay great and grateful attention to the advice given to them.

The obviously forlorn and ill-fed appearance of many of the women in Rotherhithe made me wish to see them in their homes. With the assistance of a Poor-law district medical officer for Rotherhithe, Dr. B. A. Richmond, who has lived in the neighbourhood for some time and who knows the houses of the poor well, I was able to witness the life led by the mother at home. The houses, with the exception of the model dwellings, are old, small, ill-lighted, and possess many sanitary defects. The first house into which my conductor took me was situated in a narrow side street and consisted on the ground floor of a low-ceilinged, badly lighted room in front, not more than 12 feet square, opening into which was another room, windowless and just large enough to contain a truckle bed in which a girl slept. There were two very small rooms upstairs in which the remainder of the family, comprising man and wife and three children, slept. The food of the family was kept, in default of other accommodation, in a small cupboard in the dirty and stuffy front room, and the provision for cooking it was a gas stove at the end of the narrow entrance passage and in close proximity to the water-closet. The street was ill-paved and narrow, and the other houses, which I daresay are among the oldest in Rotherhithe, are much like the one described, though a few have outside yards, allowing a little more space for cooking and sanitary arrangements. In an adjoining street was a house to which I was conducted containing two rooms on the ground floor and two on the upper floor. In the front room the greater part was occupied by a large wooden bedstead, for, of course, the more numerous the family the larger the bedstead, while, with less obvious connexion, the larger the bedstead the smaller the room. In bed here was a woman who had been confined a few days before, making her eighth child, but in this tiny house two nearly full-grown girl lodgers also received accommodation, so that of the two small rooms upstairs one was occupied by six girls and the other by three boys. There was an outside yard in which was the closet and in another part of the yard a cupboard in which the food was kept. The people of this house were not particularly poor and the overcrowding, which constituted a menace to their health, was not really necessitated by their circumstances. The rent of the house was 8*s.* 6*d.* per week. The next houses which I visited were situated near the river and were more distinctly reminiscent of Rotherhithe as a riparian suburb. The first house was large with a long passage running its full length and leading into a yard. It contained seven rooms, most of them panelled, all of them inconvenient and ill-lighted, and two of them which were used as bedrooms with no outside light whatever. The rent of this house was 11*s.* 6*d.* per week and it was filled with lodgers. The food was kept in a cupboard in the yard. A second house was of a similar description, with dark short stairways leading from room to room. But here also there was an outside yard with storeroom for food and a closet. This house had as inmates a man, wife, and family of four, and several lodgers. Another house which had been undoubtedly in days past the mansion of a family of some position and which was now used as a lodging-house, swarmed with children and was grimy beyond description. In the last house which I shall describe, situated in a narrow lane not far from the river, a woman under 30 had been confined recently with her sixth child, the other five children being alive, the general conditions were even worse. The house was small and disgustingly filthy. In a diminutive front room, with fire burning and window tightly closed and atmosphere absolutely foul, containing a very large bedstead, sat the woman with her last baby in her arms, and on the bed were two half-naked youngsters. The woman had no one to assist her, and in order to attend, after a fashion, to her large young family, was compelled not only to get up before she should rightly have left her bed but to do what cooking her means allowed her to have. Probably the food was kept under her bed, for this appears to be no very uncommon incident where receptacles are practically absent, and she could not have placed it far from her because of her condition. I inspected many other houses, but I think I have said sufficient to show that in Rotherhithe there is ample scope for the employment of many health visitors. I am sure that much, very much, could be done, nocturnal pains, periostitis, and necrosis of the femur, tibia, clavicle, and bones of the forearms; and the joints become distended with fluid and sometimes ankylosed. Gummatous ulceration destroys the eyelids, nose, and ears, producing innumerable varieties of mutilation which may be witnessed every day; and the amount of inherited syphilis is enormous. In every part of the country there are constantly met boys and girls between eight and ten years of age who are thus affected, frequently with osteo-arthritis of both knees. Caries of the bones of the face and of the base of the skull is common, and also blindness due to interstitial keratitis. With regard to the effect on childbirth and infant mortality Colonel LAMBKIN quotes from Dr. C. A. COOK, C.M.S., the calculation that 75 per cent. of the pregnancies of the Uganda women end in abortion or miscarriage, premature labour or stillbirth, or in the death of the infant during the first week after delivery. Parasyphilitic affections are not very common and Colonel LAMBKIN assumes that the disease has not existed in the country for a sufficient length of time to produce any abundance of them. Still, a certain number of tabetic cases have fallen under his observation and "quite a number" of young men with syphilitic histories who were suffering from complete loss of sexual power.

With regard to the causes of the epidemic—for so, indeed, it may be called—Colonel LAMBKIN gives the first place to the supersession by Christianity of the tribal laws and customs which formerly prevailed, under which the liberties of women were greatly restricted and unchastity was severely punished. Christian teachers have brought about the abandonment of polygamy and of a control over female liberty which was formerly exerted, and under which immorality and promiscuous intercourse did not exist. Corresponding with the time of the outbreak of syphilis, the chiefs of the Baganda tribe, the majority of whom had become Christians, decided to remove all such restrictions, as being contrary to Christian teaching, and to set the women free. This was done, and the women were left at liberty to roam about and to do as they liked, with the result of establishing a system of promiscuous sexual intercourse and immorality. The freedom enjoyed by women in civilised countries has gradually been won by them as one of the results of centuries of civilisation, during which they have been educated; and women whose female ancestors had for countless generations been kept under surveillance were not fit to be treated in a similar manner. They were, in effect, merely female animals with strong passions, to whom unrestricted opportunities for gratifying these passions were suddenly afforded. The opinion thus stated is confirmed, it is satisfactory to observe, by competent witnesses who are themselves Christian teachers; and Colonel LAMBKIN cites the testimony of the Rev. J. ROSCOE of the Church Missionary Society, Chief of the Theological College at Kampala, and that of the Very Rev. Père LAANE, Superior of the White Fathers at Entebbe, whose labours for the relief of the sufferers from sleeping sickness have lately called forth a warm eulogium from Mr. HESKETH BELL, the Governor of Uganda. As a second cause the abolition of the punishments formerly inflicted upon offenders against chastity is mentioned and is said to have encouraged the commission of such offences, and thus to have lent itself to the propagation of syphilis amongst the people. Colonel LAMBKIN concludes his paper by a sketch of an organisation which he has established, with the aid of the local chiefs, for the cure of persons suffering from syphilis, and under which treatment rooms will be opened in various localities, while a sufficient regularity of attendance on the part of the patients will be secured through the agency of these chiefs and of the control which they still exert over their people. Colonel LAMBKIN found a prevalent opinion among medical men in the Protectorate that the natives were bad subjects for the administration of mercury, but this view has not been sustained by his own experience and he advises its free administration under ordinary precautions. In conclusion, he believes that it is possible to count upon even more complete control over the patients in Uganda than in India, the influence of the chief over his people being remarkable and his word being law, and that hence there is every reason to think, without being too optimistic, that our chances of being able to deal successfully with syphilis in Uganda are at least as good as they were ten years ago in India. If we can bring about anything like the brilliant results achieved in that country we shall, he says, have much cause for congratulation.

Annotations.

"Ne quid nimis."

THE NOTIFICATION OF PULMONARY TUBERCULOSIS.

A COMPARATIVELY open secret was disclosed at the International Congress on Tuberculosis at Washington by Dr. A. Newsholme, principal medical officer of the Local Government Board. Dr. Newsholme, speaking on the authority of Mr. Burns, the President of the Local Government Board, made the expected announcement that the Board proposed to put upon Poor-law medical officers the duty of notifying, to all sanitary authorities who requested the information, all cases of pulmonary tuberculosis occurring among patients who are a charge to the parish. Such an order, to be of any use, will also make it compulsory upon the guardians and their staff to notify changes of address of parochial patients suffering from pulmonary tuberculosis, and no doubt the details of such notification will be arranged. It seems to us that a good deal of care will have to be exercised in this latter direction lest anything that looks like the unnecessary segregation of a class should lead to concealment of a certain number of exactly the kind of cases that ought to be under active treatment.

AN EXPERIMENT IN CONTRACT PRACTICE.

THE medical men in the town and suburbs of Bellinzona, who have been making what we should think a somewhat bold experiment in contract practice on extensive lines, have soon discovered to their cost what an inordinate amount of unnecessary trouble thoughtless people manage to give when they only have to pay a fixed sum—usually a very small one—per annum. An arrangement was made whereby the locality was divided into districts, the inhabitants paying a small rate to the local municipal authority, out of which the medical men received from £120 to there is someone present at the exhibition to take parties round and to explain. Thus an immense educational work is done.

There are now no less than 195 State or local associations for the prevention of tuberculosis. To show how quickly the movement has grown it suffices to consider the following few figures. At the commencement of 1905 there were only 24 associations for the prevention of tuberculosis throughout the whole of the United States and then 12 new ones were created. In 1906 25 new associations were started. In 1907 the doubling process continued, since in that year 49 new organisations sprang into existence. But the first seven months of the present year beat all former records by creating 85 new associations. The rapidity of the increase shows the popularity of the cause and the ability with which it has been advocated. As already remarked, the object is purely educational and one of the difficulties has been to check the over-zealous. Others seek to advertise themselves rather than to make themselves really useful, so that some associations have been formed which it was thought wiser not to recognise. The committee governing the National Association has been carefully selected from among eminent medical men and some laymen who have had great experience in such matters and are fully cognisant of the sort of difficulties likely to arise. Dr. Livingston Farrand, who has been very active in this organising work and who supplied me with much of this information, will give further details at Washington and the foreign members will be profitably interested in the practical information thus forthcoming. There is a book also about to appear, of which I have some proof sheets, containing a complete list, accompanied with some practical details, of every sanatorium and hospital in the whole of the United States specially intended for tuberculous patients. This will be a very useful publication.

RECENT OUTBREAKS OF PLAGUE IN THE NEAR EAST.

(BY THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

DURING the past few months an epidemic of plague of some severity has been prevailing at Bagdad. The first case of the disease there was seen by the health officer of the town on May 8th last. The patient, a Jew, was said to have been ill during the eight preceding days. Other cases were observed at the same time, but hitherto no light has been thrown on the source from which the infection was introduced into Bagdad. The further course of the outbreak has been as follows:—

	Cases.	Deaths.	Found dead.
Between May 8th and 23rd	20	6	2
In the week ending May 30th	7	7	2
,, ,, ,, June 6th	10	7	2
,, ,, ,, ,, 13th	10	6	3
,, ,, ,, ,, 20th	8	4	3
,, ,, ,, ,, 27th	13	6	2
,, ,, ,, July 4th	15	6	2
,, ,, ,, ,, 11th	8	8	3
,, ,, ,, ,, 18th	4	3	1
,, ,, ,, ,, 25th	6	5	3
,, ,, ,, August 1st	3	2	0
,, ,, ,, ,, 8th	1	2	0
,, ,, ,, ,, 15th	3	2	1
,, ,, ,, ,, 22nd	2	2	2
,, ,, ,, ,, 29th	1	1	1

The totals up to the last-named date were 111 cases with 67 deaths. The high proportion of cases "found dead" cannot escape notice. The written reports from Bagdad tend to show that the measures imposed by the local authorities have not been very adequately carried out. In the early days of the outbreak it was stated that a considerable number of dead rats had been found in the town, and the diagnosis of plague, both in human beings and in rats, was confirmed bacteriologically. Various measures were imposed to prevent the infection spreading outside Bagdad, the most important of which were: a medical inspection of passengers leaving the town by river or road, an additional medical inspection of arrivals in Kerbela (the Shiah Holy City), the prohibition of the transport of corpses from Bagdad to the Shiah Holy Cities of Kerbela and Nedjef, and of the burial of bodies in the interior of the Kiazimieh mosque. Medical visits were also imposed on travellers by the river steamers from Bagdad. The outbreak seems now to be approaching extinction.

The outbreak of plague in Jeddah came to an end in the month of March last. Subsequently to the returns quoted in my letter which appeared in THE LANCET of April 11th (p. 1110) only a single death from the disease was observed there—on March 30th. In Yanbo, on the other hand, the outbreak lasted longer. The following figures are in continuation of those quoted in the letter just referred to:—

	Cases.	Deaths.
From March 12th to March 18th	19	19
,, ,, 19th ,, ,, 21st	6	6
,, ,, 22nd ,, ,, 25th	10	10
,, ,, 26th ,, April 5th	11	11
,, April 6th ,, ,, 14th	2	2
,, ,, 15th ,, ,, 21st	9	9
,, ,, 22nd ,, ,, 28th	25	18
,, ,, 29th ,, May 15th	21	18

Apparently the outbreak in Yanbo died out at the end of May; the total number of cases registered there since the beginning of the epidemic on Feb. 13th was 137 and that of deaths 126.

A few sporadic cases of plague have recently occurred again in Adalia on the south coast of Asia Minor. It will be recalled that in the summer of 1905, and again in August, 1906, a few isolated cases of the disease were observed here. There were none in 1907. In the present instance two cases occurred on July 26th; both the patients were employed in a flour mill and it was stated that an unusual mortality among rats had been observed in the mill and also in other quarters of the town. A third case was seen on August 22nd; the patient was also employed in a mill but in one situated near the port and far removed from the other mill. Finally, a fourth case was reported on Sept. 5th. As in the former outbreaks the exact source of the infection in these cases was unknown.

Plague has recently been prevalent in the Kirghiz Steppes of the Astrakhan government in south-eastern Russia. The returns have been very incomplete, but it is known that early in August nine cases of the disease with four deaths occurred among the Kirghiz in this region. A case of plague also occurred in Odessa early in August but the details have not been published.

Constantinople, Sept. 17th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Poor-law Provision and Consumption.

A PAPER was read at the thirty-fourth annual meeting of the North-Western Poor-law Conference held recently at Ulverston by Mr. Macfarlane, chairman of the Chorlton union, on the question of providing, in connexion with the Poor-law, sanatoriums for tuberculous patients. He quoted with approval a statement by Dr. Nathan Raw, that "adequate provision is made by the health authorities for every disease excepting the one that kills most people and which, if taken in time, is more easily cured than most other diseases." An inquiry made the other week at the Chorlton Union Hospital showed the close connexion between pulmonary tuberculosis and poverty, and "proved" also that in the majority of cases poverty, "if not the dominant, was a strong contributory cause of the disease." 30 men out of 100 in the phthisis wards were asked as to their former occupations and the probable cause of their sickness. Eight only had been engaged in the "dusty" or "dangerous" trades regarded as predisposing the workers to pulmonary tuberculosis—viz., one baker, one collier, one iron-grinder, one cabinet-maker, two French polishers, one grey-cloth warehouseman, and one shoe-maker. Of the remaining 22, 18 had been general labourers, who had contracted cold after cold and developed pulmonary tuberculosis. Poverty had compelled them to continue to work in inclement weather, or to forfeit part of the wage which as it was would barely support the wife and children. Mr. Macfarlane thought that there should be combined action between health nocturnal pains, periostitis, and necrosis of the femur, tibia, clavicle, and bones of the forearms; and the joints become distended with fluid and sometimes ankylosed. Gummatous ulceration destroys the eyelids, nose, and ears, producing innumerable varieties of mutilation which may be witnessed every day; and the amount of inherited syphilis is enormous. In every part of the country there are constantly met boys and girls between eight and ten years of age who are thus affected, frequently with osteo-arthritis of both knees. Caries of the bones of the face and of the base of the skull is common, and also blindness due to interstitial keratitis. With regard to the effect on childbirth and infant mortality Colonel LAMBKIN quotes from Dr. C. A. COOK, C.M.S., the calculation that 75 per cent. of the pregnancies of the Uganda women end in abortion or miscarriage, premature labour or stillbirth, or in the death of the infant during the first week after delivery. Parasyphilitic affections are not very common and Colonel LAMBKIN assumes that the disease has not existed in the country for a sufficient length of time to produce any abundance of them. Still, a certain number of tabetic cases have fallen under his observation and "quite a number" of young men with syphilitic histories who were suffering from complete loss of sexual power.

With regard to the causes of the epidemic—for so, indeed, it may be called—Colonel LAMBKIN gives the first place to the supersession by Christianity of the tribal laws and customs which formerly prevailed, under which the liberties of women were greatly restricted and unchastity was severely punished. Christian teachers have brought about the abandonment of polygamy and of a control over female liberty which was formerly exerted, and under which immorality and promiscuous intercourse did not exist. Corresponding with the time of the outbreak of syphilis, the chiefs of the Baganda tribe, the majority of whom had become Christians, decided to remove all such restrictions, as being contrary to Christian teaching, and to set the women free. This was done, and the women were left at liberty to roam about and to do as they liked, with the result of establishing a system of promiscuous sexual intercourse and immorality. The freedom enjoyed by women in civilised countries has gradually been won by them as one of the results of centuries of civilisation, during which they have been educated; and women whose female ancestors had for countless generations been kept under surveillance were not fit to be treated in a similar manner. They were, in effect, merely female animals with strong passions, to whom unrestricted opportunities for gratifying these passions were suddenly afforded. The opinion thus stated is confirmed, it is satisfactory to observe, by competent witnesses who are themselves Christian teachers; and Colonel LAMBKIN cites the testimony of the Rev. J. ROSCOE of the Church Missionary Society, Chief of the Theological College at Kampala, and that of the Very Rev. Père LAANE, Superior of the White Fathers at Entebbe, whose labours for the relief of the sufferers from sleeping sickness have lately called forth a warm eulogium from Mr. HESKETH BELL, the Governor of Uganda. As a second cause the abolition of the punishments formerly inflicted upon offenders against chastity is mentioned and is said to have encouraged the commission of such offences, and thus to have lent itself to the propagation of syphilis amongst the people. Colonel LAMBKIN concludes his paper by a sketch of an organisation which he has established, with the aid of the local chiefs, for the cure of persons suffering from syphilis, and under which treatment rooms will be opened in various localities, while a sufficient regularity of attendance on the part of the patients will be secured through the agency of these chiefs and of the control which they still exert over their people. Colonel LAMBKIN found a prevalent opinion among medical men in the Protectorate that the natives were bad subjects for the administration of mercury, but this view has not been sustained by his own experience and he advises its free administration under ordinary precautions. In conclusion, he believes that it is possible to count upon even more complete control over the patients in Uganda than in India, the influence of the chief over his people being remarkable and his word being law, and that hence there is every reason to think, without being too optimistic, that our chances of being able to deal successfully with syphilis in Uganda are at least as good as they were ten years ago in India. If we can bring about anything like the brilliant results achieved in that country we shall, he says, have much cause for congratulation.

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Assistant School Medical Officer for Newcastle.

A few weeks ago the corporation of Newcastle advertised for an assistant school medical officer at a salary of £200 per annum. A few applications were received and two candidates were selected to appear before a subcommittee of the education committee. One of these wrote regretting his inability to attend; the other was interviewed by the subcommittee but did not obtain the position. The committee has now decided to advertise again, offering a salary of £250 per annum. The original proposal to offer a salary of only £200 per annum was rather sharply criticised at the time when it was made, and it is somewhat surprising that the proposal should have been carried, seeing the demand that there is at the moment for school medical officers and knowing the reputation enjoyed by the corporation for employing highly qualified officers. Considerable satisfaction is felt locally that the committee has reviewed its decision and now offers a resonable remuneration for work that will be in the highest degree important and responsible.

Sept. 29th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Cardiff Water-supply.

The water-supply of the city of Cardiff is obtained from the Brecknockshire Beacons, moorland situated some 30 miles distant where there are two impounding reservoirs. The consumption equals about 28 gallons per head of the population daily. Water carriage is universally adopted in the town, though there are still a fair proportion of hand-flushed water-closets. When the Brecknockshire supply was first decided upon it was fully anticipated that in the event of the population increasing in the future as it had in the past a third reservoir would be required, and such was indeed included in the original scheme. During the past few years the necessity for proceeding with the construction of this reservoir has been frequently discussed and the expenditure of large sums of money in other directions has probably been the principal cause of the delay in the realisation of the project. The waterworks engineer of the corporation has recently reported that the proposed works are of such magnitude that six or seven years must elapse before their completion and that by the end of that period the existing supply would be inadequate for the needs of the inhabitants if their numbers increased at the rate anticipated. In order to postpone, if only for a few years, such a serious outlay as that involved in the undertaking, it was suggested by some members of the corporation that some use might be made of the spring water which is constantly being pumped out of the Severn Tunnel by the Great Western Railway Company. This amounts to some 10,000,000 or 12,000,000 gallons daily and occasionally nearly 20,000,000 gallons. A few villages are supplied with about 25,000,000 gallons annually, the railway company use about 160,000,000 gallons for locomotive and other purposes, and the remainder is sent into the river Severn. The water is unfortunately extremely hard, its total hardness being 38 degrees and permanent 14, though by suitable softening processes a considerable reduction is possible. The proposal to use this water, so much of which was running to waste, seemed at one time to contain the solution of a difficult problem, but after investigating the matter very closely and after receiving a report from the medical officer of health (Dr. E. Walford) to the effect that owing to the high degree of permanent hardness the supply would be unsuitable for either domestic or manufacturing purposes, the waterworks committee has unanimously decided that the scheme is wholly impracticable.

County Medical Officer of Health for Devon.

Considerable interest has been taken in the appointment of a county medical officer of health for Devon. Three selected candidates appeared before the Devon county council on Sept. 24th and finally Mr. G. Adkins was elected by a large majority of votes. Mr. Adkins comes of an old Devonshire family, his father being in practice in Yealmpton, near Plymouth, for many years. Mr. Adkins was formerly medical officer of health of Plympton rural district and was deputy medical officer of health of Plymouth.

The Difficulties of Medical Officers of Health.

At the last meeting of the St. Just (Cornwall) urban district council a letter was read from the Local Government Board relating to the report of the medical officer (Mr. R. G. Nesbitt) on the recent outbreak of enteric fever at St. Just and Boscaswell. The Local Government Board stated that it regarded with great dissatisfaction the continued inaction of the council, which by its prolonged delay in providing a wholesome water-supply for the district and neglect in other matters of sanitation, was incurring grave responsibility. The Board urged the council to take into earnest consideration the medical officer of health's recommendations in regard to the water-supply and other sanitary matters. One of the members accused Mr. Nesbitt of "raising a hornets' nest about their ears," and moved a proposition, which was carried, that the Local Government Board should be informed that the council is endeavouring to obtain a supply of water for St. Just and the district.

The Tiverton (Devon) Rural District Council and the Local Government Board.

At a meeting of the Tiverton rural district council, held on Sept. 22nd, a letter was read from the Local Government Board stating that it could not sanction the council's scheme for the sewerage of Bradninch. The Board had previously advised the council that a qualified engineer of practical experience should be called in, but the council had neglected this advice and its sanitary inspector had prepared a scheme.

Insurance against Tuberculosis in Cattle.

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Medical Treatment of Cardiff School Children.

In his quarterly report to the Cardiff education authority the medical officer of health (Dr. E. Walford) makes some suggestive remarks in connexion with the amelioration of the

California, while Russia was the only European country affected. In 1905 the mortality from plague in India fell a little below 1,000,000. In Asia its distribution was not materially changed. The disease was brought to Liverpool from Rangoon, to Manchester from Buenos Ayres viâ Hamburg and Middlesbrough, and to Leith. In 1906 a great decrease of plague took place in India, only 332,000 deaths resulting, but the following year was marked by a great increase, 1,200,000 deaths being reported. It invaded new territory in Northern Africa, notably in Tunis and in Algeria. The report includes tables, showing the distribution of the disease year by year in countries and in localities, together with a list of vessels on which cases of plague occurred, with the names of the ports of departure and arrival.

THE USE OF PICRIC ACID IN BURNS.

THE specific action of picric acid in the treatment of burns at first led to the belief that an ideal curative agent had been discovered, but it was soon found that when unwisely used it produced serious toxic symptoms. The treatment of burns is highly important because it is necessary to prevent shock as well as to relieve pain. The value of picric acid in this connexion is described by Dr. C. P. Martin in the *International Journal of Surgery* for August. It has been the custom for many years to relieve the pain resulting from burns by administering morphine, but Dr. Martin finds that the severity of the shock may be diminished and the pain relieved by the use of a picric acid dressing without giving morphine. Sterile gauze, soaked in a solution of picric acid containing 60 grains in 16 fluid ounces of sterile water, should be applied directly to the burned surface, covered with rubber tissue and cotton wool, and finally held in position by a bandage. After 48 hours the dressing is renewed unless any infection has occurred, when the surface should be first washed with a solution containing ten grains of potassium permanganate in 32 fluid ounces of sterile water. Then from day to day the dressing is renewed until the surface looks hard and dry, when the dressings are discontinued and the surface is covered with oxide of zinc, leaving the parts fully exposed to the air. One great advantage in the use of picric acid lies in the fact that the first dressing does not need removing for 48 hours, after which time shock need no longer be feared. The dressing absorbs the discharges from the burn and thereby prevents septic absorption. Any dressing which keeps these discharges in contact with the absorbing surface of a burn invites the onset of severe constitutional symptoms. Picric acid is sterile and antiseptic and stimulates the production of new tissue. The yellow stain produced by picric acid may be removed by first washing the hands in weak ammonia water and then bleaching them with a pure solution of hydrogen peroxide, which may be conveniently applied on cotton wool. The staining of the patient's clothing need not occur if the cotton wool be so arranged that it absorbs the discharges as they escape. As to the fear of poisoning, Dr. Martin believes this to be due to the use of too concentrated solutions of picric acid. In regard to oil dressings he points out that oil is neither sterile nor antiseptic, and it may form a suitable medium for the growth of organisms, even if it be sterilised before use. An oily dressing will not absorb discharges and it requires to be changed after 24 hours as it is then in a septic condition. When the parts have once been bathed in oil it is almost impossible to clean them thoroughly before applying other dressings. Carron oil itself, in Dr. Martin's opinion, has no healing properties and requires to be followed by another dressing if rapid and satisfactory results are to be obtained. In cases of emergency, in fact in all cases of burns, it is necessary that the dressing should be ready to hand. This requirement is well met by picric acid, which may be kept in the form of dry picric gauze, requiring only to be moistened just before it is applied.

MR. CARNEGIE AND MEDICAL HEROES.

THE latest of Mr. Carnegie's apparently inexhaustible benefactions, which is reported to have brought up the sum of his gifts for public purposes to something over £25,000,000, has, he tells us, been prompted by the success of the "Hero Fund" in North America. This has been so great that its founder has decided to extend its benefits to his own land, and it is now common knowledge that this open-handed millionaire has paused for a moment in his endowments of the libraries and other centres of education to hand over one and one-quarter millions of dollars to the Carnegie Dunfermline trustees for the object which he has set forth in a very characteristic letter. He wishes that those many brave men and women who suffer bodily injury during heroic efforts to save human life performed in times of peace "in the British Islands and the waters thereof," shall by means of this fund be put in a financial position a little better, if anything, than was theirs before their act of self-sacrifice until they are able to work again. And if a bread-winner shall have given his life to save some fellow creature his widow and children may claim support from the fund until such time as they can support themselves. The fund may have a higher function than simple compensation, for it may actually rehabilitate some obscure hero who has risen to his opportunity out of a miry past of which he would fain hide the traces. Such a one is to be eligible for his pension so long as he behaves himself without any questions being raised of his antecedents. Mr. Carnegie deprecates strongly any suggestion that his fund shall replace the compensation offered in cases of accident resulting from heroism by private or public agencies already existing. These should bear their burden willingly, he thinks, but he desires to make it absolutely sure that full provision may be made for every case. It is not surprising to anyone who has read the terms of this new trust to learn that it has the support and sympathy of the highest in the land, whose word is to be law in certain questions of its administration. It would, however, hardly concern us to chronicle it, save inasmuch as every premium upon courage and self-sacrifice makes for the well-being of the State, were it not for the fact that Mr. Carnegie in his letter specifies in particular only two classes as being notably productive of heroes, although we are quite sure that he makes no mental distinction between the bravery displayed in time of need by, say, the miner whom he does not mention and the railroad employee whom he does. But his most prominent instance is this: "No action is more heroic than that of doctors and nurses volunteering their services in the case of epidemics." We take it for an especial virtue in Mr. Carnegie that in his benefactions he does not forget the members of a profession the simple exercise of which in the eyes of so large a number of people should bring its own reward, but we must confess to some surprise at his having chosen out an almost routine duty of its practitioners for special illustration of the quality of heroism. It is true that Mr. Carnegie limits his instance to medical ministry during epidemics but we can hardly think that he holds less lightly the action of "doctor and nurse" who attend any patient suffering from a dangerous infectious disorder even though it be not widespread in the community. Indeed, it might be said that their service is less heroic in attending a rich person at a time when they would be liable to the disease, whether they attended him or not, than regards the teaching staff, no further changes are to be found beyond those already recorded in these columns. On the executive side an important change has taken place which will be to the utmost advantage of the College from the public point of view. The treasurership is now held by Mr. Cecil A. Cochrane, M.A. Oxon., a well-known and highly respected business man in the North of England. This is a most important step and one which it is difficult to over-estimate. It is to be hoped that this principle of the introduction of public men into the affairs of the College will be more widely applied and that this forward move on the part of the "members" will very soon be followed by other equally necessary and vital changes. Mr. Cochrane will be sincerely thanked by all who have been watching the interests of the College for undertaking to find time to perform this public service. Another very gratifying fact is the addition of the name of Mr. Clement Stephenson, D.Sc., to the council. Mr. Stephenson has been, in the very highest sense, a lifelong friend of the College, and few unfamiliar with the inner workings of the College are aware of the enormous amount of unobtrusive work done in its interests in the past by him. It is only to be regretted that this slight recognition of his efforts to further the interests of the College has been so long delayed.

Assistant School Medical Officer for Newcastle.

A few weeks ago the corporation of Newcastle advertised for an assistant school medical officer at a salary of £200 per annum. A few applications were received and two candidates were selected to appear before a subcommittee of the education committee. One of these wrote regretting his inability to attend; the other was interviewed by the subcommittee but did not obtain the position. The committee has now decided to advertise again, offering a salary of £250 per annum. The original proposal to offer a salary of only £200 per annum was rather sharply criticised at the time when it was made, and it is somewhat surprising that the proposal should have been carried, seeing the demand that there is at the moment for school medical officers and knowing the reputation enjoyed by the corporation for employing highly qualified officers. Considerable satisfaction is felt locally that the committee has reviewed its decision and now offers a resonable remuneration for work that will be in the highest degree important and responsible.

Sept. 29th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Water-supply.

THE water-supply of the city of Cardiff is obtained from the Brecknockshire Beacons, moorland situated some 30 miles distant where there are two impounding reservoirs. The consumption equals about 28 gallons per head of the population daily. Water carriage is universally adopted in the town, though there are still a fair proportion of hand-flushed water-closets. When the Brecknockshire supply was first decided upon it was fully anticipated that in the event of the population increasing in the future as it had in the past a third reservoir would be required, and such was indeed included in the original scheme. During the past few years the necessity for proceeding with the construction of this reservoir has been frequently discussed and the expenditure of large sums of money in other directions has probably been the principal cause of the delay in the realisation of the project. The waterworks engineer of the corporation has recently reported that the proposed works are of such magnitude that six or seven years must elapse before their completion and that by the end of that period the existing supply would be inadequate for the needs of the inhabitants if their numbers increased at the rate anticipated. In order to postpone, if only for a few years, such a serious outlay as that involved in the undertaking, it was suggested by some members of the corporation that some use might be made of the spring water which is constantly being pumped out of the Severn Tunnel by the Great Western Railway Company. This amounts to some 10,000,000 or 12,000,000 gallons daily and occasionally nearly 20,000,000 gallons. A few villages are supplied with about 25,000,000 gallons annually, the railway company use about 160,000,000 gallons for locomotive and other purposes, and the remainder is sent into the river Severn. The water is unfortunately extremely hard, its total hardness being 38 degrees and permanent 14, though by suitable softening processes a considerable reduction is possible. The proposal to use this water, so much of which was running to waste, seemed at one time to contain the solution of a difficult problem, but after investigating the matter very closely and after receiving a report from the medical officer of health (Dr. E. Walford) to the effect that owing to the high degree of permanent hardness the supply would be unsuitable for either domestic or manufacturing purposes, the waterworks committee has unanimously decided that the scheme is wholly impracticable.

County Medical Officer of Health for Devon.

Considerable interest has been taken in the appointment of a county medical officer of health for Devon. Three selected candidates appeared before the Devon county council on Sept. 24th and finally Mr. G. Adkins was elected by a large majority of votes. Mr. Adkins comes of an old Devonshire family, his father being in practice in Yealmpton, near Plymouth, for many years. Mr. Adkins was formerly medical officer of health of Plympton rural district and was deputy medical officer of health of Plymouth.

The Difficulties of Medical Officers of Health.

At the last meeting of the St. Just (Cornwall) urban district council a letter was read from the Local Government Board relating to the report of the medical officer (Mr. R. G. Nesbitt) on the recent outbreak of enteric fever at St. Just and Boscaswell. The Local Government Board stated that it regarded with great dissatisfaction the continued inaction of the council, which by its prolonged delay in providing a wholesome water-supply for the district and neglect in other matters of sanitation, was incurring grave responsibility. The Board urged the council to take into earnest consideration the medical officer of health's recommendations in regard to the water-supply and other sanitary matters. One of the members accused Mr. Nesbitt of "raising a hornets' nest about their ears," and moved a proposition, which was carried, that the Local Government Board should be informed that the council is endeavouring to obtain a supply of water for St. Just and the district.

The Tiverton (Devon) Rural District Council and the Local Government Board.

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Insurance against Tuberculosis in Cattle.

The attempt of the National Meat Traders' Association to throw upon the farmers the whole pecuniary responsibility attaching to the inadvertent possession of tuberculous cattle is being viewed with alarm by agriculturists in the West of England. At a meeting recently held at Bristol and presided over by Lord Winterstoke it was unanimously resolved that the proposal of the Meat Traders' Association to throw the whole responsibility upon the farmer was unfair and that farmers, butchers, and auctioneers should combine and make such arrangements by insurance as would protect both the butcher and the grazier. In view, however, of promised legislation it was decided to postpone taking active steps in the matter. For five or six years past the question has been dealt with in a very satisfactory manner by the butchers and farmers in Monmouthshire and to a certain extent by some of those in Glamorganshire. The scheme adopted in these districts is rendered possible owing to the purchases of cattle being made by means of auction sales. The auctioneer deducts from the sums which he hands over to the farmer 1*s*. for each head of cattle sold and he undertakes to indemnify the butcher to the extent of one half the value of the animal in the event of its being condemned as tuberculous by a sanitary authority within 14 days of the purchase.

Medical Treatment of Cardiff School Children.

In his quarterly report to the Cardiff education authority the medical officer of health (Dr. E. Walford) makes some suggestive remarks in connexion with the amelioration of the form of disease rose from 3·6 per 1000 in 1864 to 3·9 in 1870 and in 1871, since which it has steadily declined to 2·1 per 1000 in 1905 and in 1906; thus the decline in the whole period of 43 years has been equal to 41·7 per cent. in Scotland, against 51·5 per cent. in England and Wales. In Ireland, on the other hand, the tuberculous death-rate, which in 1864 was 27·3 per cent. lower than the rate in England and Wales and 33·3 per cent. below that which prevailed in Scotland, has since increased instead of having declined; the annual rate rose from 2·4 per 1000 in 1864 to 2·9 in 1880, and after varying fluctuations was equally high in 1897, 1898, 1900, and 1904, but fell again to 2·7 in 1905, 1906, and 1907. Thus the recorded death-rate from tuberculous disease in Ireland showed an actual increase of 12·5 per cent. during the 44 years 1864–1907. Calculated in decennial periods it appears that the annual death-rate from all forms of tuberculous disease in Ireland was equal to 2·6 per 1000 in the ten years 1871–80, to 2·7 in 1881–90, and to 2·8 in 1891–1900; during the past seven years of the current decennium the mean annual rate has also been equal to 2·8 per 1000. This increase of fatal tuberculous disease in Ireland, having regard to its marked decline in England and Wales and in Scotland, fully justifies the attention which it is receiving in Ireland, although there are some grounds for doubting whether these statistics afford an entirely trustworthy measure of the true death-rate from tuberculous disease among the Irish population. In the first place the high proportion of emigration from Ireland, mainly of selected young and healthy adults, seriously affects the mortality statistics of that country, and more than probably raises the recorded death-rate from tuberculous disease, in the same manner as it has given rise to alarming reports of the excessive and increasing prevalence of insanity in Ireland. That the long-continued elimination from the Irish population of healthy young adults, even ignoring the return of a certain proportion of such emigrants whose health breaks down abroad, undoubtedly affords some explanation of the absence of decline in the recorded death-rate from tuberculous disease in Ireland, is more or less confirmed by an interesting diagram comparing the rates of mortality from this form of disease in 1905 at different ages in the three divisions of the United Kingdom. This diagram shows that practically the whole of the excess of mortality from tuberculous disease in Ireland during that year occurred at the ages 15 to 35 years, the precise age-period most affected by emigration. The Registrar-General for Ireland, moreover, in his recently issued report calls attention to the important fact that in 1907 no less than 24·9 per cent. of the causes of the registered deaths in Ireland were uncertified, while in England the proportion did not exceed 1·4 per cent., and in Scotland the percentage was not higher than 2·3 in 1905. It is obvious that the value for comparative purposes of the recorded death-rate from tuberculous diseases, and indeed from other forms of disease, must be seriously depreciated by this remarkable and excessive proportion of uncertified causes of death in Ireland."

COMPULSORY INSURANCE OF THE WAGE-EARNING CLASSES IN NORWAY.

THE report of a Government committee appointed in Norway to investigate the proposed workmen's compulsory insurance against ill-health has now been published. The scheme provides for the insurance of all persons whose yearly income does not exceed £66 in the country or £77 in towns, the minimum age for insurance being 15 years and the period of service one week or more. Chronic invalids and sailors in foreign parts are, however, excepted. It is proposed that the payments made to the insurance fund shall be apportioned as follows. The person insured will contribute six-tenths, the employer one-tenth, the commune or county one-tenth, and the Government two-tenths. The Government is also expected to pay £12,500 towards starting the machinery of the scheme. On these terms an insured person may obtain 60 per cent. of his average daily wage for 26 weeks every year, a sum not exceeding £2 16*s.* for funeral expenses, and medical attendance free for himself, wife, and children under 15 years. Gratuitous treatment in hospital is also proposed to be given on a medical practitioner's recommendation. Women who are insured may obtain free medical attendance and pecuniary assistance for four weeks during the lying-in period. It is estimated that the cost will be about 6,500,000 kroner (approximately £330,000), of which over 4,000,000 kroner will be contributed by the workers, while the rest is to be paid by the employers, the commune, and the Government, according to the proportions already mentioned. The scheme will probably be introduced to the Storting as the Government's most important Bill next session. Its various provisions seem to have been carefully considered and it presents the important advantage of encouraging thrift. The population of Norway is only about 2,500,000 and there are no extensive manufacturing industries. The results of the experiment will, no doubt, be observed with much interest by politicians and social reformers in other countries besides Norway.

CARBOLIC ACID IN TETANUS.

Dr. César Allievo of Buenos Ayres reports in *La Semana Médica* of August 13th an interesting case of well-marked tetanus which yielded very promptly to treatment by carbolic acid administered hypodermically. The patient was a middle-aged lady who, ten days after cutting a corn on the great toe of the right foot, was found to be suffering from severe headache with a high temperature and an abscess on the inner aspect of the metatarso-phalangeal joint with great pain and tenderness over the whole of the inner side of the foot. Local anæsthesia was employed and an incision was made with antiseptic precautions, letting out a quantity of thick creamy pus. The wound healed satisfactorily and in a few days the patient was able to leave her bed. About a month after the cutting of the corn she again complained of pain in the whole of the right foot and also in the popliteal and inguinal regions of the same side and two or three days later of headache with difficulty in opening the mouth and stiffness of the neck. On examination the pupils were found to be contracted; there were marked photophobia and general hyperæsthesia, the slightest touch of the right foot or leg, or even arm, producing painful clonic general spasms. There was considerable dyspnœa. The urine contained neither sugar nor albumin. A hot bath and a chloral mixture were prescribed and as it was considered that it was too late to expect much good from antitetanic serum the carbolic acid treatment was decided on and 1·5 cubic centimetres of a 2 per cent. solution of carbolic acid were injected hypodermically on the same evening and repeated early on the next morning. A smaller dose, one cubic centimetre, was administered again at noon and at 4 and at 8 P.M. The symptoms had by that time begun to abate, for although the photophobia and headache were still equally severe, the trismus and contraction of the neck and the reflex spasms were far less marked and there was no dyspnœa. The chloral, which had been given very frequently, seemed to be causing gastric disturbance and so was ordered at longer intervals. On the next day two injections were given of one cubic centimetre and as the chloral continued to produce pain in the stomach it was given by enemata.

the child had died from inanition from insufficient and improper food. At the inquest evidence was given in favour of the authorities of the charitable institution which was responsible for the boarding-out of the child to the effect that "infants are taken from their mothers at the Coombe Hospital and boarded out at about a fortnight old without any medical authority or certificate as to their condition, the mothers being then received into the institution at 8, Lower Leeson-street." The lady inspector added: "My experience is that a large proportion of the infants boarded out in this way die within the first year." And to the foregoing report she subjoined the verdict of the coroner's jury, which contained the following rider: "We do not attach any blame to the nurse. We condemn the practice of the Coombe Hospital in sending out to nurse children at an early stage of life, as we consider they should remain longer in charge of their mothers." Some members having defended and some others having attacked the Coombe Hospital practice in this respect, and contradictory views having been expressed regarding the judgment and the jurisdiction of coroners' juries in general, it was decided to furnish the authorities of the Coombe Hospital with a copy of the verdict of the jury.

Lay Views on Tuberculosis.

A letter recently appeared in a leading newspaper from the pen of a master of a workhouse which is sure to have its full share of attention from the average members of the rural population of our more remote districts at least. It announces "a most remarkable cure of an advanced case of consumption of a lady in Youghal." The patient had (May 13th last) been confined to bed for 11 or 12 weeks; weight had fallen from 8 stones 2 pounds to 6 stones 7 pounds; sputum had been sent to a Dublin bacteriologist for analysis, and consumption bacilli had been found; while the regulation "night-sweats, intermittent high temperature, racking cough, and profuse expectoration all pointed to the dread disease," and were well in evidence. Fortunately, however, the microbes had fallen upon thorny ground, for, as we are informed, "When the patient learned this, being herself a trained nurse and a person of strong mind, she said she would fight the bacilli, and thereupon got out of bed and commenced the Nordrach home treatment of consumption. Her husband procured a plan of the American home sanatorium or 'shack,' and forthwith erected one on the boundary wall of his little garden. ...... Here the patient sleeps with air as pure as if the bed was under the canopy of heaven. ...... Then she took the nourishing food—took it, so to say, artificially, without having any inclination to eat. ...... She now weighs 8 stones 1 pound. ...... Night-sweats and temperature have disappeared, Nature seems to resume her proper functions—all except the appetite for food; but this, according to Nordrach theory, will come in a year or two when the bacilli are completely routed, and not till then will recovery be complete." Wisely has the prophet spoken, as all readers must admit! And the correspondent goes on to say, in concluding: "I am not a doctor, but during my time as master of the Youghal Workhouse I saw a great many cases of consumption, and I have not the slightest doubt in my mind that were it not for commencing the Nordrach treatment the patient referred to would be in her grave to-day." In a country like Ireland this class of document will weigh more with country folk than 50 scientific lectures from anti-tuberculosis crusaders, so that the workhouse master has taken upon himself a heavy responsibility.

Double Tenancies in Belfast.

The Public Health Committee passed the following resolution on Sept. 24th:—

> That where two or more families reside in a house in which sanitary accommodation is only provided for a single family the executive sanitary officer be instructed to prosecute in order to put a stop to what the Revising Barrister described as "disgraceful" and "contrary to morality and decency."

With reference to the evils that arise from double tenancies the Belfast Health Commission reported as follows:—

> On the ground that the upper tenancies have in effect no sanitary accommodation, those double tenancies should be sternly abolished, or the provision of an external stairway from the upper rooms to the yard should be insisted upon. This double tenancy was not alleged to be necessary even on the ground of poverty of the tenants, yet it has been tolerated for years, although the practice is well known both to the Corporation and to the Public Health Department.

Sept. 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The French Vital Statistics for 1907.

THE vital statistics for 1907 have just been published. The deaths exceeded the births by 19,920, an excess due both to a fresh decline in the number of births, which was 32,878 less than in 1906, and to the increase in the number of deaths, which exceeded those of 1906 by 13,693; these exceeded the deaths of 1905 by 10,025, which in turn were 8968 above those of 1904. In comparison with 1906 the number of live births has diminished in 52 departments and has only increased in five. The departments in which the excess of deaths over births is especially apparent are those which comprise the richest country. The relative increase of the population per 10,000 rose to an average of 18 from 1901 to 1905; it fell to 7 in 1906 and in 1907 was replaced by a decrease of 5 per 10,000. There has been a great increase in the number of departments in which the deaths exceed the births.

The Treatment of Sleeping Sickness.

Professor Laveran of the Pasteur Institute, who has been wholly occupied for several years in investigating sleeping sickness, has communicated recently to the Academy of Sciences in the names of himself and his fellow worker, Dr. Thiroux, a note on the treatment of the disease based on a research upon guinea-pigs that had been injected with trypanosomes. He first used tartar emetic, following Plimmer and Thomson, and found that this drug was rapidly effective in causing the trypanosomes to disappear from the blood-stream. In this manner he was able to cure three out of 13 guinea-pigs which he treated. He then tried giving this drug in combination with atoxyl by hypodermic injection, with even better results, six out of the 13 animals being cured. Professor Laveran and Dr. Thiroux are at present trying the alternate administration of atoxyl and orpiment (sulphide of arsenic) which seems to promise the best results.

Tobacco Poisoning and Pregnancy.

M. Dastre communicated to the Academy of Sciences on Sept. 21st a note by M. Robinson concerning the effect of tobacco poisoning upon pregnancy. It has no effect upon this process in bitches, cats, and mares, but it has an effect upon rabbits and guinea-pigs. It is well known that women employed in tobacco factories run the risk of sustaining certain ill-effects from tobacco poisoning. M. Robinson has instituted an inquiry amongst Eastern women who use tobacco with negative results. Of those who smoke the *narghile* or large quantities of cigarettes—30 or 40 a day—M. Robinson has not found a single case of abortion which could be put down to the tobacco.

The Nursing School of the Assistance Publique.

On Oct. 1st an examination for pupils desirous of entering the nursing school of the Assistance Publique will take place. The candidates will have to undergo a medical examination and will in addition have to pass in dictation, to write a simple essay, and to pass a written examination in simple arithmetic. They will also be examined in sewing. The examination is open to female nurses and to servant girls already in the service of the Assistance, as well as to outside candidates. The school is for resident pupils who are girls of from 18 to 25 years of age and unmarried. Candidates already in the service of the Assistance may be as old as 30 years. Candidates if successful must undertake to serve the Assistance for a term of three years or in default must return the expenses of their keep. During their stay at the school the pupils receive board, lodging, light, firing, and laundry. In the first year they are paid 10 francs per month and in the second year 20. If their conduct in the school is satisfactory they are passed out with a certificate of a nurse of the second class.

Sept. 29th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Pestis Bubonica at Trieste.

THE cholera shadows hovering ominously on the horizon are stirring the Board of Hygiene to exceptional vigilance, of cholera if the infection should gain a foothold amongst them. As we wrote last week, there is no ground for alarm lest this should happen in England. The Local Government Board is keeping the port and riparian sanitary authorities fully informed of the extent and topography of the epidemic and has intimated to all such authorities that all necessary steps should be taken under the General Order of Sept. 9th, 1907, relating to cholera, yellow fever, and plague in dealing with vessels arriving from the Baltic and North Sea ports and from Southern Russia.

THE ORIGIN AND PREVALENCE OF ENTERIC FEVER IN THE DISTRICT OF COLUMBIA.

A SECOND report[1] on the origin and prevalence of enteric fever in the District of Columbia embodies the results obtained during 1907, including epidemiological investigations of the disease during the enteric fever season, bacteriological examinations of drinking water, bacteriological and chemical examinations of milk, laboratory tests to assist in the diagnosis of the disease, and examinations of specimens—e.g., ice-cream and shell-fish—in search of bacillus carriers. The results so far indicate that enteric fever will cease to be a problem in any community having clean water and an uninfected milk-supply, if in addition cases of the disease are treated as dangerous to the community. It was found that the drinking water was not responsible for the spread of the infection in the District of Columbia. The disease was largely imported from other States and in many cases it was contracted through contact with persons or with articles handled or soiled by persons in the febrile stage of the disease. Infected milk was found to be one of the important known factors in the spread of the disease. The report concludes with certain recommendations: 1. That all cases and suspected cases of enteric fever should be treated as contagious and dangerous to the community, the treatment including isolation, placarding, and the prompt disinfection of the patient's bedding, discharges, and so on. 2. That laboratory facilities should be provided free of cost to aid physicians in the early diagnosis of the disease and to determine when patients are no longer a menace to the public health. 3. That all milk not "certified" or "inspected" should be pasteurised, under official surveillance, especially during the enteric fever season. 4. That a law should be enacted prohibiting the handling or sale of milk or milk products in any dwelling or in any structure so situated as to render these products especially liable to contamination. 5. That a law should be enacted prohibiting the care of a case of enteric fever in any house where foods or beverages liable to convey the infection are sold or prepared for sale. 6. That in order to furnish a water-supply of a satisfactory grade throughout the year adequate storage reservoirs should be provided, failing which alum should be used as a coagulant during periods of high turbidity.

THE TREATMENT OF LARYNGEAL TUBERCULOSIS.

WE have received a reprint from the *American Journal of the Medical Sciences* (August, 1908) of a paper entitled "Clinical Notes on Laryngeal Tuberculosis," by Dr. Beverley Robinson, clinical professor of medicine in the University and Bellevue Hospital Medical College, New York. Dr. Robinson gives the results of his own experience in the treatment of laryngeal tuberculosis and also gives a short *résumé* of the methods adopted by other physicians. He considers that for the relief of pain caused by abraded surfaces the frequent local use of orthoform is a satisfactory remedy. Fortunately, orthoform is innocuous and so may be freely employed. He also endorses the favourable reports which have been recorded of the good effects of lactic acid when actual ulceration is present. Applied in from 10 to 80 per cent. solution it brings about considerable amelioration if not complete healing of the parts affected. A local anæsthetic is often required before and after its application, and especially is this true whenever curetting has been practised prior to the use of the acid. Dr. Robinson, however, is not an advocate of punching and curetting. In the way of protective and curative treatment he considers two things are essential—namely, rest for the larynx and inhalations. With regard to the former, no doubt exists that this is one of the most important factors in the modern treatment of laryngeal tuberculosis; we consider that it is the most valuable measure that can be employed but it is sometimes difficult to secure the needed rest. As a rule the patient is only too willing to aid the physician by refraining from speech for a considerable period of time, but in some cases a troublesome cough disturbs the rest, and then some additional therapeutical means is necessary. Dr. Robinson writes enthusiastically as to the results of antiseptic inhalations. He advises the long-continued use of the perforated zinc inhaler with inhalations of creasote and alcohol, or, when there is much irritative cough, of beechwood creasote, alcohol, and spirit of chloroform in equal parts. He maintains that he knows of "absolutely no other method, no other local application, no surgical measure, which will afford anything like the same amount of relief to symptoms and hasten and promote cure in suitable cases to the same degree as will the perforated zinc inhaler with the inhaling fluid recommended." Although we do not hold such a strong view on the value of this method as does Dr. Robinson, nevertheless it undoubtedly is often of use as an adjunct to the rest treatment, especially in the relief of cough, which, as we have already said, occasionally retards the good effects brought about by the abstinence from speech.

THE Department of Public Health of Queensland, in a bulletin dated August 22nd, reports that Brisbane was free from plague both in man and in rodents for the week ending August 22nd. The Governor of Mauritius, in a despatch to the Secretary of State for the Colonies, states that three cases of plague were reported during the week ended Sept. 24th. The number of deaths for the week was three.

HASLAR NAVAL HOSPITAL.

DR. T. J. MACNAMARA, Financial Secretary to the Admiralty, visited Haslar Naval Hospital on the afternoon of Sept. 29th at the closing of the last class of naval surgeons, numbering 15, by Inspector-General James Porter, C.B., Director-General of the Royal Navy Medical Service. The class had been instructed by Fleet-Surgeon P. W. Bassett-Smith, assisted by Fleet-Surgeon J. J. Walsh and Staff-Surgeon H. C. Adams. There was a large attendance at the interesting proceedings, including Inspector-General T. D. Gimlette, C.B., Deputy-Inspector-General J. Crowley, Deputy-Inspector-General Craig, Fleet-Surgeon Townsend, Fleet-Surgeon R. Willan, Fleet-Surgeon Bassett-Smith, Rear-Admiral C. G. Robinson, and others.

Inspector-General GIMLETTE said that they had met to be in attendance at the presentation of prizes to the class of surgeons on their entry into the service and Dr. Macnamara had been kind enough to come specially from London to make the presentation. It was his pleasant duty to introduce these young officers and he was very glad to be able to give a good also presented for consideration and the establishment of such institutions is earnestly encouraged. The leaflet is also sent to municipal officers, to proprietors of large works, and to many country physicians. The value of proper clothing, of abstaining from alcohol during lactation and gestation, and the necessity of weighing the baby regularly are also dwelt upon. Every help is promised by the committee to those who wish to establish the above-mentioned institutions. A few figures are appended showing the infant mortality in different districts, according to the method of feeding.

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[1] Bulletin No. 44, Hygienic Laboratory, Public Health and Marine Hospital Service of the United States, by M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle. Washington, 1908, pp. 66, with maps and curve charts.

An Important Judgment.

In a suit brought by a medical man against the parents of a patient of full age for recovery of fees for treatment the Court of Justice took a remarkable view and the judgment is important for the profession in Austria. A man, aged 32 years, with a family of two children, fell ill, and during that time his means were so reduced that he could not pay his doctor's bill amounting to some £50. Thereupon the doctor asked payment from the parents, which was refused because the patient had his own home and the parents did not call the doctor to undertake the patient's treatment. The judge, however, decided that parents must not only take care for the children under full age but must also, if the child is of full age and cannot support himself, find the means for his upkeep. The recovery of health is essential for the child to regain his earning capacity, therefore the parents are bound to support him until he is able to earn his living. The age incident must be neglected in such circumstances. Judgment was given in favour of the medical man and the money was paid into the court.

Strike of the Students at the Veterinary College.

The students of the Veterinary College have decided to enter upon a general strike by refusing to attend any lectures and by abstaining from examinations until their grievances are removed. The school is under military supervision, which has no precedent in university administration. The management is therefore military, and as veterinary surgeons are not regarded as the social equals of other officers or of medical men their affairs are treated in a somewhat "off-hand" fashion. The financial aspect of the studies and the expenditure on the teaching staff are very unsatisfactory, the accommodation for dissecting and the clinical treatment of animals are very primitive, and the whole military system is very irksome to the students. Several attempts have been made in vain to bring this university college under the control of the Ministry of Education, when it would take equal rank with the other medical colleges. The conservatism of certain classes affords too powerful an obstacle for rational measures. The students have also tried in vain to obtain the title of "Veterinary Doctor." The military management of the college is said to be responsible for the unsatisfactory progress of scientific life in the veterinary school of Vienna, which 50 years ago was regarded as a model of its kind. Since that time all medical men of any standing have refused to have anything to do with the teaching at the college, and bacteriology as well as parasitology cannot be learned there. The students, in a memorandum presented to the Ministry of War and the Ministry of Education, have explained these facts and desire that the college shall be immediately handed over to the control of the University of Vienna, affording the only hope of a proper revival of veterinary study. Should their wishes be not complied with within a certain time they threaten to cease their studies altogether. This would be a very serious matter for the army, where the veterinary service is a branch of ever-growing importance.

Sept. 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Proportion of Fat in the Milk-Supply.

THE Food Standards Committee under the Pure Foods Act in Victoria fixed the requisite fatty solids for milk at 3·5 per cent. The Master Dairyman's Association has protested that this is excessive and has asked that it should be reduced to 3·3 from August 15th to April 15th in each year. It submits that during this period the amount of fat solids is much less than during the remainder of the year. The standard was fixed originally on the result of an average of 3·9 from 2000 samples taken throughout the State. The association contends that this is not a true foundation. It points out that in England the standard is 3 per cent. and the New Zealand producers are protesting that 3·25 is too high and suggest that 3 per cent. is a fair figure. Last year a deputation from the same body asked for a 3·3 standard all the year round. The Food Standards Committee has declined to lower the standard. The chairman, Dr. Norris, said: "Concerning the standard in England and most European countries whatever may be the pressure of circumstances which fixes it at its present ridiculously low rate the analyses of a leading dairy company in London show the following average composition for 200,000 samples: total solids, 12·9; fats, 3·9."

Private Hospitals.

In introducing a Bill to regulate private hospitals in New South Wales Dr. Mackellar said that there were 107 lying-in homes in Sydney and 334 in the whole State. Perhaps 10 per cent. of these were efficient. His Bill aimed at insuring absolute and not relative cleanliness in these institutions. Quite a number of these "homes" were under suspicion. A detective with 15 years' experience had sworn that he knew six men and 30 women in Sydney and the suburbs who were abortionists and the majority were connected with "lying-in homes." That, he thought, was a strong argument for State supervision.

The Victorian Sanatorium for Consumptives.

At the annual meeting of the friends and supporters of the Victorian Sanatorium for Consumptives the committee regretted that the public support which was required had not been forthcoming. The number of patients treated between July, 1905, and the present date was 544. The committee complained that during this period the institution had been subjected to persistent attacks by one section of the press which, though fully and convincingly disproved, had had a prejudicial effect on the public. The committee stated that the Premier had intimated that unless the recommendations of the inspector of charities, the main feature of which was the abolition of paying patients, were adopted the Government grant would be withheld. It had informed the Premier that it could not see its way to undertake such a responsibility unless under complete guarantee. It reluctantly advised that the institution should be closed. The institution, which comprised a winter home at Echuca and a summer residence at Mount Macedon, was formerly largely under the direction of one medical man. This gentleman subsequently severed his connexion with it and remained hostile to the new management. The main objections urged against the institution were that patients were subjected to varying conditions according as they were or were not able to pay for maintenance and that the practice of moving the establishment from one place to another was needlessly expensive. The Echuca quarters were unfavourably regarded by experts. The motion to close the establishment was carried but the Premier has since conferred with the late chairman of the sanatorium committee and it is probable that the Mount Macedon establishment will be reorganised and carried on with Government aid as a purely charitable institution.

A Dying Race.

According to the report of the Aborigines Protection Board for the year ending Oct. 31st, 1907, there were in New South Wales 2347 full-blood aboriginals. Of these 939 were males, 669 females, and 739 children. These with 4613 half-castes make up a total of 6960, as against 7072 the previous year, a decrease of 112. Among full-blood aboriginals the deaths exceeded the births by 60. One of the most important questions which the Board has to face is that of the large number of half-caste and other children (some almost white) at the various stations. Under present conditions, though much has been done for some of them as regards primary education, they are to a large extent growing up in idleness and under the influence of ill-regulated parents. The report says that, "an attempt will be made to solve what is undoubtedly a difficult problem."

Generous Victors in a Libel Action.

A somewhat unusual action for libel was heard recently at Daylesford (Victoria) before Judge Eagleson. Mrs. Mary Roberts had published a letter in a local paper making serious statements reflecting on the management of the Daylesford Hospital in matters of the food and accommodation supplied fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·7 per 1000, against rates declining from 4·3 to 2·2 in the four preceding weeks; in London the death-rate from these diseases last week did not exceed 1·6. No death from any of these epidemic diseases was registered last week in Derby, Hornsey, Reading, Bournemouth, Hastings, Burton-on-Trent, or in Stockton-on-Tees, whereas the annual death-rates therefrom ranged upwards in the other large towns to 3·8 in Blackburn and in Tynemouth, 3·9 in Great Yarmouth, and 4·0 in Hull. The deaths attributed to diarrhœa in the 76 towns, which had steadily declined in the five preceding weeks from 1134 to 507, further fell to 353 in the week under notice; the highest death-rates last week from this cause were 2·9 in Wigan, 3·0 in Burnley, 3·5 in Hull, and 3·8 in Tynemouth. The 42 fatal cases of whooping-cough showed an increase of four upon the low number in the previous week, and were equal to an annual rate of 1·1 in Walsall. The 39 deaths referred to diphtheria showed, on the other hand, a decline of four, including 15 in London and its suburban districts, four in Manchester and Salford, and two each in Portsmouth, Southampton, and King's Norton. The 35 fatal cases of "fever" exceeded the number in any previous week of this year; 11 were returned in London and its suburban districts, four in Bolton (equal to an annual rate of 1·1). and two each in Liverpool, Birmingham, and Bradford. The fatal cases both of measles and of scarlet fever showed a slight decline from the numbers in the previous week; those of measles in Warrington were, however, equal to a rate of 1·5, and scarlet fever caused three of the deaths in Merthyr Tydfil, equal to a rate of 2·0 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2855, 3005, and 3285 in the three preceding weeks, had further increased to 3467 on Sept. 26th; the number of new cases of this disease admitted to these hospitals during the week under notice were 565, against 395, 472, and 625 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 102, 124, and 137 in the three preceding weeks, further rose to 138 last week, but were 19 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 42, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Leicester, and in 50 other smaller towns during the week under notice; 11 uncertified causes of death were, however, registered during the week in Birmingham, five each in Liverpool and Blackburn, and three in Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·7 and 14·4 per 1000 in the two preceding weeks, declined again to 13·5 in the week ending Sept. 26th. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 9·9 and 11·9 in Leith and Perth to 14·1 in Glasgow and 16·4 in Dundee. The 475 deaths in the eight towns showed a decline of 33 from the number in the previous week, and included 59 which were referred to the principal epidemic diseases, against numbers declining from 107 to 65 in the five preceding weeks; of these 59 deaths, 35 resulted from diarrhœa, nine from whooping-cough, eight from diphtheria, four from "fever," two from scarlet fever, and one from measles, but not one from small-pox. These 59 deaths were equal to an annual rate of 1·7 per 1000, corresponding with the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 64, 52, and 35 in the three preceding weeks, were again 35 last week; of these, 14 occurred in Glasgow, six in Aberdeen, five in Edinburgh, and three both in Dundee and in Paisley. The nine fatal cases of whooping-cough showed a further decline from recent weekly numbers; eight were returned in Glasgow. The eight deaths from diphtheria, on the other hand, showed a further slight increase upon recent weekly numbers, and included five in Glasgow, two in Edinburgh, and one in Paisley. The four deaths referred to "fever" were fewer by five than those returned in the previous week, two being certified as enteric and two as cerebro-spinal meningitis; all these four deaths from "fever" occurred in Glasgow. The fatal cases both of measles and of scarlet fever were again below the average. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 44 and 73 in the two previous weeks, declined again to 59 in the week under notice, and were within one of the number returned in these towns in the corresponding week of last year. The causes of 15, or 3·2 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had declined in the five preceding weeks from 24·1 to 19·3 per 1000, rose again to 20·8 in the week ending Sept. 26th. During the 13 weeks of the past quarter the death-rate in Dublin averaged 19·9 per 1000; the mean rate during the same period did not exceed 12·5 in London and 12·9 in Edinburgh. The 157 deaths of Dublin residents during the week under notice showed an increase of 11 upon the number returned in the previous week, and included 18 which were referred to the principal epidemic diseases, against numbers declining from 44 to 21 in the five preceding weeks. These 18 deaths were equal to an annual rate of 2·4 per 1000; the rate during the week from the same diseases did not exceed 1·6 in London and 1·3 in Edinburgh. Of the deaths from these epidemic diseases in Dublin during the week under notice, 12 resulted from diarrhœa, four from measles, and one each from whooping-cough and "fever," but not one from scarlet fever, diphtheria, or small-pox. The deaths attributed to diarrhœa, which had declined in the five preceding weeks from 39 to 16, further fell last week to 12. The fatal cases of measles rose again to four last week, against numbers declining from eight to three in the four previous weeks. The 157 deaths from all causes during the week included 45 of infants under one year of age and 32 of persons aged upwards of 60 years; the deaths of infants exceeded the number in the previous week by 14. Five inquest cases and three deaths from violence were registered; and 61, or 32·5 per cent., of the deaths occurred in public institutions. The causes of six, or 3·2 per cent., of the deaths registered during the week were not certified; in London the causes of all the 1225 deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was 3·7 per cent.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are notified:—Fleet-Surgeon: A. H. L. Cox to the *President*, additional, for three months' course of study at the West London and King's College Hospitals.

Special Reserve of Officers.

The undermentioned officer, having assented to be transferred, is appointed to the Special Reserve of Officers from the date stated, retaining the rank and seniority which he held while in the Militia:—The Durham Royal Field Artillery, from The Durham Royal Garrison Artillery (Militia) (dated July 5th, 1908): Surgeon-Lieutenant-Colonel James Rawlings.

Territorial Force.

Royal Army Medical Corps.

Lieutenant-Colonel and Honorary Colonel Francis Lawrance Stephenson, C.B., from the Honorary Colonelcy of the Eastern Command, Woolwich Companies, Royal Army Medical Corps (Volunteers), is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the 2nd London Territorial Division, with precedence as in the Volunteer Force (dated April 1st, 1908).

and more recently as a magistrate for the borough of Poole Dr. Alderson leaves a widow, two daughters, and three sons. Two of his sons are members of the medical profession.

The funeral took place on Sept. 8th at All Saints' Church, Branksome Park, Bournemouth. Many friends and representatives from the public bodies in Poole to which Dr. Alderson belonged were present, Dr. Alderson's youngest son taking a part in the service.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced: Dr. Alexander von Poehl, professor of pharmacology in the St. Petersburg Military Medical Academy, whose name is well known in connexion with the introduction of spermin and many other remedies prepared from various organs of animals.—Dr. Joseph Eichberg, professor of medicine in the Miami Medical College, Cincinnati.—Dr. Dubisson, physician to the St. Anne's Asylum, Paris.—Dr. J. Reboul, surgeon to the Nimes Hospitals.

Medical News.

Foreign University Intelligence.—*Berlin:* The title of Professor has been conferred on Staff-Surgeon Dr. Kimmle, the general secretary of the German Red Cross Societies; Senior Staff-Surgeon Dr. Steudel who has made important researches in the department of tropical medicine; Dr. Johannes Ruge who was for many years assistant to the late Professor Gerhardt and who since then has been bath physician at Kudowa; and on Dr. Carl Oppenheimer, assistant in the Physiological Institute of the Agricultural Department. Dr. Englemann, Director of the University Physiological Institute, proposes to retire at the conclusion of the current winter session.—*Bologna:* Dr. Filippo Lussana has been recognised as *privat-docent* of Experimental Physiology.—*Bordeaux:* Dr. Gentes, *agrégé*, has been appointed Professor of Anatomy.—*Chicago (College of Physicians and Surgeons):* Dr. Daniel N. Eisendrath, Assistant Professor, has been appointed to the chair of Surgery.—*Cracow:* Dr. Julien Talko Hryncewicz, has been appointed Extraordinary Professor of Anthropology.—*Kiel:* Dr. K. von Korff, *privat-docent* of Anatomy, has been granted the title of Professor.—*Naples:* Dr. Sergio Pansini, Extraordinary Professor of Medical Diagnostics, has been promoted to an Ordinary Professorship.—*Parma:* Dr. Emilio Santi of the Florence Medical School has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Pavia:* Dr. Giulio Ascoli of the Genoa Medical School has been recognised as *privat-docent* of Internal Pathology.—*Prague (German University):* Dr. Kleinhans has been appointed Ordinary Professor of Midwifery and Gynæcology in succession to Professor von Franqué who is going to Giessen.—*Rome:* Dr. Giuseppe Cirincione, Professor in the Palermo Medical School, has been appointed Professor of Ophthalmology.—*Sienna:* Dr. Eugenio Centanni, Extraordinary Professor of General Pathology, has been promoted to an Ordinary Professorship.—*Tomsk:* Dr. Alexandrovich Dochevski, *privat-docent*, has been promoted to be Extraordinary Professor of Special Pathology and Therapeutics.—*Toronto:* Dr. Robert D. Rudolf, Assistant Professor of Medicine, has been appointed to the Chair of Therapeutics.—*Turin:* Dr. Giuseppe Satta has been recognised as *privat-docent* of Pathological Chemistry.—*Utrecht:* Dr. J. E. Grevers of Amsterdam has been appointed Lecturer on Odontology.—*Vienna:* Dr. Rudolf Kraus, *privat-docent* of General and Experimental Pathology, has been promoted to an Extraordinary Professorship.

Literary Intelligence.—Messrs. P. S. King and Son have in the press, to be published early in October, a brochure on the Sweating of Women Workers. Besides general information on the subject it will contain a popular digest of the report of the Select Committee of the House of Commons, just published, and Mr. Henderson's Bill on Sweated Industries. The author of the treatise is Mr. James Samuelson of the Middle Temple.—Messrs. Baillière, Tindall, and Cox will have ready for publication next week a volume comprising a series of articles by British, American, and European experts treating on "Tuberculosis in Infancy and Childhood." The volume is edited by Dr. T. N. Kelynack. The same publishers will also issue the seventh edition of Rose and Carless's 'Manual of Surgery." This has been thoroughly revised, with the inclusion of many new and original illustrations.

The Royal Waterloo Hospital.—H.S.H. Prince Alexander of Teck will occupy the chair at the next meeting of the special appeal committee of the Royal Waterloo Hospital on Thursday, Oct. 8th, at 11.30 A.M., at Belfast Chambers, Regent-street, W.

Charing Cross Hospital Medical School.—The following entrance scholarships have been awarded: Epsom scholarship (60 guineas), Arthur M. Jones; Huxley scholarship (50 guineas), Evelyn A. Sutton. Entrance scholarships: Edward H. Morris (30 guineas), Charles E Williams (dental) (30 guineas), Kenneth V. Smith (20 guineas), and a Universities scholarship of 50 guineas, Thomas Beaton.

The late Dr. H. Montague Murray.—On Sunday next, Oct. 4th, after the close of the morning service (about 12.20 P.M.) at the King's Weigh House Church, Duke-street, Grosvenor-square, W., there will be unveiled a mural brass to the memory of the late Dr. Montague Murray, senior physician to Charing Cross Hospital. The brass bears the following inscription:—

To the Memory of HUBERT MONTAGUE MURRAY, M.D., F.R.C.P., Physician to Charing Cross Hospital, Treasurer of this Church,
Who died November 25, 1907, aged 52 years.

"How happy is he born or taught
Who serveth not another's will;
Whose armour is his honest thought
And simple truth his highest skill"
—*Wotton.*

Medical Sickness and Accident Society.—The usual monthly meeting of the executive committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 6, Catherine-street, Strand, London, W.C., on Sept. 18th. There were present: Dr. F. de Havilland Hall, in the chair; Dr. M. G. Biggs, Dr. M. Greenwood, Mr. J. Brindley James, Dr. W. A. Dingle, Mr. F. S. Edwards, Dr. W. G. Dickinson, Dr. F. C. Martley (Dublin), Dr. W. Knowsley Sibley, Dr. H. A. Sansom, Dr. J. W. Hunt, Dr. St. Clair B. Shadwell, Dr. F. J. Allan, Dr. F. S. Palmer, Mr. Edward Bartlett, and Dr. J. B. Ball. The accounts produced show, as usual, a marked diminution in the amount of sickness compared with the experience of the spring of the year. The difference this year is greater than usual as the influenza epidemic added largely to the sickness disbursements in the first three months of the year. The number of new members is exceptionally large. Last year made a record in this respect, but there is every reason to hope that the new proposal list for 1908 will show a still larger total. Prospectuses and all other particulars may be obtained on application to Mr. F. Addiscott, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

London County Council Scholarships for Students of Midwifery.—In January, 1909, the London County Council will proceed to award not more than six scholarships to students in midwifery. Candidates must furnish satisfactory evidence as to character, must be not less than 24 and less than 40 years of age on July 31st, 1909, and must be certified by the Council's medical officer as being in good health. They must be resident at the time of application and award within the area of the administrative County of London. They must also be prepared to satisfy the Council as to their need for pecuniary assistance for the purpose of training as midwives. They will be required to pass a qualifying examination in writing from dictation and elementary arithmetic. This will be held on Friday, Nov. 13th. The value of the scholarships will be £25, this sum being payable to the institution selected by the applicant in part discharge of the fee for board, lodging, and tuition. The course of training, including practical work at the institution, will extend over a period of six months. The scholarships must be held at the institutions recognised by the Central Midwives Board and approved by the Council. Forms of application and further information may be obtained on application from the

March 31st, 1908). The Highland: Surgeon-Lieutenant Edward E. Brown resigns his commission (dated March 31st, 1908). 3rd Lancashire: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Lieutenant Thomas M. Scott. 1st Orkney: Surgeon-Lieutenant George R. C. Russell resigns his commission (dated March 31st, 1908).

Royal Engineers (*Volunteers*).—1st Aberdeenshire: Surgeon-Captain Albert Henderson resigns his commission (dated March 31st, 1908). 2nd (Earl of Chester's) Volunteer Battalion, The Cheshire Regiment: Surgeon-Captain Andrew MacLennan resigns his commission (dated March 31st, 1908): 3rd Volunteer Battalion, The Cheshire Regiment: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Captain Thomas A. Rothwell. 1st Volunteer Battalion, The Essex Regiment: Surgeon-Major St. Clair B. Shadwell is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 30th, 1908): Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel St. Clair B. Shadwell resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908). 5th Volunteer Battalion, The Durham Light Infantry: Surgeon-Major Andrew A. Abraham is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 30th, 1908). Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Andrew A. Abraham resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908). 3rd (Morayshire) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, The Duke of Albany's): Surgeon-Lieutenant John Bruce resigns his commission (dated March 31st, 1908). 4th (Donside Highland) Volunteer Battalion, The Gordon Highlanders: The undermentioned officers resign their commissions (dated March 31st, 1908): Surgeon-Lieutenant William Henry, Surgeon-Lieutenant Phad E. Howie, and Surgeon-Lieutenant Samuel G. Davidson. 3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Captain Charles Whish resigns his commission (dated March 31st, 1908). 2nd Tower Hamlets Volunteer Rifle Corps: Surgeon-Lieutenant Hubert S. Stockton resigns his commission (dated March 31st, 1908).

TERRITORIAL OFFICERS' DECORATION.

The *London Gazette* of Sept. 29th contains an announcement of the institution of a new decoration for officers of the Territorial Force to be entitled the Territorial Decoration and to consist of an oak wreath in silver, tied with gold and having in the centre the Royal Cipher and Crown in gold. The Decoration is to be suspended on the left breast from a silver oak bar-brooch by a green riband of one and a half inches in width with a yellow stripe down the centre.

Correspondence.

"Audi alteram partem."

THE MEASUREMENT OF "T.R."

To the Editor of THE LANCET.

SIR,—At the risk of being likened to the member of a jury who declared that he had never met 11 more obstinate men than his fellow jurors, may I be permitted to protest against formulating the doses of T.R. in terms of its solid constituents—that is, in fractions of a milligramme of the bacterial matter? Is not "T.R." the designation of a fluid prepared from tubercle bacilli that have already undergone a certain extractive process, and as a fluid is not the dose most conveniently described in terms of its volume? The effect of administering a certain volume of T.R. under given conditions has been definitely ascertained and the percentage composition of its residue on evaporation is not clinically a matter of much importance.

T.R. *was* supposed to contain 1 per cent. of dried bacterial matter, but about a year ago Sir A. E. Wright discerned a handwriting on the wall "*Tekel*—the residue is weighed in the balance and found wanting," the exact deficit being four-fifths of its supposed weight. The solid content only amounted to 0·2 per cent. Some dealers still recognise and use the old imaginary estimate under the designation, "the old nomenclature." If I am right in assuming that "T.R." describes the whole preparation, strictly speaking 1-1000th *milligramme* means the amount of the fluid that scales that weight, but under "the old nomenclature" it means 100 times that amount, and according to the usage now prevalent, 500 times. (Could there be worse confusion?) 1-1000th *cubic centimetre* T.R. has, and only can have, everywhere and for all, but one meaning.

I am, Sir, yours faithfully,
W. D. ANDERSON.

Oban, Sept. 28th, 1908.

THE RELATIONSHIP OF BERI-BERI TO SCURVY.

To the Editor of THE LANCET.

SIR,—Some interesting notes in THE LANCET of June 27th last, p. 1838, by Dr. D. M. Macrae upon scurvy in South Africa make mention of the fact that some observers have spoken of scurvy as associated with a form of beri-beri. I was in North-West Australia during 1890, 1891, and 1892 as medical officer to Messrs. Streeter's Pearling Fleet, Broome being the centre of operations, and an epidemic of beri-beri occurred with symptoms which pointed very strongly to a scorbutic origin. The disease affected chiefly the lugger boys who were shipped from Koepang in the Malay Archipelago, although cases appeared amongst the Japanese pearl-divers. The cooks, Chinamen generally, the West Australian aboriginals, and the "white" men who lived aft in the schooners seemed to be exempt from the disease. The disease manifested itself only when the men had been many months at sea. The vessels were kept clean apparently and well ventilated though they were infested with cockroaches. The opportunity for the patients to be shipped ashore came only when the schooner was loaded up with pearl and had to put into port for transhipment of shell as well as for provisions, which consisted chiefly of rice and tinned meats. The sick formed up in *queue* and shambled into large tents provided for them, where their dietary was altered and included fresh meat, bullock's or kangaroo's flesh and fresh raw lime juice. The majority soon showed signs of improvement and in time were able to return to sea again. Those whose symptoms remained unrelieved always complained of "sakkeet dadda" or "seki dadda." The English translation of this Malayan phrase I am unable to give, but it implied a deep-seated pain or subjective suffocative sensation referable to the epigastric or midsternal regions. I came to regard the finger pointing to this region as the finger of death, for it foreboded with absolute certainty death in a very short time. The signs and symptoms that were obvious enough to the naked eye were the wan and languid appearance of the patients, whose movements were slow and intellects dull, facial expression lost, the swelling of the face and bronzing of the cheeks, while the conjunctivæ took a chocolate hue, with a marked streak of this colour transversely across the sclerotics. The body was apparently well nourished, although the ankles and legs were greatly swollen and œdematous and pitted on pressure, especially over the tibiæ, and were painful, especially at night, over the internal malleoli and inner condyles. A bronzing or pigmentation was visible in the buccal mucous membrane and the gums were reddish and spongy and in some cases overgrown. The tongue was foul, furred, flabby, and indented by the teeth, and the breath had the odour of skimmed milk. In a case of fatal termination the symptoms would be obstinate constipation and vomiting and dyspnœa. Then anasarca developed and the abdomen became prominent. The face and eyes were puffy and in this stage the pupils were contracted. Later, when the patient could scarcely stand, the dyspnœa increased to such an extent as to cause almost continuous moaning and groaning. This hard fight against death ended by a long-drawn sharp groan. Although consciousness was retained up to the last few minutes there were a sluggish mentality and difficulty in answering questions. The eyelids previously to death were ptosic. The ultimate signs of dissolution were tetanic movements all over the body and opisthotony, clonic jerks of the tongue, œsophageal spasm, and last of all a tremor of the muscles of the extremities which seemed to indicate a poisoning of the nerve centres. As to the nature of the poison, well, I will leave that out, although I am inclined to think of it as a metabolic carbonaceous product. No albumin was found in the

GLENNY, ELLIOTT THORNTON, M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Ashley Down (Muller's) Orphanage Home, Bristol.

HANSON, ALFRED, M.R.C.S., L.R.C.P. Edin., has been appointed a Medical Inspector of Schools for Swansea.

HULBERT, H. L. P., M.B., B.S., D.P.H. Camb., has been appointed School Medical Officer to the Manchester Education Committee.

HUNTER, CLEMENT HARRIS, M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Inspector of Schools for Swansea.

KEMP, CHARLES, M.B., C.M. Aberd., has been appointed a Medical Inspector of Schools for Swansea.

KING, C. A., M.B., B.S. Lond., has been appointed Assistant Female Medical Officer to the General Post Office.

KNIGHT, FREDERICK, M.D. Lond., M.R.C.S., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

LAVINGTON, CYRIL CLAUDE, M.B., B.S. Durh., has been appointed Medical Registrar at the Bristol Royal Infirmary.

MORGAN, EDWARD RICE, M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Inspector of Schools for Swansea.

O'SULLIVAN, MICHAEL, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

OWEN, ARTHUR DEAKER, M.R.C.S., L.R.C.P. Lond., has been appointed District Medical Officer and Public Vaccinator for the Hampton District of the Kingston Union.

POWELL, THOMAS MORGAN JONES, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed a Medical Inspector of Schools for Swansea.

RAWLINGS, HORATIO EDWARD, L.R.C.P. Irel., M.R.C.S., has been appointed a Medical Inspector of Schools for Swansea.

REID, D. MACKINLAY, M.B., Ch.B. Glasg., has been appointed Second Assistant Medical Officer at the Govan District Asylum, Hawkhead, Paisley.

REID, EDGAR, M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Inspector of Schools for Swansea.

RITCHINGS, MARY ANN THOMPSON, M.B., Ch.B. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

ROBERTSON, A. H. MACCOLL, M.B., Ch.B. Edin., has been appointed Junior House Surgeon at the Ingham Infirmary and South Shields and Westoe Dispensary.

SODEN, HARRY MACMANUS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

THOMAS, HUBERT, L.R.C.P. & S. Edin., L.F.P.S. Glasg., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

THOMAS, JABEZ, F.R.C.S. Eng., L.R.C.P. Edin., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

THOMSON, CHARLES SAMSON, M.B., Ch.B. Glasg., D.P.H., B.Hy. Durh., has been appointed an Assistant Medical Officer of Health to the Cumberland County Council.

VOSPER, S., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Physician at the Metropolitan Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 per annum and notification fees.

BRADFORD POOR-LAW UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing. Also Second House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also House Surgeon. Salary £130 per annum, with apartments, board, and laundry. Also Honorary Dental Anæsthetist.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with board and lodging.

CHEDDLETON, LEEK, STAFFORDSHIRE COUNTY ASYLUM.—Junior Assistant Medical Officer, Salary £150 per annum, with board, residence, laundry, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physicians for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Resident Medical Officer. Salary £120 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum.

DOWNPATRICK, DOWN DISTRICT LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with apartments, board, washing, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Salary £25, with board, residence, laundry, &c. Also Second Medical Officer for six months. Salary at rate of £40 per annum, with luncheon and tea provided.

GLOUCESTER GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Physician.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

GRIMSBY AND DISTRICT HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, attendance, and washing.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer. Salary £110 per annum, with apartments, rations, and washing.

HAMPSTEAD GENERAL HOSPITAL.—Physician to Out-patients, Surgeon to Out-patients, and Ophthalmic Surgeon to Out-patients.

HOMES FOR LITTLE BOYS, Farningham and Swanley, Kent.—Medical Officer, unmarried. Salary £100 per annum, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, House Surgeon, and Assistant Casualty Medical Officer, all for six months. Salary in each case £30, with board and residence.

HULL AND SCULCOATES DISPENSARY.—Resident Surgeon. Salary £[illegible] per annum, with house, gas, and coals.

ISLE OF MAN ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, quarters, and washing.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Superintendent of the Out-patient Department. Salary £200 per annum, with lunch.

MANCHESTER, MONSALL FEVER HOSPITAL.—Third Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

NORWICH, NORFOLK COUNTY ASYLUM, Thorpe.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, lodging, washing, and attendance.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary at rate of 50 guineas a year, with board and residence. Also Honorary Physician to Out-patients.

PENDLEBURY, MANCHESTER CHILDREN'S HOSPITAL.—Visiting Physician. Honorarium £100 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Surgeon.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Senior and Assistant House Surgeon, both for six months. Salary £100 and £50 per annum respectively, with board, &c.

PRINCE OF WALES' GENERAL HOSPITAL, Tottenham, N.—House Surgeon, House Physician, Junior House Surgeon, and Junior House Physician, all for six months. Salary of two former £75 per annum, and of two latter £40 per annum, with residence, board, and laundry. Also Honorary Anæsthetist.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—House Physician (male) for six months. Board, lodging, and washing provided. Also House Physician, House Surgeon, and Senior Obstetric Assistant (females).

ROYAL NAVY, MEDICAL DEPARTMENT.—Fifteen Commissions.

SALFORD ROYAL HOSPITAL.—House Surgeon for six months. Salary at rate of £60 per annum, with board and residence.

SALFORD ROYAL HOSPITAL (PENDLETON BRANCH DISPENSARY).—Honorary Physician.

SURREY, COUUNTY OF.—Public Analyst.

TOTTENHAM EDUCATION COMMITTEE.—Assistant Medical Officer. Salar £250 per annum,

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board, lodging, and laundry. Also Honorary Anæsthetist.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (female). Salary £150 per annum, rising to £200, with board, lodging, laundry, attendance, &c.

WEST HAM INFIRMARY, Whipps Cross-road, Leytonstone, N.E.—Medical Superintendent. Salary £700 per annum, with house, light, and coal.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Physician.

WORKSOP DISPENSARY AND VICTORIA HOSPITAL.—Medical Officer and House Surgeon. Salary £150 per annum, with rooms, furniture, coals, gas, and attendance.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Thame, in the county of Oxford; and at Borrisokane, in the county of Tipperary.

Births, Marriages, and Deaths.

BIRTHS.

EMERSON.—On Sept. 23rd, at Pershore House, Pershore, the wife of Herbert B. Emerson, of a daughter.

HODGSON.—On Sept. 26th, at Leyburn, Mitcham-lane, Streatham, the wife of Charles Hodgson, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

[illegible] Sept. 24th, at Union Chapel, Islington, by the [illegible] D.D. (uncle of the bridegroom), and the Rev. [illegible] ...ies Alison Glover, M.A., M.D., D.P.H. Cantab., younger son of Dr. and Mrs. J. G. Glover, of 25, Highbury-place, to Katharine, elder daughter of Mr. and Mrs. Charles Pierce Merriam, of 79, Highbury New Park, N.

SEALY—COOKSON.—On Sept. 23rd, at St. Paul's Church, Clifton, Captain G. O. F. Sealy, Indian Medical Service, to Laura Mary, elder daughter of Major W. W. Cookson, R.A.

TAYLOR—MEADE.—At Christ Church, Leeson Park, Dublin, on Sept. 25th, by the Rev. A. E R[illegible] [illegible] of the bride), assisted by the [illegible] John Archibald Tayl[illegible] Medical Service, to G[illegible] Gerald de Courcy Me[illegible] 17, Appian-way, Dublin.

DEATHS.

COLE.—On Sept. 23rd, at sea, near Singapore, W. Henchman Cole, M.R.C.S., L.R.C.P., Surgeon P. and O. s.s. *Malta*, aged 30 years.

PRICE.—On Sept. 21st, at 24, Gold-street, Kettering, Mary Eliza, wife of John Lowe Price, M.R.C.S., L.S.A., aged 63 years.

SWANSON.—Died at Alexandria, Egypt, of typhoid fever, on Sept. 25th, in his twenty-ninth year, George Isles Swanson, second son of Dr. Swanson, York.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

same principle and for the very same reasons of moving gently, with the result that we are as we are. In Ireland we have tremendous leeway to make up in matters pertaining to sanitation, and the progress of tuberculosis in the three countries shows this more than anything else. It might have been different had even a minority of the sanitary authorities had the advantage of the presence and assistance and encouragement of such men as representatives of the ratepayers as Dr. McWalter, but unfortunately they had not, nor are they likely to have, so that it is absolutely hopeless to expect many boards to follow in the wake of the South Dublin board of guardians, and if we are content to adopt this method I would just like to ask the learned doctor how long does he expect it would take to reduce the mortality from tuberculosis from 2·7 to 1·35 and how many people would succumb to it in the meantime!

I am, Sir, yours faithfully,
SAMUEL AGNEW, M.A., M.D. R.U.I.,
Medical Superintendent Officer of Health, Lurgan.
Lurgan, Sept. 21st, 1908.

To the Editor of THE LANCET.

SIR,—"For the love of heaven, gentlemen," said Jowett to some cocksure junior Fellows one day, "conceive it possible that you may be mistaken." With profound humility I submit the advice to Sir John Byers and to the other distinguished men who laud compulsory notification of tuberculosis as the most important step towards ridding Ireland of that plague.

But let me reply to Sir John's points. He inquires, are not the many meetings which have been held under Lady Aberdeen's campaign—in which compulsory notification was commended—a proof of the desire of the country for that step! I deny the conclusion; al the meetings were composed of three classes—those attached in one way or other to the Viceregal Court, some extremists on the medical side who had never studied the economic problem of providing for the phthisical, and a residue of well-meaning people who had never considered what compulsory notification really means. The whole business had such a philanthropic aim, and was indeed so well intended, that nobody cared to raise objections, but when as a result of these mutual admiration meetings an effort is made to pass penal legislation for a whole country it is time to protest.

Sir John Byers refers me to the experience of compulsory notification at Sheffield, New York, and elsewhere. I am not sure if Sir John was at the Sheffield meeting of the British Medical Association, but everyone could see that compulsory notification may be an excellent thing in a city where a whole population works together in crowded factories, and a doubtful experiment for a whole country where the conditions are absolutely different. If Sir John can point out any entire country where compulsory notification of phthisis prevails and causes no hardship we must be impressed by it, but the example of an odd city goes for nothing. The fact that in 1864 the Irish death-rate from tuberculosis was the lowest in the three kingdoms, although no sanitary precautions were heard of, whereas now, after a quarter of a century's sanitary legislation, it is the highest, gives one to think furiously about the net result of these measures in actual practice.

I am, Sir, yours faithfully,
Dublin, Sept. 27th, 1908. J. C. MCWALTER.

"SENSATIONAL JOURNALISM."

To the Editor of THE LANCET.

SIR,—The prominence of "tragic deaths," "murders," and "suicides" in our daily papers is appalling. Every day when one picks up the morning newspaper and opens it at the summary and leading articles one's eye cannot fail to be attracted by the large letters on the same page stating reports as above. Such reading, to those of nervous temperament, weak-minded, and neurasthenic, is more than harmful, as it dictates to them the ways and means of acting likewise, and many, I think, have knowledge put into their minds upon which they act sooner or later.

When I was a lad in 1870–1880, or a quarter of a century ago, such reports were seldom seen or heard of. Now such statements are passed from mouth to mouth, in the motor, train, or tramcar, and appear to be the topic of the day and hour. Could not these horrors be hidden away discreetly on another page and many details omitted altogether? Surely the medical profession ought to try to see what can be done to rectify matters, thereby helping the weak-minded and preventing atrocities being committed. It is as much the doctor's duty to prevent, when possible, sickness as it is to relieve and cure it. I write from experience, as lately patients of mine on reading the papers, and it is difficult not to let them get them, have been advanced from the subacute to acute stage of suicidal mania.

I am, Sir, yours faithfully,
Buxton, Sept. 25th, 1908. JOHN MCOSCAR, L.R.C.P. Lond.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

To the Editor of THE LANCET.

SIR,—On looking over the last few numbers of THE LANCET I see that in the issue dated Sept. 12th you have an annotation on two cases of rupture of the ligamentum patellæ, which is followed, in the issue of Sept. 19th, by a letter from a Leicester correspondent reporting another case. These have prompted me to send you notes of the following case which occurred on board of a mail steamer of which I was surgeon at the time.

The patient was a man aged 23 years. On June 19th, 1908, one day out from Punta Arenas, he slipped on the wet deck in a heavy seaway and fell, striking his left knee, he thought, against a steam-pipe. He said that he had a good deal of pain at the time but was able to get up and limp slowly along the deck. He did not come to me nor send for me till the next day, when he came to the dispensary and gave me the above history. His complaint was that "he could not straighten his knee." He did *not* complain of pain. On examining him, I found that there was a moderate degree of swelling over the front of the knee-joint; the swelling was not tense, but was tender, though only slightly. The tubercle of the tibia was uninjured. The patella was also apparently uninjured, but was very high up. It was freely moveable and movement did not cause pain. Below it there was a gap, which was partly filled up by the swelling over the front of the joint. He was absolutely unable to extend the leg. I made a diagnosis of rupture of the ligamentum patellæ and put up the limb on a posterior splint, with downward traction on the patella and a firm bandage over the joint. On our arrival at Valparaiso on June 26th I sent him ashore to the Hospital San Juan de Dios, where he was under the care of Dr. Page. On June 30th Dr. Page operated, turning up a flap in front of the joint. The ligamentum patellæ was found to be almost completely torn across, only a few fibres remaining undivided, and these showed evidences of having been stretched. The torn ends were approximated by strong chromicised catgut sutures, and the limb was put up in the extended position on a posterior splint. Unfortunately, I am not able to give any particulars of the result of the operation, as the wound had not been dressed by the time we sailed from Valparaiso, and I have not yet heard that the patient has returned to England. If it will be of interest to your readers, however, I will be glad to communicate the result as soon as I learn what it is.

I regarded the rupture of the ligamentum patellæ as being due to the sudden, *forcible* contraction of the quadriceps extensor and not to a blow from the steam-pipe. This opinion was shared by Dr. Page and Dr. J. C. Atkinson, as at the operation there were no evidences of bruising of the skin.—I am, Sir, yours faithfully,

South Shields, Sept. 27th, 1908. A. H. MACCOLL ROBERTSON.

MEDICAL DEFENCE UNIONS.

To the Editor of THE LANCET.

SIR,—In reply to the letter of "Practitioner" published in your issue dated Sept. 26th may I be allowed to state that there is one Medical Defence Union in England, of which I am general secretary, with offices at 4, Trafalgar-square, W.C., and that I shall be pleased if he will communicate with me and I will forward him full particulars. There is also the "London and Counties Medical Protection Society," Dr. Hugh Woods secretary, doing similar work, the office of which company is in Craven-street, Strand.

In respect to insurance offices covering similar ground I

Glenny, Elliott Thornton, M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Ashley Down (Muller's) Orphanage Home, Bristol.

Hanson, Alfred, M.R.C.S., L.R.C.P. Edin., has been appointed a Medical Inspector of Schools for Swansea.

Hulbert, H. L. P., M.B., B.S., D.P.H. Camb., has been appointed School Medical Officer to the Manchester Education Committee.

Hunter, Clement Harris, M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Inspector of Schools for Swansea.

Kemp, Charles, M.B., C.M. Aberd., has been appointed a Medical Inspector of Schools for Swansea.

King, C. A., M.B., B.S. Lond., has been appointed Assistant Female Medical Officer to the General Post Office.

Knight, Frederick, M.D. Lond., M.R.C.S., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

Lavington, Cyril Claude, [illegible]h., has been appointed [illegible]mary.

Mo[illegible]ond., has been appointed [illegible] Swansea.

O'Sullivan, Michael, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

Owen, Arthur Deaker, M.R.C.S., L.R.C.P. Lond., has been appointed District Medical Officer and Public Vaccinator for the Hampton District of the Kingston Union.

Powell, Thomas Morgan Jones, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed a Medical Inspector of Schools for Swansea.

Rawlings, Horatio Edward, L.R.C.P. Irel., M.R.C.S., has been appointed a Medical Inspector of Schools for Swansea.

Reid, D. MacKinlay, M.B., Ch.B. Glasg., has been appointed Second Assistant Medical Officer at the Govan District Asylum, Hawkhead, Paisley.

Reid, Edgar, M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Inspector of Schools for Swansea.

Ritchings, Mary Ann Thompson, M.B., Ch.B. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

Robertson, A. H. Maccoll, M.B., Ch.B. Edin., has been appointed Junior House Surgeon at the Ingham Infirmary and South Shields and Westoe Dispensary.

Soden, Harry MacManus, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

Thomas, Hubert, L.R.C.P. & S. Edin., L.F.P.S. Glasg., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

Thomas, Jabez, F.R.C.S. Eng., L.R.C.P. Edin., L.S.A., has been appointed a Medical Inspector of Schools for Swansea.

Thomson, Charles Samson, M.B., Ch.B. Glasg., D.P.H., B.Hy. Durh., has been appointed an Assistant Medical Officer of Health to the Cumberland County Council.

Vosper, S., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Physician at the Metropolitan Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birkenhead Borough Hospital.—Junior Resident House Surgeon. Salary £80 per annum and notification fees.

Bradford Poor-Law Union Hospital and Workhouse.—Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

Brighton, Sussex County Hospital.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing. Also Second House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

Bristol Royal Infirmary.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also House Surgeon. Salary £130 per annum, with apartments, board, and laundry. Also Honorary Dental Anæsthetist.

Buxton, Derbyshire, Devonshire Hospital.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Carlisle, Cumberland and Westmorland Asylum, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with board and lodging.

Cheddleton, Leek, Staffordshire County Asylum.—Junior Assistant Medical Officer, Salary £150 per annum, with board, residence, laundry, &c.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physicians for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Resident Medical Officer. Salary £120 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum.

Downpatrick, Down District Lunatic Asylum.—Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with apartments, board, washing, &c.

Dudley, Guest Hospital.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—House Surgeon for six months. Salary £25, with board, residence, laundry, &c. Also Second Medical Officer for six months. Salary at rate of £40 per annum, with luncheon and tea provided.

Gloucester General Infirmary and the Gloucestershire Eye Institution.—Physician.

Guildford, Royal Surrey County Hospital.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

Grimsby and District Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, attendance, and washing.

Halifax Union Poor-law Hospital.—Resident Medical Officer. Salary £110 per annum, with apartments, rations, and washing.

Hampstead General Hospital.—Physician to Out-patients, Surgeon to Out-patients, and Ophthalmic Surgeon to Out-patients.

Homes for Little Boys, Farningham and Swanley, Kent.—Medical Officer, unmarried. Salary £100 per annum, with board, residence, and laundry.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, House Surgeon, and Assistant Casualty Medical Officer, all for six months. Salary in each case £30, with board and residence.

Hull and Sculcoates Dispensary.—Resident Surgeon. Salary £[illegible] per annum, with house, gas, and coals.

Isle of Man Asylum.—Assistant Medical Officer. Salary £150 per annum, with board, quarters, and washing.

Kettering and District General Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

Lancaster, Royal Lancaster Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

Leeds Public Dispensary.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging.

London Hospital, Whitechapel, E.—Superintendent of the Out-patient Department. Salary £200 per annum, with lunch.

Manchester, Monsall Fever Hospital.—Third Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

Norwich, Norfolk County Asylum, Thorpe.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, lodging, washing, and attendance.

Paddington Green Children's Hospital, London, W.—House Physician and House Surgeon for six months. Salary at rate of 50 guineas a year, with board and residence. Also Honorary Physician to Out-patients.

Pendlebury, Manchester Children's Hospital.—Visiting Physician. Honorarium £100 per annum.

Plymouth, South Devon and East Cornwall Hospital.—Surgeon.

Portsmouth, Royal Portsmouth Hospital.—Senior and Assistant House Surgeon, both for six months. Salary £100 and £50 per annum respectively, with board, &c.

Prince of Wales' General Hospital, Tottenham, N.—House Sur[illegible]unior House Surgeon, and Junior Hou[illegible]ths. Salary of two former £75 per annum, [illegible] annum, with residence, board, and laundry. [illegible] Anæsthetist.

Royal Free Hospital, Gray's Inn-road, W.C.—House Physician (male) for six months. Board, lodging, and washing provided. Also House Physician, House Surgeon, and Senior Obstetric Assistant (females).

Royal Navy, Medical Department.—Fifteen Commissions.

Salford Royal Hospital.—House Surgeon for six months. Salary at rate of £60 per annum, with board and residence.

Salford Royal Hospital (Pendleton Branch Dispensary).—Honorary Physician.

Surrey, Couunty of.—Public Analyst.

Tottenham Education Committee.—Assistant Medical Officer. Salary £250 per annum,

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board, lodging, and laundry. Also Honorary Anæsthetist.

Virginia Water, Surrey, Holloway Sanatorium Hospital for the Insane.—Junior Assistant Medical Officer (female). Salary £150 per annum, rising to £200, with board, lodging, laundry, attendance, &c.

West Ham Infirmary, Whipps Cross-road, Leytonstone, N.E.—Medical Superintendent. Salary £700 per annum, with house, light, and coal.

Westminster Hospital, Broad Sanctuary, S.W.—Fourth Assistant Physician.

Worksop Dispensary and Victoria Hospital.—Medical Officer and House Surgeon. Salary £150 per annum, with rooms, furniture, coals, gas, and attendance.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Thame, in the county of Oxford; and at Borrisokane, in the county of Tipperary.

Births, Marriages, and Deaths.

BIRTHS.

Emerson.—On Sept. 23rd, at Pershore House, Pershore, the wife of Herbert B. Emerson, of a daughter.

Hodgson.—On Sept. 26th, at Leyburn, Mitcham-lane, Streatham, the wife of Charles Hodgson, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

G[illegible] On Sept. 24th, at Union Chapel, Islington, by the Rev. [illegible] D.D. (uncle of the bridegroom), and the Rev. [illegible], James Alison Glover, M.A., M.D., D.P.H. Cantab., younger son of Dr. and Mrs. J. G. Glover, of 25, Highbury-place, to Katharine, elder daughter of Mr. and Mrs. Charles Pierce Merriam, of 79, Highbury New Park, N.

Sealy—Cookson.—On Sept. 23rd, at St. Paul's Church, Clifton, Captain G. O. F. Sealy, Indian Medical Service, to Laura Mary, elder daughter of Major W. W. Cookson, R.A.

Taylor—Meade.—At Christ Church, Leeson Park, Dublin, on Sept. 2[illegible]th, [illegible] by the Rev. A. E. R[illegible] bride), assisted by the [illegible] John Archibald Tayl[illegible] Medical Service, to Geraldine de Courcy, daughter of the late Rev. Gerald de Courcy Meade, Rector of Killarney, and of Mrs. Meade, 17, Appian-way, Dublin.

DEATHS.

Cole.—On Sept. 23rd, at sea, near Singapore, W. Henchman Cole, M.R.C.S., L.R.C.P., Surgeon P. and O. s.s. *Malta*, aged 30 years.

Price.—On Sept. 21st, at 24, Gold-street, Kettering, Mary Eliza, wife of John Lowe Price, M.R.C.S., L.S.A., aged 63 years.

Swanson.—Died at Alexandria, Egypt, of typhoid fever, on Sept. 25th, in his twenty-ninth year, George Isles Swanson, second son of Dr. Swanson, York.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

recognition of the disease and for the present at least it was entirely surgical.

Dr. GIRARD (Geneva) discussed the Pathogenesis of Cancer, pointing out that it was very frequently seen in some countries, less commonly in others. The statistics of mortality in Switzerland (about 4000 cases a year) led him to think that there was the possibility of a connexion between cancer and alterations in the function of the thyroid. Where goitre was rare, as in the Jura, carcinoma was rare and *vice versâ*. Dr. Girard said that he had examined 2000 patients above the age of 30 years suffering from different diseases to discover whether or not they had goitre. The proportion of patients with goitre and cancer was more than twice as great as those who had cancer and no goitre. Tuberculosis, on the other hand, was rare in connexion with goitre.

Professor VON BONSDORFF (Helsingfors) reported on the Treatment of Cancer of the Lips, advocating the most radical measures for removal of the disease at the earliest opportunity.—Dr. MORESTIN (Paris), Dr. JOSÉ RIBEIRA Y SANS (Madrid), and Professor DOLLINGER (Budapest) took part in the discussion on Professor von Bonsdorff's paper.

Dr. J. COLLINS WARREN presented an analysis of 172 cases of Cancer of the Mouth and Tongue which had been treated at the Massachusetts General Hospital. He stated his belief that cancer of the mouth and tongue was a local disease limited to the tissues immediately surrounding the point of origin and to the neighbouring lymphatic system. The modern operative treatment involved the preliminary treatment of the cavity of the mouth, protection of the respiratory tract, removal of the primary lesion with at least a margin of one inch of healthy tissue, and thorough dissection of the lymphatic-bearing tissues of the anterior cervical triangle on one or both sides as a routine method of procedure.

Dr. GLUCK (Berlin) discussed the Treatment of Cancer of the Nasal Fossæ, Pharynx, and Larynx. He advocated suture of the divided trachea to the skin of the neck in cases of total laryngectomy and laryngoplasty when only a portion of the larynx was removed, whilst in all other operations where the larynx was untouched "Rose's position" with temporary compression of the wound was sufficient to protect the lungs against the danger of inhalation pneumonia. Laryngectomy he performed in a single operation, and the most radical methods were deemed to be the best. Dr. Glück showed three patients who had undergone the operation of laryngectomy and demonstrated his "rubber-funnel" apparatus as well as the artificial larynx which he employed after extensive operations. The patients shown spoke well and so audibly that one could be heard throughout the large meeting room which had not very good acoustic properties.—Mr. H. T. BUTLIN (London), Dr. DURAND (Lyons), and Dr. MORESTIN took part in the discussion.

Mr. BUTLIN presented two valuable papers—the first on the Results of Operations for Carcinoma of the Tongue, with an Analysis of 197 Cases; the second on the Results of Operations for Cancer of the Larynx, with an Analysis of 37 Cases. In each case he laid especial stress on the necessity for the routine removal of the lymphatic glands in the neighbourhood of the cancerous organ even before the glands were obviously enlarged.

Mr. HENRY MORRIS's paper upon the Treatment of Inoperable Cancer, which was read at this meeting, is published at length in our columns this week (p. 997).

Surgery of the Liver.

The second morning of the Congress was devoted to a discussion of the Surgery of the Liver under the broad headings of Gall-stones, Inflammations, including Cirrhosis and Abscess, Angiocholitis and Tumours.

Dr. HANS KEHR (Halberstadt) introduced the discussion on gall-stones in a lengthy paper containing much valuable material. He suggested that the points to be discussed should be: (1) In what cases of cholelithiasis was an operation indicated? (2) Which was the preferable operation when there were stones in the gall-bladder? and (3) In stones in the common bile-duct should choledochotomy with suture or drainage of the hepatic duct be performed? The answers which he supplied were as follows. The early operation for cholelithiasis recommended by Riedel was not advisable, but in acute and chronic empyema of the gall-bladder and in chronic obstruction of the common bile-duct an operation must be performed. When severe and continuous biliary colic was present an operation was needed if the pain interfered with the patient's work. For stones in the gall-bladder cholecystendysis was not good, cholecystostomy was rarely suitable, and the best operation was cholecystectomy. When there was a calculus in the gall-bladder Dr. Kehr preferred choledochotomy with subsequent drainage to choledochotomy with immediate suture. As to the results which he obtained, where no complication existed the death-rate was only 2·3 per cent.; when at the same time an operation needed to be performed on the stomach, intestine, liver, or pancreas, the mortality might be as great as 20 per cent.; while if malignant disease was present it might be even 75 per cent.

Mr. B. G. A. MOYNIHAN (Leeds) stated that he differed from many of the observations of Dr. Kehr. He preferred to open the gall-bladder rather than to remove it, and to make a small incision through the abdominal walls rather than a flap. It was better not to use gauze. The necessity for large operations was reduced to a minimum when due attention was paid to diagnosis in the early stages. Hitherto patients had been allowed to suffer until serious pathological disorganisation had taken place before they were brought to the surgeon for treatment.

The discussion was continued by Dr. BAKÈS (Trebitsch, Moravia), Professor HARTMANN (Paris), Dr. FINK (Carlsbad), and Professor STEINTHAL (Stuttgart).—Dr. BAKÈS explained an extensive plastic operation in which he performed a choledocho-jejunostomy and demonstrated a special form of cystoscope for use in operations on the gall-bladder.—Professor STEINTHAL agreed with Mr. Moynihan in preferring incision of the gall-bladder to its removal in the more simple cases.

Dr. PEUGNIEZ (Amiens) agreed that splenectomy or other interference with the splenic functions was sometimes useful in cases of cirrhosis of the liver and gave an account of cases in which he had obtained successful results.

Professor C. F. A. KOCH (Groningen) contributed an important paper on the Surgical Treatment of Cirrhosis of the Liver. He discussed the subject carefully and he came to the conclusions that Talma's operation—the suturing of the omentum to the anterior abdominal wall—was capable of leading to the recovery of atrophic hepatic cirrhosis, and that the earlier the operation was done the better, for in advanced cases it was dangerous. The operation was successful in about 30 per cent. of the cases, though probably the hepatic disease was not modified by the operation. When fixation of the omentum failed splenopexy might sometimes succeed. In hypertrophic cirrhosis drainage of the gall-bladder was recommended.

SOME DISCURSIVE REMARKS ON THE REARING OF CHILDREN IN LONDON.

(BY A SPECIAL CORRESPONDENT.)

II.[1]

NO PROVISION YET IN STEPNEY.—LIFE IN ROTHERHITHE.—THE BABIES' INSTITUTE.—HOUSING OF THE POOR IN ROTHERHITHE.

THE schools for mothers in Chelsea and St. Pancras are the only ones that are actually associated in a systematic way with arrangements for the feeding in a charitable or semi-charitable manner of pregnant or nursing females. A school for mothers has been opened recently in Fulham for the purpose of instructing parents with infants in arms in the feeding, management, and clothing of their offspring. The school is an adjunct to the Fulham Day Nursery and does good work, the scope of which might be much extended if more money was forthcoming. At Rotherhithe in connexion with the Bermondsey Settlement, efforts in a similar direction are being made, and here in certain circumstances meals are given to nursing mothers. Stepney was the next district to which I paid a visit, having been told that some work of a like nature to that so usefully set going in Chelsea was in progress there. But the movement in Stepney seems still quite in the air. The borough council has declined to appoint a health visitor, and although up to last year a voluntary health visitor was at work under the supervision of for the simple reason that bacteria do not exist in the early stage of disease. Again and again bacteriological examination has yielded only a negative result, and only when the physical signs and symptoms have removed any vestige of doubt about the diagnosis has it afforded any reliable diagnostic evidence. The question naturally arises whether the skill of the bacteriologist is at fault or if the non-existence of bacteria is the true explanation. Presumably the latter solution is correct, since the bacteriologist is capable of recognising the bacteria in the later stages of disease and would be able to do so in the early stage if the bacteria were present. Every man in general practice has come across cases of doubtful diagnosis in which bacteriology has afforded only negative evidence and has probably observed that it is not until the signs and symptoms are pronounced that the detection of bacteria verifies the already made diagnosis. It is true the bacillus of diphtheria is frequently found before the diagnosis is made, but it is possible and even probable that a lack of experience in the recognition of the disease is the true explanation of the uncertainty.

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[1] No. I. was published in THE LANCET of Sept. 26th, 1908, p. 963.

It is well known that bacteria of disease are constantly being either inhaled or swallowed without producing any evil results, and the fact is explained by the suggestion that the system is capable of resisting disease, that the soil is unsuitable, or that the conditions are unfavourable. It follows, therefore, as a fair deduction, that bacteria cannot flourish in a healthy subject, and conversely that bacteria can only develop and continue to exist in diseased surroundings. In other words, bacteria thrive on disease, live on disease, and eat up disease. Consequently, unless the disease continues to progress, the bacteria consume, remove, and cure the disease.

On these data the theory is advanced that disease first occurs (it is beside the question to explain the cause), that bacteria are a subsequent development, and that bacteria are nature's remedy to cure the disease. Any attempt, therefore, by opsonic treatment to render the bacteria more palatable to, and less capable of, resisting the phagocytes is opposed to nature. Surely this theory explains why so many diseases, irrespective of treatment and often without any treatment, get well of themselves.

I am, Sir, yours faithfully,
G. SHERMAN BIGG, F.R.C.S. Edin.
Sept. 24th, 1908.

PUBLIC HEALTH AS AN OPTIONAL SUBJECT FOR THE DIPLOMA OF F.R.C.S. EDIN.

To the Editor of THE LANCET.

SIR,—Although I have no personal experience of the examination, it may be of use to your correspondent "Diploma" to know of a book entitled "Medical Questions set at the University of Edinburgh, Royal College of Physicians, Edinburgh, Royal College of Surgeons, Edinburgh, and Faculty of Physicians and Surgeons, Glasgow, for several years." 1908. Edinburgh: John Currie. Price 2*s.* Here, at p. 211 *et seq.*, he will find a number of papers set in Public Health as an optional subject for the F.R.C.S.

I am, Sir, yours faithfully,
M.D.
Sept. 26th, 1908.

THE SPREADING OF INFECTIOUS DISEASE.

AT Margate petty sessions recently Mrs. E. M. A. Norton, the wife of a hotel-keeper in Lambeth, was convicted and fined upon two summonses in consequence of having removed her child from Margate to London when she was aware that he was suffering from scarlet fever. The defendant went to Margate with members of her family, including her son, aged about three years and went into lodgings. On the next day the child became ill and was seen by a medical man, Dr. E. A. White, who, on the following morning, diagnosed scarlet fever and warned the mother that if she took the patient away from Margate, as she expressed a desire to do, she must adopt proper precautions or she would be committing an infringement of the law. The course which he suggested, that of engaging a motor-car which could afterwards be disinfected, was not acceptable on account of the expense which it would have involved, and the party, which included another child, walked to the station, the sick child being carried by his mother, entered an ordinary railway carriage without informing the company's servants that anything was wrong, and travelled to London and to their home in the ordinary way. The medical officer of health, Mr. B. Thornton, who had been duly notified by Dr. White, discovered what had been done and traced the party, with the result that the local authority took out a summons in respect of the exposing of the infectious child by carrying him through the street. The railway company took out a summons also under their by-laws for conveying him by one of their trains without informing them of his condition. The mother was fined the maximum amount upon both summonses: upon the first £5 with costs amounting to £3 5*s.*, upon the second £2 with £1 1*s.* 6*d.* costs, subject to the alternative of one month's imprisonment.

TYPISTS' NEURITIS.

To the Editor of THE LANCET.

SIR,—I should be greatly obliged if any of your readers would favour me with any references to recent literature on the subject of neuritis affecting typists.

I am, Sir, yours faithfully,
M.R.C.S. ENG.
Sept. 29th, 1903.

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Gland.—Our correspondent is advised to consult his usual medical attendant.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square W.

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—J. Gray Duncanson, H. S. Cameron): at 4.30 P.M. (N.B. The meetings of this section now take place at 20, Hanover-square.)

Paper:

Prof. Nestor Tirard: The British Pharmacopœia, its Scope and Object.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Papers:

Dr. J. E. Spicer: Dystocia due to Distension of the Urinary Bladder of the Fœtus, with Remarks on Renal Secretion in Utero.

Mr. Alban Doran and Dr. Cuthbert Lockyer: Two Cases of Uterine Fibroids showing Peritheliomatous Changes.

Specimens:

Dr. A. H. N. Lewers: Carcinoma of the Body of the Uterus—Vaginal Hysterectomy 15 years ago—Patient free from Recurrence.

Mrs. Scharlieb, M.D.: (1) Cancer of the Fundus Uteri associated with Malignant Disease of the Small Intestine; (2) A Broad Ligament Cyst with Twisted Pedicle; (3) A Fibroid Tumour of the Ovary.

Dr. T. W. Eden: Sarcomatous Metaplasia of an Interstitial Fibroid Tumour.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8.30 P.M.

Short Paper:

Dr. F. J. Poynton: Pyuria in Pregnancy and *Pyelonephritis* in the Infant.

Cases:

Mr. W. Sampson Handley: Separation of the *Lower Epiphysis* of the Femur treated by Screwing.

Dr. Stanley Green: Gastrostaxis with Gangrene of Two Fingers, Penile Hypospadias after Operation.

Dr. H. A. Lediard: Subsequent Report on a Case of supposed Multiple Sarcoma of the Skin.

(And other Cases not yet notified.)

(*The patients will be in attendance at 8 p.m.*)

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Board Room of the Great Northern Central Hospital, Holloway-road, N.

THURSDAY.—9 P.M., Mr. S. Paget: Vivisection and its Present Relations to Medical and Surgical Science.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. Whitfield: Clinique (Skin). 5.15 P.M., Lecture:—Mr. P. Daniel: The Treatment of Surgical Tuberculosis by Iodoform, Glycerine, and Bier's Congestion Method.

TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical) 5.15 P.M., Lecture:—Mr. A. H. Cheatle: The Surgical Anatomy of the Temporal Bone (with lantern slides).

WEDNESDAY.—4 P.M., Mr. P. J. Freyer: Clinique (Surgical). 5.15 P.M., Lecture: Mr. A. H. Cheatle: The Surgical Anatomy of the Temporal Bone (with lantern slides).

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. S. Mayou: Ophthalmia Neonatorum.

FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

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LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth Medicine. 4 P.M., Mr. Biggs: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth. A Case of Ankylostomiasis.

and at a comparatively small outlay of money, for these poor people by some systematic scheme of visitation, but, of course, no schools for mothers could ever work results to counteract the evils of such housing and terrible poverty. Perhaps it is due to the hopeless feeling that to feed a few poor pregnant women would mean so little in the presence of so much misery that no steps in this direction either have been taken. By way of contrast, I was taken to inspect two blocks of model dwellings, one built by county council and the other by municipal enterprise. The Rotherhithe buildings are good specimens of model dwellings of the usual type. Dr. Richmond informed me of a quite interesting fact—that the infant mortality under one year of age is higher in the model dwelling than in ordinary houses. He accounted for it thus, that in the model dwellings the food has to be kept inside the house, while in the houses there is often some sort of a back yard where it is possible to store food in something like a reasonable manner.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

In Search of a Programme.—Stringent Legislation against Tuberculosis in the State of New York.—The Energetic and Successful Propaganda against Tuberculosis.—Exhibitions, Lectures, and the Growth of Local Organisations.

New York, Sept. 15th.

FOR the moment it would seem as if the whereabouts of the Congress are somewhat uncertain. Though this is to be the Washington Congress, at present the chief centre for information is in New York and the proceedings are to commence next week at *Philadelphia!* It will work out satisfactorily in the long run there is no doubt, though at present all the tickets and badges and much of the correspondence are not at Washington but at New York. Therefore on landing the best thing to do was to seek out Dr. Linsly R. Williams, chairman of the New York entertainment committee, at the offices of the National Association for the Study and Prevention of Tuberculosis situated in a huge beehive known as 105, East Twenty-second-street. The particular cell of the hive in question that interests the Congress bears the number 515, showing how numerous are the bees and cells in this hive. Here I called a few days ago and was most courteously received, then a bronze badge was conferred on me and I was told that none of the programmes were ready except a small handbill just received from Philadelphia. This announces a business meeting at 2 P.M. on Sept. 24th. On the following day at the Horticultural Hall there will be lectures that promise to be interesting and a closing meeting is fixed for Saturday afternoon. After that presumably the members are to proceed to Washington and to devote the week from Sept. 28th to Oct. 4th to discussing the real business of the Congress. No programme indicates as yet what is to be done or what will happen at Baltimore and at Boston, which towns are also to be visited. But yesterday afternoon the one and only copy of the New York programme was triumphantly brought to the above-mentioned office; and I think I was the very first person, with the exception of the organisers, to see this precious, and at that time unique, document. I hasten to transcribe its contents. At the entrance of the celebrated sky-scraper, the "Flat Iron," as it is called, we are to meet at 9 A.M. on Thursday, Oct. 8th, and be shown some of the town buildings. In the city hall the Mayor of New York will welcome the Congress. Then boats are to take the members to visit the quarantine station and the Sea-breeze Hospital for surgical tuberculosis in children. This latter is the first institution of the sort established in the United States. In the evening there will be numerous private dinner parties given to members and a lecture at the Academy of Medicine on Tuberculosis of the Heart and Blood-vessels by Dr. Martinez Vargas. On Friday the members are to visit the Ellis Island Immigration Station, the Bellevue Hospital, the Tuberculosis Boat, the Rockefeller Institute, and other places, ending in the evening at the Hippodrome. On the 10th there will be an all-day trip to the Loomis Sanatorium at Liberty and trips to other comparatively distant sanatoriums. After this the Congress and its excursions conclude. It is very unfortunate that all this could not have been arranged at least three months ago, or better still, some six months ago, so that the different countries might have been able to send information as to the persons who would be likely to participate in these various trips.

There is no doubt that much interest will be felt in regard to what so enterprising a country as America has been able to do in the great struggle against tuberculosis. The programme prepared for the members of the Congress when at New York will in any case afford them opportunity of judging what has been done and planned for the State of New York. The population of that State is about 8,000,000, and, counting municipal institutions and private charities, and paying and free sanatoriums, there are in all 3556 beds available for the treatment of tuberculosis in sanatoriums or special hospitals. This number will be greatly increased in a few years by the action that has now been taken by the local authorities. The New York State last year passed a very stringent Anti-tuberculosis Law and the State Board of Health has power to see that various enactments are really carried out by all the small local governing bodies.

As an example of the stringency of this new law, it may be mentioned that the notification even of incipient cases of tuberculosis is rendered obligatory. This has to be done by the attendant medical practitioner, but the records must be kept strictly private and are therefore not open to general inspection. When a patient leaves his dwelling it must be disinfected before it can be re-occupied. This also must be done within 24 hours. Persons with tuberculosis who spit in public places may be fined £2. Physicians who fail to report cases shall be deemed guilty of a misdemeanour and fined not more than £20 and not less than £1. Some fears are entertained that public opinion is not yet ripe for such a law. The State of New Jersey has a law fining medical men £10 if they fail to notify cases, and the result is that magistrates will not impose so large a penalty. Therefore, and in the hope of obtaining convictions, the New York law makes the penalty as low as £1.

There is, I am assured, a very great progress in public opinion on these questions. The sanitary reformers were agreeably surprised by the facility with which the New York legislature adopted the new Anti-tuberculosis Law. The fact is that the National Association for the Study and Prevention of Tuberculosis has been very active and has brought great pressure to bear on public opinion during the last few years. It has worked hard to obtain the support of the press and this has often been given very readily. The greatest enterprise is the organisation of travelling exhibitions. From Toronto to Mexico these exhibitions have attracted thousands of people. Some 20 of the largest cities in the United States have thus been visited. Remaining two or three weeks in each town the exhibition supplies a great deal of matter to the local press. Then there are posters on the walls, and handbills and literature distributed on all sides, together with a series of lectures. All this is done in a manner likely to attract the poorest people. No technical terms are used, but everything is contrived so as to attract and to interest the general mass of the population. This was started without any money but it brought in money and many gifts. Then another very important result is that when these exhibitions are held in towns they generally end by bringing about the foundation of a local branch of the National Association. These local branches have become in many instances strong enough to finance their local efforts; all that they need is material—objects to exhibit—and general advice from the central organisation. Yet the holding of an exhibition means some expenditure. According to the importance of the town and of the exhibition and the amount of paid publicity given, an exhibition for the prevention of tuberculosis has cost from £60 to £400. It is calculated that at least 700,000 visitors have been attracted to these exhibitions. Sometimes the result is not only the forming of a local committee to deal with the prevention of tuberculosis but also a permanent local exhibition has been established in some towns. This is notably the case in New York, Boston, Wisconsin, Minnesota, Chicago, &c. For the moment, however, many of these local exhibitions are closed, as they have sent some of their best specimens to the great Congress Exhibition of Washington where they will remain for three weeks. Naturally such exhibitions are free. There is no attempt to make money out of them. Often the lectures are illustrated with lantern slides and

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authorities and guardians to consider the best method of dealing with a disease acknowledged to be preventable and in a great measure curable. Boards of guardians, singly or in combination, could erect suitable sanatoriums, and he thought that the system of open-air treatment "had now passed the experimental stage." Workhouse hospitals had failed, the reason being that most cases came when too far advanced, but they were useful for the segregation of cases "in the last or acute stage." Dr. Garrett and Dr. Rhodes supported Mr. Macfarlane's views, and Dr. Rhodes proposed the following motion:—

> That, in the opinion of this conference, it is desirable that sanatorial accommodation for the special treatment of phthisical cases be provided by the Poor-law unions within this conference area.

He proposed another motion, also carried, for forming a subcommittee to inquire into, and to report on, the best means of providing such accommodation. Very few will consider that the various efforts made to combat pulmonary tuberculosis are unnecessary and uncalled for, but it is satisfactory to know that already the death-rate from pulmonary tuberculosis is, no doubt in consequence of better hygienic conditions, though these are still bad enough in poor districts, steadily decreasing. Dr. Rhodes stated that in Lancashire in 1835, with a population of 1,500,000, the deaths from pulmonary tuberculosis were 8124. In 1907, with a population of 5,000,000, the deaths were 6238. It was agreed generally that this movement would have to be conducted economically and that "extravagance must be sternly repressed," and it was stated that the Durham Sanatorium "cost only £86 a bed." It appears as if the country were gradually becoming alive to this question of dealing with pulmonary tuberculosis, and it is a national not a local question.

Suicide and Suggestion.

A verdict of suicide during insanity was returned yesterday, in the case of a clerk who had lost his situation through drink and poisoned himself with gas. The city coroner pointed out that suicides by gas poisoning were on the increase. Three had occurred within a week and "he could not help thinking that some sort of suggestion was going on." Whether due to harmful literature, describing how it could be accomplished by gas, or whether it was through details being given in the daily press he did not know; but "he thought he was justified in asking the press on this occasion to keep out the details of the case." He thought if this were done the "epidemic" would probably cease. There is no question as to the wisdom of this suggestion and in this instance the local papers seem very properly to have acted up to it.

Death from Fear.

An inquest held on Sept. 24th at Morley on a man, aged 26 years, seems to show that death was due to fear rather than to anything else. Four teeth had been extracted by a dentist without "gas," as the patient was very nervous about taking it. An ordinary amount of bleeding took place but it set in later and the patient went to Dr. A. Firth who stopped it. It recurred, however, and Dr. Firth went to the man's home and stopped it again. The man was very nervous and fancied that he was going to bleed to death. He became delirious and died from exhaustion and heart failure. It was stated at the inquest that death was in no way due to the dental operation. The verdict was "Death through exhaustion from acute mania due to nervous fright." It is a question whether the education and bringing-up of these days may be to some extent accountable for the hypersensitiveness and want of "pluck" that are too common.

Medical Work in Schools.

At a meeting of the Manchester education committee held on Sept. 21st a scheme for the medical inspection of school children was adopted for submission to the city council and the Board of Education. Under this scheme Dr. A. Brown Ritchie will be the school medical officer for Manchester. There will be in addition three assistants to him at commencing salaries of £250 per annum, rising by four annual increments of £25 to £350 per annum, with £10 a year in each case for travelling expenses. The question of the appointment of medical women is to be postponed for the present. Dr. J. T. D'Ewart's services are to be retained on the present terms. The city is to be divided into three districts, each with an assistant medical officer. Five nurses are to be appointed and 12 weighing machines are to be bought for use in the schools. One of the lady members of the committee (Miss Burstall) was surprised that it was not proposed to appoint "at least one medical woman," and moved an amendment that of the three medical officers at least one should be a woman. This was seconded by a gentleman, not so much from sympathy with lady doctors as from sympathy with lady teachers and scholars. The chairman, Sir Thomas Shann, said that the matter had been fully discussed and that it would be very unwise at the present to act otherwise than in accordance with their recommendation. He said that next year the number of medical officers would have to be increased "and then would be the time to consider the appointment of a woman," thus displaying no great enthusiasm for the women doctors. Vice-Chancellor Hopkinson was in favour of so altering the wording of the scheme that it might be left to the discretion of the committee to appoint a lady doctor if it were felt desirable. Sir Thomas Shann replied, however, that the committee had decided, on very good grounds, to appoint medical men only at first. In the end Miss Burstall withdrew her amendment, having drawn attention to the matter. So the dispute, if it be one, will come up again.

Sept. 28th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Need for Further Facilities for Post-Graduate Study.

NOW that the vacation is over and the work of a new educational year is about to begin attention may well be called to the substance of an address given by Dr. A. E. Morison to the members of the North of England branch of the British Medical Association on the occasion of his assuming the office of president of the branch in June last. Dr. Morison recognises the great value of the work of the Association in organising the profession and urges that its energies should now be employed in another at least equally important direction—namely, the provision of facilities for post-graduate study. In Dr. Morison's opinion the local branch of the Association should be a centre of post-graduate education. He argues that learning is already highly specialised and is tending day by day to become even more so. This being so, it is impossible for one man to be at once "a skilled pathologist, physician, obstetrician, operating surgeon, and all-round specialist," but it is nevertheless a crying need that the practitioner engaged in the everyday practice of medicine should be provided with the opportunities necessary for informing himself of the advances made in the various branches of his art and science. The general practitioner does not ask to be provided with the facilities for becoming an all-round specialist but merely to be taught when the specialist can help him and what he can do for him. In Dr. Morison's words, "It is essential to the maintenance of our position for us to know when blood examinations, bacteriological investigations, Roentgen ray pictures, and examination with all the special instruments are necessary and advisable and when surgical operations are required." He continues, "In Newcastle there is, if properly organised, a collection of cases and material which ought to attract not only practitioners from our own area but from all parts of England. It only requires that the matter be fairly taken up by this branch to insure its success." No one will deny the truth of these contentions. Of the desirability of post-graduate study there can, of course, be no question; it is practically a necessity. The material is to be found in abundance in this city and the opportunities are present if they were utilised. Dr. Morison states that if the matter were fairly taken up its success would be insured. As regards this point I may say that the excellent attendances on such occasions as the all-day scientific meetings and at the classes which are at present held are sufficient evidence that Dr. Morison's contention is justifiable. The suggestion put forward in this address on behalf of the great body of general practitioners by their present representative should, and indeed must, receive most careful attention. The importance of the matter and the fact that the address was given during holiday times constitute the reason for referring to the subject on the present occasion.

College of Medicine.

The winter session begins on Oct. 1st. The College calendar for the ensuing year has just been issued. As

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conditions revealed by medical inspection of the school children of the town. Much, he says, may be done without any specific medical treatment. For example, a certain proportion of the eye defects are due to defective lighting of class-rooms, to badly constructed desks, or to improper and constrained positions in writing and reading, while many of the disorders of the throat and nose can be remedied by improved conditions of heating and ventilation in the rooms. In the event of the education authority formulating any scheme for the medical treatment of the children attending the elementary schools Dr. Walford considers that it should be made to apply to that class of children whose parents are too poor to pay for medical attendance and are yet not eligible for the Poor-law relief.

Sept. 29th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Final Examination at the University of Glasgow.

OWING to the recent changes that have been made in the medical examinations at the University of Glasgow there will be the unprecedented number of three finals in 12 months—namely, in December, 1908, and in April and October, 1909. When it was first arranged to have two finals in the year the dates fixed were December and June, but this has now been altered to April and October. This latter change will benefit graduates in a way that is not at first apparent. Formerly when the final was held in June the graduation did not take place till the middle of July, whereas in other Universities, Edinburgh for instance, the final examinations were over about three weeks earlier, the result being that all the best posts in the country at the time were taken up before the Glasgow students were qualified to apply.

The Crichton Asylum, Dumfries.

In a recent article in the *Glasgow Herald* attention was drawn to the circumstances which led to the establishment of the Crichton Asylum. In 1823 there died at Friars' Carse, near Dumfries, Dr. James Crichton. He was a native of Sanquhar, studied medicine, became physician to the Governor-General of India, and amassed a large fortune by commercial enterprise and medical practice. On his death he left the sum of £100,000 to his widow, Elizabeth Grierson, the great-grand-daughter of Sir Robert Grierson of Lag, to be used for such purposes as she and trustees might direct. They were inclined to the establishment of a University at Dumfries, but a series of difficulties arose. Lord Brougham was Lord Chancellor at that time and he intimated that a scheme for the establishment of a fifth University in Scotland would meet with his opposition. The scheme was thereupon abandoned, and after consideration Mrs. Crichton decided to apply her husband's fortune to the erection and endowment of an institution for the treatment of the mentally afflicted. At that time in Dumfries the provision for persons mentally weak was notoriously inadequate and unsatisfactory. 12 apartments in the Dumfries Infirmary were kept for the detention of such patients, and this accommodation proving insufficient it was supplemented by the use of prison cells. In 1835 the foundation-stone of the Crichton Royal Institution was laid and a building was erected at a cost of £50,000 with accommodation for 120 patients.

"Home for Incurables" for Elgin.

Under the will of the late Mr. John Munro, merchant, the town of Elgin has benefited considerably. Amongst other legacies the sum of £6000 is left to the provost, magistrates, and town councillors of Elgin for the erection, equipment, and carrying on of public baths and a similar sum for a like purpose to the town of Forres. On the death of his sister his trustees are directed to convert his dwelling house, with garden and offices, into a home for persons, drawn from the county of Elgin and its burghs, suffering from diseases usually reckoned to be of an incurable nature. It is also directed that the whole residue of the estate shall be held as an endowment for the home.

Aberdeen City Hospital: Proposed Additions.

Extensive additions to the Aberdeen City Hospital are contemplated by the public health committee of the Aberdeen town council. The additions consist of (1) the enlargement of the two outside pavilions, Nos. 1 and 4, towards Urquhart-road, by 17 beds each and rearranging the two old wards to suit the new pavilions; (2) erecting an additional pavilion to contain 16 beds, at the south side of the offices; (3) erecting a skin disease pavilion, to contain 12 beds; (4) providing additional nurses' accommodation in the administration block by heightening the original front block to the south and making it three floors high, which would provide ten single bedrooms and two double bedrooms for nurses in addition to the present accommodation, and also provide a nurses' recreation room over the kitchen wing on the same floor; and (5) enlarging the reception block by additional wings to the south and north ends of the same, and rearranging the present internal wards to suit the new additions, giving accommodation for 12 beds extra. Pavilion No. 4 would be specially constructed for cases of pulmonary tuberculosis. At the present time there is accommodation in the hospital for 127 patients, and if the whole of the proposed additions were carried out it would be increased by 74 beds, making in all room for 201 patients. The estimated cost of the additions is £12,500, and if the scheme is approved the work will be commenced at once in order to give work to the unemployed.

Sept. 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Sir Arthur Vernon Macan.

THE death of Sir Arthur Vernon Macan, professor of obstetrics in Trinity College, Dublin, took place on Saturday last, Sept. 26th, at his residence, 53, Merrion-square, thus depriving Dublin of one of its most prominent practitioners.

Richmond Hospital and Pauper Lunatics.

The question of pauper lunatics was before the meeting of the guardians in the North Dublin union workhouse on Sept. 23rd, to which reference was made in THE LANCET last week. A letter was read from Mr. J. O'Conor Donelan, medical superintendent of the Richmond and Portrane lunatic asylums, calling attention to the crowded condition of those institutions and stating that he had been directed by the joint committee to request that the milder or purely senile cases should be retained in the workhouse until such time as adequate provision should be made for the feeble-minded, as distinguished from the strictly insane. Early legislation on the matter has been promised, but meanwhile the joint committee finds that all the available accommodation in its two institutions has been practically absorbed. A scheme of further extensions is at present being developed, but no additional relief can be hoped for within the next 12 months. The chairman observed that no more could be done than there had been in the circumstances. They were pressed on the one hand by the joint committee not to send these people to its institutions, while, on the other hand, the Local Government Board was pressing to have them sent out of the workhouse. One member pointed out that they could not be left to die in the streets, and another having suggested that it was a matter that might be referred to the committee which was at present dealing with the general management of the house, an order was made to that effect. On the same date a corresponding discussion was carried out at a meeting of the guardians of the South Dublin union, at which it was decided that the guardians would not recede from their right to send insane paupers to the asylum.

Coombe Hospital, Dublin, and the Boarding-out of Infants.

At a meeting of the Rathdown board of guardians on Sept. 23rd some of the items of recent practice of the Coombe Hospital received a share of censorious criticism. Miss Griffin, inspector under the Infant Life Protection Act, reported the death of an infant named Alice Clarke, at the age of three weeks. She had been taken out to nurse by a Mrs. Mahon of Dundrum on August 31st. The nurse stated that she had received no certificate of health respecting this child nor any instructions or advice from the hospital authorities as to care or diet. After death there was a post-mortem examination and an inquest and the jury found that

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and now another unwelcome visitor of Asiatic origin has come to accelerate its "measures of precaution." On the morning of Sept. 18th in the offing of Trieste the pilot of the steamship *Francesco Ferdinando* fell ill with symptoms believed to be those of plague and died. Another of the *personnel* of the same vessel, seized with precisely the same symptoms, was conveyed to the hospital. In the two cases clinical investigation left no doubt that the cause of illness and (in the former) of death was pestis bubonica due to the presence of rats in the ship, several of these rodents having been found dead on board. The steamer had arrived from Bombay on August 21st, putting in at Fiume on Sept. 12th and thereafter re-entering the offing of Trieste on the 17th. As soon as the official examination had certified the nature of the disease the local authority took the required steps towards limiting its spread. So much for the plague. As to cholera, the Riviera Ponente and the Riviera Levante of the Mediterranean littoral, frequented as both are by Russians, are now, by the combined action of the French and Italian Board of Hygiene, subjected to the most stringent precautionary measures. On Sept. 21st the Prefect of Nice, accompanied by Dr. Castelli, director of the "Sanità Pubblica," and Dr. Anger, inspector of the French custom house, proceeded to enforce those measures at the sanitary station established at Ventimiglia.

Wounds from Poisoned Arrows in the Benadir.

In the encounters with the natives in this the most recently acquired of Italy's African possessions, certain of the Ascars (coloured troops) were wounded by arrows, but—slight as the lesions were—they died in spite of surgical treatment as prompt as it was careful. The medical staff, suspecting that the non-response to measures usually effective in such cases was due to exceptional causes, has, with the consent and coöperation of General Di Giorgi, chief in command of the expeditionary force, sent to the military hospital on the Caelian Hill some specimens of the arrows used by the natives, together with the "materiale clinico" necessary for the purposes of investigation, chemical and bacteriological. The arrows were collected on the scene of the two encounters of July 11th and 12th last in the Mellet woodland where Lieutenant Lombardi and certain of the coloured troops met their death. Pending the conclusions of the Roman commission to be issued in a special report, it is believed that the suspected poison is either curare or "ubaina" (glucoside of a plant common in the wooded country of the Benadir—the so-called "ubai"—two milligrammes of which suffice to *fulminare* (kill outright) a dog). When issued, the report of the commission will be distributed among the medical *personnel*, combatant and lay, of the Benadir Colony, who, in the meantime, seem to have convinced themselves that in wounds inflicted by the arrows in question the hypodermic injection of strychnine is not without real benefit.

More "Monstra Natantia" in the Mediterranean.

The shark on the prowl has long been a recognised danger in the Adriatic, particularly at the bathing establishments on its littoral, but now the Mediterranean itself is threatened with the same formidable aggressors. On Sept. 19th, off the Riviera Ponente, an enormous "pescicane" had been sighted in the near neighbourhood of more than one sea-bathing resort, deterring the more intrepid swimmers from venturing far out from shore and, indeed, spreading something like a scare among all and sundry. The owners of a fishing smack employed in netting tunny, having found some difficulty in landing their "take," at length ascertained that they had captured more than they bargained for—a shark of colossal proportions. They succeeded in noosing it and taking it in tow by means of a strong cable, and in spite of its furious efforts to escape at length landed it not far from Niellon, where, with knife and bayonet supplied from the fort, they gave it the *coup de grâce*. It proved in point of size worthy of a place in the museum, being not less than eight metres in length and 1500 kilogrammes in weight. The head was one metre long, while its teeth, triangular in shape, resembled those of a powerful saw, and were from eight to ten centimetres in length. On being eviscerated it was found to have swallowed a tunny weighing 30 kilogrammes and a small shark weighing 25 kilogrammes. Fortunately no trace of a human victim was found in its capacious interior.

Sept. [illegible]

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Experiments with Marmorek's Serum.

IN a paper communicated to the *Wiener Klinische Wochenschrift* Dr. Grüner has published the results of his clinical observations on the serum of Marmorek in a series of cases of tuberculous diseases of children. He used subcutaneous injections of the serum strictly in accordance with Dr. Marmorek's instructions, the only cases taken into consideration being cases of tuberculosis affecting the bones, the lungs, and the meninges. The series included 44 children, all of whom were observed clinically; 12 of them were suffering from tuberculous meningitis. The investigations were carried out at the special desire of Dr. Marmorek. The method employed was as follows. A lumbar puncture was made, from 10 to 20 cubic centimetres of cerebro-spinal fluid were removed, and the same quantity of the serum was injected immediately afterwards. The treatment was ineffective in averting the customary fatal course of the disease, the nature of which was confirmed in all of the cases of meningitis by the post-mortem examination. As regards the treatment of the other cases the serum was sometimes injected per rectum, but as a rule this method was not adopted. The quantities used were from *two to five* cubic centimetres given every third or fifth day; in the cases of meningitis the subdural injections were of 10 to 20 cubic centimetres, whilst at the same time 100 cubic centimetres were injected hypodermically. Of the whole series only one case was arrested (a case of infiltration of the left apex), five were improved, nine became worse during treatment, and the remainder remained unaffected in either direction. In order to test the efficacy of the serum old tuberculin was mixed with the 100,000-fold quantity of Marmorek's serum and with this mixture cutaneous vaccinations were made, whilst control vaccinations with tuberculin mixed with normal horse serum were also made. Both series of vaccinations proved that the admixture of Marmorek's serum with tuberculin made no difference to the cutaneous effect of that substance when it was injected. Dr. Grüner draws the following conclusions. Marmorek's serum has no trustworthy effect in surgical or internal tuberculosis. Even in long-continued use with large doses (in some cases up to 300 cubic centimetres were employed within six months) the serum cannot prevent the appearance of fresh foci or new forms of the disease. In some cases it decidedly accelerated the course of the disease. There is no principal difference as regards the action of the serum whether it be introduced per rectum or subcutaneously. Even in 100,000-fold quantity the serum does not lessen the cutaneous reaction to tuberculin. "Therefore Dr. Grüner concludes that Marmorek's serum cannot be regarded as possessing specific properties against tuberculous diseases. The favourable results reported from different sources must be carefully analysed before accepting them for general conclusions."

Instructions for Reducing Infant Mortality.

Following the lead of German physicians and acting on the same principles as prompted the distribution of leaflets for suppression of venereal disease,[1] the Gesellschaft der Aerzte has turned the attention of its committee for sanitary improvements to the necessity of instructing all classes of the population as to the best way of bringing up infants. Physicians, midwives, and all those coming in contact with young mothers, especially the teachers in the highest standards of the public schools, are asked to exert their influence to persuade the public that the most natural and therefore the best nourishment for babies is their mother's milk. A circulating leaflet has been prepared and will be distributed amongst the classes of the population concerned containing valuable instructions on this point. Only in cases where the mother is physically unable to nurse her child is the use of thoroughly clean milk advised. The advantage of "mixed nourishment" consisting of the mother's and of cow's milk over the latter alone is insisted upon. The results of the so-called "gouttes de lait" or Milchkassen, which provide either at a nominal cost or free of charge unobjectionable cow's milk for babies, are chilled the cordial partnership between board and staff in that successful hospital; nor was there any loss of efficiency by cross purposes or conflicting opinions.

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[1] THE LANCET, August 1st, p. [illegible].

The next counsel I would offer is that a lively and effective sympathy be manifested with scientific aspiration and invention, even by lay managers who may be unable to perceive the purport of particular, or indeed of any researches. To speak personally, I shall never forget the almost comic astonishment of a certain weekly board to whom some 40 years ago I appealed for a very modest outfit of electrical scientific apparatus, and at a later date for means of registering surface temperatures by electrical thermocouples, of recording continuous curves of bodily temperature by watchwork, and so forth. Bit by bit I did indeed get something of what I wanted, but with a delay and tediousness that crippled my endeavours. Now, I pray you to believe that no money is better expended than small sums allotted to investigation by young men of scientific ardour whose education in method is fairly adequate. If it does little more than keep the junior staff and their pupils active and curious the outlay is well rewarded.

CLINICAL PATHOLOGY.

And thus I am led naturally on, not merely to urge in general terms the alliance of clinical medicine with scientific research, for this is a counsel not needed in Manchester, but to advocate in particular a far closer intimacy and coöperation than at present exist between the physician and the pathologist. Since a few of us, some years ago, began to urge the creation of clinical laboratories close to the doors of the wards, something no doubt has been done; but it has been done, in my opinion, awkwardly and very partially. Herein I think the medical manager, as sinning against the light, is more to blame than the lay, so that the pathologist—I speak not now of morbid anatomy which has long enjoyed every advantage, but of pathology in its dynamic aspect—the pathologist in this sense is kept aloof from the patient whose processes it is his main business to interpret; and the physician, with morbid anatomy nearer his elbow, has been losing something of the sense of disease as dynamics, which, with all their fantasies of vapour and humour, was apprehended by our ancestors of the last two or three centuries. Of late years a remarkable integration has begun, and is rapidly proceeding, between anatomy and physiology; and, if medicine is to advance as it has been advancing, the same integration must be created between static pathology, medical practice, and dynamic pathology—the pathology of processes. That the pathologist must investigate the sick man in whose body these defects and perversions are at work seems too obvious for assertion. Yet when some few months ago I asked, somewhat ironically I fear, of a distinguished pathologist in a great university if he had free access to the wards of the hospital, he replied, "If I were to set foot in the wards there would indeed be a pretty hubbub in the staff." So the pathologist, at arm's length in a laboratory down the street, working, as it were, in a balloon, and fed upon occasional crumbs from the hospital table, never sets eyes upon the concrete problems which it is his business to solve. There seems to be an opinion abroad that the pathologist, who has never approached a patient since his graduation, can by some esoteric ingenuity put together the conditions of these problems in his laboratory; or indeed under these purer conditions find more comprehensible explanations. To endeavour in the laboratory thus to reproduce problems in simpler terms is a valuable part of scientific method; but surely it is a truism that such researches, unless incessantly tested by the touchstone of nature, are apt to lead at best to conclusions as abstract as the ingenious conditions out of which they arose are artificial. In the simpler sciences, it is true, such methods go farther; a mathematician, in no way conversant with machines, may often enlighten an engineer; but even in the simplicity of mechanics the shortcomings of mere academic methods soon become conspicuous: how much more crippled then must be the academic pathologist who is denied full conversance with those infinitely more complex and multifarious machines we call plants and animals! It seems absurd to labour such a point as this, and in a university so vigorously empirical as Victoria; still as we have long ceased to be surprised at the absurdities which convention and tradition maintain even in the hardest heads, even here these counsels may be useful.

How, then, are we to abolish so fallacious a distribution of work? The physician, who in the earlier phases of scientific medicine proved himself, on the very principles just proposed, to be the ablest of pathologists, can no longer, in the vast extension of the field, devote himself fully to pathological research. It is all he can do to coördinate its discoveries with clinical practice. Moreover, the field of qualitative clinical work is filling up, and progress now depends on the far more arduous and exacting quantitative appreciations. Both physician and pathologist, each by his own methods, must work in the ward at the facts; the pathologist must have almost as free a run as the physician—almost as free, for ultimately, of course, the physician must govern all that concerns the patient's well-being—and must accordingly have a laboratory of first instance in the neighbourhood of the ward; his departmental and research laboratories will, of course, be elsewhere, yet not so far away as to estrange him from the patients. By this concert the outlook of the physician himself, his assistants and his classes, would be continually enlarged, and the attention of the pathologist as continually riveted upon those signals, criterions, contingencies, interdependencies, eccentricities, lapses, glimpses, which in the laboratory no ingenuity can forecast or reproduce, but in which the practical and empirical physician has his being and justification.

And what is true of the hospital is no less true for private practice. It is not fair to the pathologist, it is not fair to the patient, in cases, let us say, of biochemical disorder, of vaccinal therapeutics, of obscure toxic processes, and so forth, to pick the brains of the pathologist at second hand. The pathologist should be summoned to take his proper part in consultation with the family physician, and any other consultant, all upon equal terms. So far as circumstances and the old customs of private practice permit, it is my endeavour to bring this about, and, if expenses must be kept down, the medical consultant may be permitted to resign a few of his visits to the pathologist, who, by the way, is anything but a rapacious person.

OUT-PATIENTS.

Of the departments of a great hospital that which is most rudimentary, rudimentary almost to chaos; that in which the evil, which in this world attends upon the good, survives most manifestly, and is perhaps increasing; that which on many grounds is open to the censorious criticisms of medical men outside its walls and of the public, and indeed of the hospital staffs themselves, is the out-patient department. Physicians resent all that savours of quackery, at any rate in medicine; yet is there any custom more apt to engender and to foster quackery than to encourage mobs to wander round our halls for potions to be hugged to their bosoms as charms? In not a few cases, it is true, these herbs and salts have some virtue; but in how many are they not stock recipes, either wholly futile or at best impotent as auxiliaries against unwholesome habits and conditions of life which the physician, unable to ameliorate, gets weary of denouncing? Too soon he learns to say to himself, "Poor creatures, errant or sinful, God help them, I cannot; yet if pill or potion be a comfort to them, or a hope, by all means let them have it." And the quackery does not end here; unhappily it permeates upwards into higher social ranks, to the degradation of scientific therapeutics.

In respect of the out-patients, hospital abuse, by persons able to pay for advice, is perhaps exaggerated; still, by direct provision or by means of provident dispensaries, some of them might be induced to obtain the more individual and discriminating aid of physicians living among them, conversant with them and their ways, and with the external causes and conditions of their maladies. Thus, by treatment of a more comprehensive kind on physiological lines, vulgar notions of the laws of life and disease would be enlarged, and some health would be compassed not for the body only but also for mind and character.

Hitherto I have been considering the out-patients of Great Britain as hordes; but at the same time I am not forgetful of the precious gifts of diagnosis, and even of treatment, which thus fall to the lot of many of them, as to persons overtaken by acute or vexatious diseases, but who, even if fully aware of the nature of the case, are unable or unprepared to pay for medical aid. Many sufferers are thus consigned to the wards, and on discharge are kept still under supervision; others are benefited by topical remedies, specific drugs, or elaborate technical methods, such as to patients. The hospital committee entered an action for libel against Mrs. Roberts, and the case occupied several days in hearing. Judge Eagleson in summing up said that he did not believe a single word given in evidence by certain witnesses in support of the charges. He was satisfied that the defendant had no grounds for referring to the management as inhumane and that there was gross misrepresentation in calling certain rooms "cold, damp cells." There must be judgment for the plaintiffs with full damages claimed, but he thought that the defendant had made an honest mistake. The damages claimed were £49, but counsel intimated that upon Mrs. Roberts giving an expression of regret the plaintiffs would consent to a verdict for 1*s.* damages without costs. Judgment was entered accordingly.

The Melbourne Benevolent Asylum.

The fifty-eighth annual meeting of the friends and supporters of the Melbourne Benevolent Asylum was held under the presidency of the State Governor (Sir T. Gilson-Carmichael). On June 30th there were 650 inmates (404 males and 246 females). Altogether 1000 persons had been relieved during the year. The cost per head was 5*s.* 1½*d.* per week, covering medical attendance, nursing, drugs, clothing, food, fuel, light, administration, and burial expenses. The number of deaths was 179, including 58 old-age pensioners. Many were admitted in a moribund condition. There were 100 blind people amongst the inmates. The new asylum to be built at Cheltenham would cost £96,000 and the foundation stone would be laid next October.

The Contagious Diseases Act.

The Premier of New South Wales has introduced a Bill which contains a provision for detaining prisoners who may be found suffering from venereal diseases for purposes of treatment. An immediate agitation has been raised by a section of the public and the old cries of State recognition of vice and so on are being lustily proclaimed. It is improbable that the measure will be carried into effect.

Vital Statistics for Australia.

The Commonwealth statistician has published the first complete tabulation of a year's vital statistics for Australia. The figures cover the year 1907 and show that the total number of births in the Commonwealth was 110,347, which is the highest on record. The birth-rate has gradually increased since 1903 (the year of the great financial panic). In that year it was 25·23 per 1000 of the mean population and has risen to 26·55. 6075 mothers were under 21 years of age, the youngest being 14; while of mothers of illegitimates the youngest was 13. One mother in 106 gave birth to twins and 1 in 7872 to triplets. The illegitimate birth-rate was 6·15 per cent. of the total births, which is a slight decrease. 32,470 marriages were celebrated during 1907. In 12 instances both contracting parties had been through the divorce court. In one case the bridegroom was 83 years of age and the bride 79. The deaths numbered 45,305, equivalent to a rate of 10·9 per 1000 of the mean population. No fewer than one-fourth of these occurred in public institutions.

Hospital Collection.

The directors of the Royal Prince Alfred Hospital, Sydney, have adopted a somewhat novel mode of stimulating public interest in the needs of the institution. A bioscope entertainment was given in a suburban town-hall and views were shown which depicted a street accident to a blind man to whom first aid was rendered by the civil ambulance brigade which also conveyed him to the hospital. There he was shown undergoing treatment in the casualty department and afterwards as a patient in the wards, as a convalescent in the grounds, and finally as leaving the hospital cured.

Obituary.

Dr. J. R. McInerney, a well-known physician in Melbourne, died on July 24th from pneumonia after a short illness. The late Dr. McInerney was a native of Galway and after studying medicine and qualifying in Dublin eventually took the degree of M.D. Durh. He was for 25 years physician to the Melbourne Hospital but was defeated four years ago and was subsequently appointed indoor physician to the Prince Alfred Hospital.

Dangerous Prescriptions.

The Sydney city coroner recently held an inquest concerning the death of a woman who died from arsenic poisoning. The evidence showed that the deceased had suffered from rheumatism and had taken a medicine the prescription for which had been obtained by her husband from the chief mate of a steamer while on a voyage several years ago. The husband had the prescription dispensed by a Sydney druggist. After a few doses his wife became very ill and eventually died in the Prince Alfred Hospital. The Government medical officer, who made a post-mortem examination, said that in his opinion the doses of arsenic were excessive and that the prescription ought not to have been made up without the signature of a well-known medical man.

Deaths from Cocaine.

In the South Australian House of Assembly the Attorney-General, in reply to a question, said that he had been informed of two cases of death during the past few days consequent on the administration of cocaine during dental operations. The medical certificate in one case was "heart failure"; in the other "diabetes, poisoning from cocaine or eucaine, coma." The same dentist operated in both cases and he was a registered practitioner but had passed no examination in dentistry or anæsthetic administration in that State. The Attorney-General expressed surprise that the city coroner had considered no inquest necessary and he had asked his reasons for this opinion. If necessary further action was to be taken.

Sept. 3rd.

Obituary.

FREDERICK HENRY ALDERSON, M.D. ST. AND., M.R.C.S. ENG., L.M., L.S.A., J.P.

THE death occurred on Sept. 3rd of Dr. Frederick Henry Alderson at his residence, Aboukir House, Poole-road, Bournemouth. Dr. Alderson was born in 1839 and, following the footsteps of other members of his family, began the study of medicine in the then usual way, as a pupil of the late Dr. Ayling of Great Portland-street, W. Subsequently he entered the Middlesex Hospital and qualifying in 1863 M.R.C.S. Eng., L.S.A. Lond., L.M., in 1880 graduated M.D. of the University of St. Andrews. He was assistant house surgeon at the Poplar Hospital and house surgeon at the West London Hospital from 1863 to 1864. In the next year he commenced general practice in Hammersmith, where he remained until 1899, during which time he built up a large practice, holding at one time and another the appointments of Poor-law medical officer, public vaccinator, and surgeon to Oddfellows and other friendly societies. During the epidemic of cholera in 1866 he was appointed a special medical officer by the vestry, as also in two epidemics of small-pox.

Dr. Alderson took the liveliest interest in every matter that affected the medical profession; he was for over 30 years a member of the board of management of the West London Hospital and was an active supporter of that institution. He was one of the founders of the West London Medico-Chirurgical Society and was fifth president in 1886–87, reading for his presidential address an interesting and well considered paper on "The Wants of the General Practitioner of the Present Day"; he remained a vice-president of the society until his death. He was president of the Incorporated Medical Practitioners Association in 1893 and was one of the most active members of the profession in endeavouring to obtain increased Direct Representation on the General Medical Council. In 1891, in conjunction with Mr. George Brown, he sought election as a Direct Representative on the General Medical Council, polling 4816 votes, and although unsuccessful was again a candidate in 1896, standing as an "Independent" with non-success as an almost foregone conclusion. At this election the apathy of the profession in the matter of Direct Representation on the General Medical Council was remarkable, only 11,990 voting papers being returned, 22,577 having been issued. He assisted in the formation of the London and Counties Medical Protection Society and he was a member of its council and of the executive committee of the Royal British Nursing Association, the interests of which he worked hard to promote. He gave evidence before the committee of the House of Lords on "Hospitalism" in 1891. In 1899 Dr. Alderson retired from practice and went to live at Bournemouth. Here, while still retaining his great interest in things medical, he found time to take an active part in local affairs as a guardian territories hitherto under the desolation of disease. Yet to be ministers of a newborn profession is not all loss. When Athene sprang full-grown from the head and heart of Zeus, were not the Olympians at first a little disdainful and aloof, and the divine maid a little wondering and shy? And probably the ægis was not quite ready; these artificers are always behindhand. Is not Medicine, born full-grown from the womb of our own time, if a little wistful at first, spared the hamper of a long past? Her gospel is not hidden behind an ancient and creaking machinery, nor are her eyes bent away from the future by a huge inheritance of undigested facts and opinions. The engineer, it is true, is a new demi-god, but he deals with far more elementary things; with means, not with ends. Joyfully we are putting on a hundred legs for one in the hope of escaping from ourselves, yet so far it seems very much in vain.

MINISTRY OF HEALTH.

What is now needed in England is no halt by our leaders, but the establishment of a General Staff of Medicine, to rebuke the purblind and inveterate habit in our countrymen of devoting their magnificent energy and their treasure to mopping up effects, in disregard of causes; to teach them better than to hustle each other with fussy, belated hurryings to and fro after evils have surged to a head, as, for instance, in the calamity of plague in India and in the typhoid disaster in South Africa; calamities no longer mysterious, noonday pestilences concerning which the modern physician had ample foreknowledge. Yet with all this knowledge, and infinitely more parcelled out in the several closets of the older ministries, or submitted to the patronage of selfish and awkward local authorities, generally coarse and inconsistent in their methods, and sometimes corrupt, medicine, as a function of the State, is still working as it were with her left hand. Her scattered official members have no unity; working piecemeal everywhere she has no coördination, no integrated self-consciousness. With no fixed apparatus for concerted action, energy is wasted in overlap, in jostling, in divided purposes, and in anomalies. Although her influence has penetrated into almost every function of society and directly and indirectly she is spending a great revenue, yet through the counsels of the nation she passes veiled and irresponsible. The new ideas which are stirring society are largely medical, yet society does not know where, in the back staircases or garrets of the Local Government Board, of the Home Office, of the Education Office, of the Board of Trade, of the Post Office, of the Registrar-General's department, of the Lunacy Commission, and so forth, each bee buzzing in its own little cage, medicine is to be found; nor how this new solvent and all-pervading influence are to be brought to the back of revenue or to the bar of public opinion and responsibility.

Our charge.—Let us consider, but for a moment and in outline, the charge of medicine in normal national functions. Abroad public medicine, which short-sighted people seem even still to see only through the taint and clatter of "hygienic" trade advertisements, public medicine, to which private practice must begin to play a subordinate and tributary part, has stretched out its arm beyond the several nations, is transforming the quarantine of man, animals, and plants, and creating a vast and masterful international service. At home to public medicine is intrusted, in the first quarter of life, the reckoning of births; the protection of infant life and growth; the valuing of each generation by comparison with the past and with normal standards of physiological institution. The new measure of medical school inspection, a far-reaching measure the full purport of which as yet the country has but little notion, the physical and mental conditions of education, the "half-timer," and night-school problems; in later life the conditions of labour, the dynamics of food and the minimum wage, the how and the why of premature old age, the effects of degrading and stupefying labour, and the time incidence of old-age pensions; factory inspection, with estimates of the effects of particular trades, such as chemical works, mining of all kinds, metal grinding, and so forth, with their consequences and pecuniary compensations; and more broadly, the large problems of "eugenics," of housing, of home life, of ventilation, of water-supplies, sewage and rivers pollution, food markets, and the adulteration in England so rampant, and, furthermore, those amenities of life, especially in cities, which by their play upon the receptive organs of the mind, make for the temperance and harmony which are essential to health and function. Such, in the sphere of the normal, are a few glimpses of the functions of modern medicine.

If now we turn from the normal to the abnormal, we may as rapidly note the survey not only of the tides of epidemic diseases in the largest sense of man, animals, and plants, but also of the more chronic but no less mischievous diseases which in large degree depend upon defect or vitiation of the conditions of social life; the proclivity to reversion and degeneration which is the shadow of evolution; the prevention and treatment of feeble-mindedness and insanity, which after mountainous waste of means is hardly begun; the great problems of hospitals and sick asylums; the urgent problem of a provision for medical and surgical treatment for large classes above the very poor, upon whom long and costly illness falls with a crushing weight and by whom in any case the consummate therapeutical apparatus of hospital charity are unattainable; the working of the Poor-law; the campaign against drunkenness, fornication, and other venomous social vices; and thence to criminology and punishment, to toxicological and expert medical testimony, to the anomalies of coroner's courts which in the crudity of their procedure would seem to exist rather for the destruction than for the corroboration of evidence; and finally, to the antiquated and distrusted dogmas of the judges of the higher courts on responsibility before the law.

Now this is the baldest of sketches, yet does it not indicate that modern medicine is embracing not indeed the final purposes and issues but the springs and conditions of national and universal life and efficiency; yet while the central administration remains as acephalous as the peripheral parts are multifarious and incoördinate, can we wonder that ignorance, confusion, and vacillation still prevail? The medical officer of health is at the mercy of the caprices of any interested clique; his sphere is undefined, he has neither protection nor freedom. In the service there is no order of promotion, no assurance of pension. Thwarted in detail, and in no public coöperation with a consolidated service, he is apt to lose standards, to lose efficiency, and to lose heart. Without an organised State department, public medicine lacks the corporate sense of a great official body like the law, and the stability of the coherent social groups which are favoured by natural selection. Moreover, being human, its partial conceptions, cross purposes, and pedantries are thus unmodified; and its naturally strong positions are not fortified against lay criticism; so that the public does not feel at home with medical ideas and practices. Working behind the scenes it loses the discipline and the chastisement, as well as the honour of public responsibility; while in the words of the President of the Royal College of Physicians of London,[2] "the State thrusts upon us responsibilities which are not ours." Unrepresented by a Minister of its own in Parliament, by alien Ministers it is alternately used and betrayed; and in silence must submit to hear its motives misinterpreted, its methods mishandled, and its unrequited labours continually imposed upon.

To one more factor of medical organisation I can but allude, although it lies at the root—I allude to the making of knowledge, knowledge of all national stores the most precious, in spite of the overlords of society who, as I have said, cling still to a belief in the efficacy of ignorance and delay. Grave towards us as are the faults of the Local Government Board, we must gladly admit that in this department some research is fostered. It is clear that there must be administrative laboratories and that without the atmosphere of disinterested research the best laboratories must flag; still it is open to inquiry how far the State shall make knowledge for itself and how far it shall derive it from universities and other scientific bodies. But when, for science or for art, money is wanted we learn that we are the poorest nation in the civilised world.

What are we to propose, then, in reform of the services of public medicine? It is understood that in high quarters the desire is to begin with the chaotic and inefficient periphery, in the hope that, secondarily, evolution may reach, recreate, and coördinate the subcentres and the main centre. It is urged also that each department must have its own medical bureau for its own continuous guidance and instruction. Again, there is the conventional dread of medicine as

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[2] THE LANCET, Oct. 5th, 1907, p. 945.

Executive Officer, Education Offices, Victoria Embankment, London, W.C. The forms of application must be returned to the same address not later than Saturday, Oct. 17th next.

UNIVERSITY COLLEGE HOSPITAL.—Mrs. Berkeley Hill has presented to University College Hospital, in memory of her late husband, a very interesting group of the portraits of his colleagues in the year 1891.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, BLOOMSBURY, W.C.—The first lecture of the winter term will be given by Dr. James S. Collier on Tuesday, Oct. 6th, at 3.30 P.M., on Local Lesions of the Spinal Cord—Anatomy.

THE medical exhibition under the management and supervision of the *British and Colonial Druggist* will take place at the Royal Horticultural Hall, Vincent-square, London, S.W., on Monday next, Oct. 5th, and the four following days. The exhibition will certainly be of interest to members of the medical profession.

THE WINSLEY SANATORIUM FOR CONSUMPTIVE PATIENTS.—The quarterly meeting of the board of governors of the Winsley Sanatorium was held at Bristol on Sept. 16th under the presidency of Dr. R. Shingleton Smith. It was decided to admit patients from outside the counties of Gloucestershire, Wilts, and Somerset on payment of 2 guineas weekly, so long as beds were available without depriving patients within the three counties. The medical officer of the institution having resigned, it was decided to advertise the appointment, the salary to be £200 per annum, rising by £20 a year to £300. The financial position of the sanatorium was carefully considered and it was stated that an additional income of £600 a year was required.

KING'S COLLEGE (UNIVERSITY OF LONDON): PRELIMINARY AND INTERMEDIATE MEDICAL STUDIES.—During the long vacation extensive additions have been made to the anatomical department and the area of the dissecting room has been largely increased. Complete equipment is now provided for research work in anatomy and embryology. The College provides the fullest facilities for students in all subjects connected with preliminary and intermediate work, both for those wishing to pursue the whole course and for occasional and research students. A student desirous of obtaining a medical degree in London can begin his career by attending courses as a university student at King's College and after passing his intermediate examination can select any of the London Hospitals in which to complete his studies.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of this institute will be held at the City Council Chambers, Guildhall, York, on Saturday, Oct. 17th, at 11 A.M., when a discussion will take place on "The Architecture and Sanitation of Elementary School Buildings." The discussion will be opened by Mr. J. Osborne Smith, F.R.I.B.A. It is hoped that the following will take part in the discussion: Dr. R. H. Crowley, medical superintendent, Bradford education authority; Dr. J. Mitchell Wilson, medical officer of health, East Riding of Yorkshire county council; and Mr. H. R. Morrell, head master, Scarcroft School, York. A general discussion is invited. The chair will be taken at 11 A.M. by Mr. H. D. Searles-Wood, F.R.I.B.A., chairman of the council of the institute.

DONATIONS AND BEQUESTS.—Miss C. F. Foster of Norwich has among other bequests left the following: £200 each to the Deaf and Dumb Asylum, Old Kent-road, London, the Eastern Counties Asylum for Idiots, Colchester, the Hospital and School for Indigent Blind, Norwich, and the Norfolk and Norwich Eye Infirmary, £500 to the Jenny Lind Infirmary for Sick Children, and £1000 to the Norfolk and Norwich Hospital.—The late Colonel James Reid of Greenock has bequeathed £1000 to the Greenock Infirmary and £500 each to the Eye Infirmary and the Greenock Medical Aid and Sick Nursing Society.—Under the will of Mr. Thomas Beeley of Manchester the testator bequeathed £500 to the Ashton-under-Lyne Infirmary for its Endowment Fund.—The late Mr. Francis Verrall of Lewes and Crowborough has bequeathed £500 to the Lewes Dispensary and Infirmary and Victoria Hospital, Lewes.—Miss M. B. Johnston of Widcombe, Somerset, has bequeathed £1000 each to the Cancer Hospital, London, and the Royal Free Hospital, London.

THE DEVON COUNTY ASYLUM, EXMINSTER.—At a meeting of the Devon county council held on Sept. 24th it was decided to erect six additional cottages at Exminster Asylum at an estimated cost of £1500; and it was determined to vote £1200 towards the cost of the new sewage disposal works at Exminster, subject to the approval of the Local Government Board.

LONDON HOSPITAL MEDICAL COLLEGE.—The following entrance scholarships have been awarded for the session commencing Oct. 1st, 1908: Price scholarship in science, value £120, D. E. Morley. Science scholarships: value £60, J. R. K. Thomson; value £35, A. R. Elliott. Epsom scholarship: value £126, K. Biggs. "Price" scholarship in anatomy and physiology, open to students of Oxford and Cambridge Universities, value £60, H. Scott Wilson, B.A. (Queen's College, Oxford).

QUEEN VICTORIA JUBILEE CONVALESCENT HOME, DURDHAM DOWNS, BRISTOL.—A bronze tablet has recently been placed in the entrance lobby of this institution. It bears the following inscription:—

> In honour of Her Gracious Majesty Queen Victoria; in Memory of a Beloved Wife; and in sympathy with the suffering, this house was given by Sir E. P. Wills, for a Convalescent Home, on the occasion of the 60th Anniversary of Her Majesty's Accession, June 20th, 1897, and the home was opened by Her Majesty on November 15th, 1899. A.D. 1908.

This convalescent home is doing excellent work, and since its opening 12,400 patients have been admitted.

GUY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships and certificates have been awarded: Senior science scholarship for University students (£50), Nathan Mutch, B.A., Emmanuel College, Cambridge; certificate, H. W. Barber, B.A., Clare College, Cambridge. Junior science scholarships: £150, J. F. G. Richards, Preliminary Scientific (M.B.) Class, Guy's Hospital; £60, W. L. Webb, Preliminary Scientific (M.B.) Class, Guy's Hospital; certificate, G. S. Miller, Preliminary Scientific (M.B.) Class, Guy's Hospital. Entrance scholarships in arts: £100, A. J. E. Smith, Rugby School; £50, H. W. Evans, Modern School, Bedford.

NEW HOSPITAL FOR LYDNEY (GLOUCESTERSHIRE) AND DISTRICT.—On Sept. 24th Sir Charles Dilke, M.P., in the presence of a large gathering formally opened the new hospital for Lydney and district. The building comprises two wards of four beds each, operation theatre, dispensary, &c. The site was given by Mr. C. Bathurst and Mr. R. Thomas has defrayed the whole cost of building the hospital. Mr. Bathurst suggested as a means of providing an "endowment fund" that if the public would subscribe £800 for this purpose by the time the hospital was completed he would make the sum up to £1000. The public has responded to the appeal and there is no doubt that the required amount will be raised.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADKINS, GEORGE, L.R.C.P. Lond., M.R.C.S., L.S.A., D.P.H. Camb., has been appointed Medical Officer of Health for the County of Devon.

BRUCE, ERNEST, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

COOPER, J. BURDON, M.D., B.S. Durh., F.R.C.S. Edin., has been appointed Honorary Ophthalmic Surgeon to the Bath Eye Infirmary.

DAVIES, JOHN LEWIS, M.B., Ch.M. Edin., has been appointed a Medical Inspector of Schools for Swansea.

DOBIE, E. C., M.B., M.S. Edin., has been appointed Senior Honorary Surgeon to the Chester Infirmary.

EDWARDS, DAVID RICHARD, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

EVANS, JOHN, L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed a Medical Inspector of Schools for Swansea.

FROST, JOHN KINGDON, M.D. Durh., M.R.C.S., L.S.A., D.P.H. Camb., has been appointed District Medical Officer and Medical Officer to the Workhouse by the Dorchester Board of Guardians.

we not by levelling down university standards and forcing up technical machinery attain a certain efficacious mean? Now it is a litt'e irksome to me to contest this proposition, for in former addresses, before audiences too much wedded to abstract academic methods and prone to edge away from concrete processes, processes which, no laboratory ingenuity can imitate or even conceive, I have urged that, Antaeus-like, knowledge must continually be recharged by earth contacts. Universities are no longer to be the cloisters of subtle and fastidious persons, observing the wind, and all a little afraid of each other. Albeit this return to the realities of life is not to be for the accommodation of mean positions but for the achievement of still wider knowledge. The mean position, as social history tells us and as biologists are illustrating, is a position not of advance, not of growth, but of retrogression. As Professor E. H. Starling said, we cannot get a quart into a pint pot; but by these measures I would figure, not the potential capacity of the student, but the stricter capacities of our respective methods. Not by any shift can a pint method be dilated into a quart method; the pot may be filled to the pint peg only, if no more can be afforded, but if it is to hold a quart it must be designed on the lines of the quart from the commencement.

There is no escape then from the unpalatable truth that if a liberal education, the education of a university, the making of the man, is to preside over the making of the particular professional man he must pay the price. Be the technical call for time such as it may—five years, say, or six—if the original capacity of the individual is to be brought out, if his personality is to be developed before, and also hand in hand with, his adaptation as a special instrument, some enlargement of time and opportunity has to be given and paid for. Narrow circumstances may deny it to him, they deny us many excellent things; but in this case the average man will never fully find himself, he will be designed as a receptacle and a retailer, and on the lines not of a progressive but of a stationary practitioner.

CONCERT OF METHODS.

Happily, however, with some mutual adjustments, the creative and the instrumental methods may be combined and the double price in time and money reduced. If the function of a university is to be the maker of the man as a whole, it cannot properly be made responsible for his technical efficiency as a practising lawyer, a practising parson, a practising physician; as a soldier or an engineer in the field. Nevertheless, theology, law, medicine, military history, engineering, and the like are taught in universities, and herein it is that university ideas and the hard-pressed student and his guardian may approach each other. For to develop the individual faculties, and to create the man, almost any subjects can be used if they are used thus as universals; not as particular equipments, not as furniture, but as disinterested means of unfolding the secret powers of the mind. Yet it is at this very crux that Professor Starling would desert us. If I read him aright he would, while in the university, curtail these convenient studies from educational to instrumental purposes, thus neutralising the very principles on which an accommodation between liberal and technical ideals is practicable. For instance of anatomy, the university, on his suggestion, is no longer to teach anatomy as a means of culture—a disinterested anatomy, to awaken and develop the general faculty of exact observation, and to imbue the mind with broad morphological and genetic principles, but, instead of this disinterested study, sections useful to the future craftsman are to be extracted; neglecting the development of faculty we are to confine ourselves to the inculcation of immediately useful parcels. This is indeed to shape the instrument before we have forged the steel. I have never forgotten the day when Humphry put a bone into my hand and revealed to me as an undeveloped youth what scientific observation meant; it meant not just points for the surgeon, for surgery then formed little or no part of the Cambridge curriculum, but a training of faculty, whether for the physician, the naturalist, the physicist, the palæographer; in a word, for universal education. Thus one realises how carelessly the untrained eye skips its reading; had I been told to note only what I might happen for some practical purpose to want, and to skip the rest, the eye would have fluttered unchastised over many a tiny point, which afterwards, when the mind had been raised to the conception of principles, would have revealed itself as an "expression point," significant of cycles or deviations of growth which otherwise had left no trace. "To look with the eye confounds the wisdom of ages." Moreover, in the unforeseen future, as, for instance, in the field of modern neurology, it is the anatomical habit of mind, apart from the memory of details, which in great part gives his lead to the successful observer in new spheres of observation. Such in anatomy is a part of the contrast between universal and technical methods, but such also are the potentialities which enable us to use almost any department of knowledge for an education of universal quality.

Secondly, if time be gained thus, we shall find other gains also at a later stage. The maturer and more various the qualities the mind brings to bear, the more quickly and truly will it judge of what is to come before it later. The teacher's ideas have not to dwindle into the dimensions of a rudimentary disciple. The technical instruction, which it is his turn to give, falls upon a mind already familiar with standards, with principles, with relative values; a mind accustomed to observation, comparison, and foresight. Moreover, among themselves, such educated students do not, as those who are only of the workshop, operate upon each other at low levels, but they stimulate each other with spontaneous inquiry and critical judgment. In this search after truth their minds have found themselves, and this search is the path of life: they have that awakened sense of our ignorance which forbids us any satisfaction in phrases and conventions; which tells us that none of our axioms is true, though truer than an indolent or gregarious assent, and guards us against the domination of the many positive persons who do not know but only assert; such as the historian of whom Acton said that "a little study of the subject would probably diminish the severity of his judgment and add materially to its weight." For students thus educated technical attainment is greatly accelerated.

Thirdly, we may gain time for an enlarged curriculum by requiring more of the secondary schools, and by encouraging our students to come up a little younger. At Cambridge we have decided to offer the First M.B. examination to candidates on entrance, so that with us they may proceed at once to more advanced subjects. In the Sheffield discussion Dr. Dawson Turner was jealous lest thus the literary side should be starved; I find but little of a literary side to starve, but in any case may we not have an equal jealousy of the literary schoolboy starved of science! The elements of science required for our First M.B. are of the kind which should enter into the formation of every educated man.

Much, then, may be done, by preparation, by consolidation, and by adaptation, to fit together university and technical education; but no consolidation, no contrivance, can make them identical or equivalent. Whatsoever may be the time prescribed by the Medical Council for qualification, the student who desires to build up his faculties by a more universal training must add a year or two to the technical minimum, and this from the beginning of his course. It cannot be tacked on at the end of it.

Is it not, then, deeply to be regretted that a great Lancashire merchant, a man of energy and powerful in material progress, should use his influence to declare that "a university education retards a young man's progress in commercial life, by occupying years in the study of classical and other subjects when commercial training would be more valuable." Now he must be a very dull or a very complacent observer who supposes our modern industrial civilisation to be hitherto a great success; still what an abasement, surely an unmerited abasement, to suggest of commerce, for which ancient calling this and other universities are now giving new opportunities, that it is all trivial; that it is incapable of principles, of high standards, and has no uses for an education which stores the mind with liberal knowledge and opens it to new and various ideas. We have seen that a disinterested building up of mental faculty is not a matter of this study against that, whether of literature, of social and commercial economy, of physical science, of history, and so forth, but of the larger manner of its handling; that university training does not consist in decorative accomplishment, nor in disdain of common things, but in an openness and a flexibility of mind to new issues, in the spirit brought to the study of everything; for although in nature nothing is common, no

Notes, Short Comments, and Answers to Correspondents.

THE QUACK BLATANT.

r. C. E. Richmond, B.Sc. Vict., F.R.C.S. Eng., forwards us a particularly flagrant quack advertisement from the *Manchester Evening Chronicle*. It runs:—

> ACTED AS A DOCTOR.
>
> THE REASON FOR THESE PERSECUTIONS.
>
> Some years ago, a Conference of Doctors was held for the purpose of deciding upon some way of crushing me, when it was resolved to refuse all my death certificates (which I had given for over 20 years, and had been accepted), and to hold an inquest upon every death.
>
> NOW LET US SEE WHO ARE THE QUACKS.
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> One of my present customers is a lady I cured of Cancer of the Breast. She has since had a child and suckled it from the same breast. Still living, and mother and child will bear testimony. I forgot to say she had previously been under the legally qualified doctors, who wanted to cut it out.
>
> 1. At the present time I have a customer coming with Cancer of the Tongue. Undergone two operations, and advised to do so a third time. Came to me, and is doing well with Febrifuge treatment.
>
> 2. Man came fortnight ago. Stricture, under doctors long time, had fourteen operations, and was finally told he would have to be operated upon all his life. Febrifuge brought the water away first bottle. Is now doing well.
>
> 3. Young woman with Whitlow of the Thumb. Been in hospital, doctors wanted to amputate; almost well after three weeks' treatment.
>
> THESE ARE A FEW FACTS—MORE IN TO-MORROW'S ISSUE.
>
> GEORGE JACKSON,
> Proprietor of Jackson's Febrifuge,
> 870, Rochdale Road, Manchester.

We do not know whether this person was ever on the Medical Register. If that were the case we rejoice that he is now off it. If he were not, the statement that his death certificates were accepted for 20 years is a piece of impudence which deserves the attention of the Manchester registrar, for he seeks clearly to imply that they were accepted by that official. Mr. Richmond in a covering letter expresses his indignation at the fact that qualified practitioners of medicine have no protection against the competition of such ignorant quacks. As we have pointed out over and over again, the great share of responsibility lies with the newspaper proprietors. The experience of other countries and other ages renders it almost impossible to hope that medical practice by unqualified persons can ever be adequately suppressed by law. But it is within reason to hope that some day Parliament may see fit to forbid the insertion of their monstrous claims in the columns of newspapers.

A POINT IN MEDICAL ETHICS.

To the Editor of The Lancet.

Sir,—Noticing a letter written by an M.R.C.S. and L.R.C.P. to you, I should rather like to call attention to an incident which came under my notice and which in some respect bore a resemblance to this particular case. A medical man called at my office and we conversed for about half an hour on the subject of the purchase of a certain practice. I was in a position to give him particularly full details of the practice as the vender was personally known to me and had called on several occasions respecting the proposed sale. The would-be purchaser, having obtained all details, visited the practice in question, and then decided, for some reason, not to buy it.

To my extreme surprise I afterwards heard that the very man who had obtained particulars of the practice had started on his own account within a very short distance of the would-be vendor's house, and subsequently the vendor writes a letter to me stating what has happened, and I, in reply, advised him that it would be absolutely impossible for him to sell fairly, anyhow for the present. It was particularly unfortunate for him, as his health was bad and necessitated him leaving the practice to recuperate for weeks at a time, which fact I had carefully pointed out to the man who received particulars of the practice from me. (The intending vendor having since died, in a sense confirms the bad state of health he was in previously.) The action of the doctor who had the particulars from me of course rendered it impossible for the would-be vendor of the practice to transfer it, as any intending purchaser going down to the place would at once notice that there was a practitioner close by, and his first question would probably be, "How long has he been there?" or the vendor, if he were not asked such a question, would, if he were an honest man, inform the intending purchaser that his neighbour had only recently started. Agreed that it is somewhat hard for a man to be debarred from practising in a town because he has particulars of a practice there, yet at the same time it seems absolutely impossible to me for a man to conscientiously "put up his plate" in the said town should he have received fully discussed particulars of a practice for sale, and particularly in the instance of a man who was in reality selling his practice because his health would not allow him to continue his practice with any comfort to himself or carry out his duty to his patients. Thinking that you might like to hear another view on the same unquestionably important subject and apologising for trespassing on your valuable space,

I am, Sir, yours faithfully,
A Medical Agent.

Sept. 28th, 1903.

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of The Lancet.

Sir,—Concerning early medical books in English I did not suggest that the "Governal of Health" was the earliest English "work." I said "book," which, I think, means (whatever may be the dictionary definition) a printed work. I should not term a manuscript a book, for although it may be divided in sections called "books," in every catalogue I receive a distinction is made between manuscripts and books. With regard to the earliest manuscripts being of the fourteenth and fifteenth centuries, surely this is a mistake. To quote only one instance: there is a collection in three volumes of early Saxon medical works, entitled "Saxon Leechdoms," which are certainly much earlier.

I am, Sir, yours faithfully,
Oscar Jennings.

Sept. 28th.

THE "LITTLE LEARNING."

The following extract is from the leading columns of a provincial newspaper, for unearthing which we are indebted to the *Guy's Hospital Gazette*. The versatile writer was seeking to mould his readers' minds on the problems raised by Mr. Francis Darwin at the recent meeting of the British Association for the Advancement of Science. He asks:

> "What is ontogeny? It is, we presume, a process of development, either in plants, in the lower animals, or in man. The epigenetic point of view, we may similarly surmise, is that of those who hold that the germ of an organism does not pre-exist in the parent, but is brought into existence by the parents' powers of procreation.
>
> "Here, again, we pause to inquire who and what are the somatists? They are those who believe in the inheritance of acquired characters. The designation, which is new, is rather far-fetched, but has a certain applicability, soma being the juice of a plant offered in libation to a Hindu god to strengthen him in his fight with the demons. It is identified—and here its applicability comes in—with the invigorating and immortalising principle in nature."

It is true that the modern journalist is expected to have a range of information universally wide, if of no appreciable depth, but the letters to the editor which the above contribution to the thought of the age must surely have called forth may perhaps give its writer pause before he again rests so pretty an interpretation upon the single authority of an encyclopædic dictionary.

THE MYSTERY OF THE LAW.

To the Editor of The Lancet.

Sir,—Two years ago the wife of a tradesman called me in to her husband who was suffering from pernicious anæmia. After four months he died and the widow went away without notice. After some time I found her living in a private house with an aspect of great comfort. She expressed regret and paid about a quarter of my account. To further applications she was deaf. Acting on the advice so liberally bestowed upon us in the columns of the daily press I took out a summons. As I know that solicitors consider debt collecting beneath their dignity I did this personally. Her solicitors then wrote offering half of the amount of my claim in settlement. Secure in the justice of my case I declined this and went into court. To my utter astonishment the county court judge decided that I had no claim, but advised the widow to make me "a small offer." I make no complaint of the judge's ruling. I suppose that he gave me good law, but where is the equity or the sense? If it had been a curable case the man might perhaps have paid me. As it was a hopeless one, demanding close attention and one consultation, I am entitled to nothing.

I long for the happy days of the nineteenth century, when people paid their doctors.

I am, Sir, yours faithfully,
Retrorsum.

A THEORY CONCERNING THE RELATION OF BACTERIA TO DISEASE.

To the Editor of The Lancet.

Sir,—Diversity of opinion inevitably tends to the advancement of science, and a new theory, even if it be wrong, affords fresh material for reflection and often throws new light on some obscure doctrine. The influence of bacteria in the causation of disease has of late years been generally recognised and in many instances the presence of bacteria has been considered the sole proof of the existence of a specified disease. The diagnosis of disease would indeed be simplified if for every ailment a definite bacillus could readily be detected, but practical experience has amply demonstrated that this simple method of arriving at a correct conclusion has not as yet been perfected. But even granting specific bacteria existed in every disease and were capable of being recognised, very slight advantage would accrue, experience, may ripen into a kind of intellectual power. And if we ask how this may be the answer is not very remote. The zone of our intensest life is not in the individual alone, nor again in the universe alone, but in the weaving edge between them. The tissue, as on the personal side it is wrought, we have to guard from decay; but the weavers' vision and hand, by an intuitive gift of insight and touch beyond common reckoning, are swiftly conceiving the pattern and designing the web. As Professor James says, "ideal impulses possess us in a most unaccountable way, and work gets done." Thus after his fashion every man of action, even the man of science, is an artist; it is by imaginative vision that he gives birth to the new ideas, which he then compares and approves by intellectual judgment. We know in part and we prophesy in part. This zone or phantom verge of intensest vital activity, this halo of creative life between the individual and his *milieu*, in ethics is faith and hope; in work is purpose and enthusiasm; in art is creation; in science is that spirit of research which is confined to no laboratory but sees in every patient a new problem for interpretation and succour.

Your beliefs then are integral constituents of your lives, and are your driving power. For with duty or values, or even with ends, the equal eye of science has no concern. And if any one of you thinks he has no belief he lies in grievous error. Consciously or not, each one of you is harbouring his own ideal of life, good or bad, and is living by it; if the moth gets into it your character will decay with it, and so will your influence on others. Mark then, day by day, the order of your springs of action, that your hearts may be lifted up, and the continuity between will and action quickened and knit together. We have seen that to progress we must be living above the mean position; and as modern philosophy postulates that our several worlds are not outside us but within us, and are what we are, we realise that the world is what we make it; and that our maturer responsibilities cannot be ordered by any external authority. In the words of an accomplished author, Miss Mary Cholmondeley (I forget in which of her interesting stories): "How many rush hither and thither, and wear down the patience of earnest counsellors, and all the best years of their own lives in fretting and scratching among ruins for the law by which they may live! They look for it in books, in the minds of friends, in the face of Nature who betrays in her eyes the knowledge of the secret but utters it not. And last of all a remnant of the many look into their own hearts, where the great law of life has been hidden from the beginning."

For the pattern and governance of your daily lives I am thankful to say that in our own profession you will find a true and helpful example. Conversant during a long life with the homes of medical men I have felt rebuked again and again by their devotion to duty, their peerless generosity, their self-respect, and simplicity of manners. Faultless we are not, as more than once I have dared to say. Besides the temptations common to all men we have temptations peculiar to ourselves. Our patients, loyal and grateful as most of them are, disappoint us at times, and these disappointments may be very galling. In these days of rather aimless unrest they are too apt to forget the importance of continuity of observation and treatment. The consultant gives counsel indeed, but upon the family physician, who knows the whole story and sees the daily strains, depend the patience, the vigilance, and the discrimination needed to compass the cure. Yet too often, and perhaps by a tea-table cabal at a critical time, the patient is whisked off to some "specialist" who has an Installation, an Institution, a Home, or a Spa, which has to be kept agoing —*recte si possit!* And to the patient life is very dear; his judgment is enfeebled by illness and care; he clutches at any fair promise of aid; and the physician must remember that he also is human and that when ill himself he is apt to run hither and thither quite as inconstantly.

And are we not more to blame when our imaginations, kindly for others, stop a little short of our own brethren; when we are not quick to put ourselves in the place of him whom we are unhappily wont to designate not by the word of brother, but of "opponent"? Now words sink into our minds like stones. The relations of medical men in small societies are delicate, and with the best intentions misunderstandings are apt to arise, and to be aggravated by busybodies. If, indeed, our medical neighbour be not very fraternal, not always perhaps very high-minded, we must remember that herein lies one of our special temptations; and, if only for our own happiness and peace of mind, we must be a little blind to his faults and endeavour by our conduct to bring out not the worse but the better part of him. There is more awkwardness in these matters than malevolence, and there is nothing high-minded in being quick to take offence.

You may be tempted to say that it is all very well for me at my time of life thus to pose as your philosopher, and to set before you intellectual and moral ideals which you cannot hope in this rough and tumble world to attain. But to hitch our wagons to a star is not to reckon on camping in it at nightfall. An ancient sage has told us: "In magnis et voluisse sat'est"; a modern poet puts it: "It is not what I was but what I aspired to be which comforts me"; or, as we say in our strong northern vernacular: "He did his best, and he couldn't do nowt else."

Abstracts

OF

INTRODUCTORY ADDRESSES, ETC.

DELIVERED AT THE

MEDICAL SCHOOLS

AT THE

Opening of the Session 1908-09.

ST. GEORGE'S HOSPITAL.

INTRODUCTORY ADDRESS BY CHARLES SLATER, M.A., M.B. CANTAB., SUPERINTENDENT OF THE CLINICAL LABORATORIES, AND LECTURER ON BACTERIOLOGY.

Dr. Slater, who took for his subject "The Laboratory in Medical Education and Practice," first acknowledged the tribute which had been paid to the laboratory in his selection as opening lecturer, and welcomed the newly joined students "to a school with great traditions—traditions centring round the names of Hunter, Young, and Jenner—carried down through Brodie, Hewitt, Holmes, and our own teachers." He then proceeded to outline the great advance which had been made in the last 30 years in laboratory methods in connexion with clinical and preventive medicine, especially in the development of the science of bacteriolgy. He continued: "During this period the education of the public in a knowledge of these advances and in an appreciation of the advantages to be gained from them has progressed. Many of the discoveries and their applications have yielded picturesque if inaccurate copy to the lay press and have been eagerly seized upon. Mr. Balfour in a recent visit to this hospital remarked on the comparative simplicity of the task of the defenders of vivisection before the Royal Commission then sitting to consider this question compared to the similar task in the time of the earlier Commission which he recalled; a simplicity due to the array of striking illustrations of the advantages gained by these methods, and capable of appreciation by the layman, which could be adduced from the discoveries in connexion with antitoxin and other remedies and methods of treatment. The real education of the public in science is to be welcomed by the medical profession as it emancipates them from what Dr. W. Ewart has called the thraldom of the phial—the dominion of the quack—and makes them ready to appreciate, not by lip service merely, the connexion between cause and effect. At the same time it makes them more critical of methods and explanations—and as to how much do we still lack explanation—and will undoubtedly drive upwards the standard of general and professional education required of the members of our profession. During this period, then, the scientific basis of medicine has grown with phenomenal rapidity and this tree of knowledge has pushed out from its stem of physiology and anatomy such numerous and wide-spreading branches in experimental pathology that it has tended to overshadow the clinical side of medicine and has affected the medical schools, the medical education of the student both in its earlier, later, and post-graduate stages, and

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One of my present customers is a lady I cured of Cancer of the Breast. She has since had a child and suckled it from the same breast. Still living, and mother and child will bear testimony. I forgot to say she had previously been under the legally qualified doctors, who wanted to cut it out.

1. At the present time I have a customer coming with Cancer of the Tongue. Undergone two operations, and advised to do so a third time. Came to me, and is doing well with Febrifuge treatment.

2. Man came fortnight ago. Stricture, under doctors long time, had fourteen operations, and was finally told he would have to be operated upon all his life. Febrifuge brought the water away first bottle. Is now doing well.

3. Young woman with Whitlow of the Thumb. Been in hospital, doctors wanted to amputate, almost well after three weeks' treatment.

THESE ARE A FEW FACTS—MORE IN TO-MORROW'S ISSUE.

GEORGE JACKSON,

Proprietor of Jackson's Febrifuge,

870, Rochdale Road, Manchester.

We do not know whether this person was ever on the Medical Register. If that were the case we rejoice that he is now off it. If he were not, the statement that his death certificates were accepted for 20 years is a piece of impudence which deserves the attention of the Manchester registrar, for he seeks clearly to imply that they were accepted by that official. Mr. Richmond in a covering letter expresses his indignation at the fact that qualified practitioners of medicine have no protection against the competition of such ignorant quacks. As we have pointed out over and over again, the great share of responsibility lies with the newspaper proprietors. The experience of other countries and other ages renders it almost impossible to hope that medical practice by unqualified persons can ever be adequately suppressed by law. But it is within reason to hope that some day Parliament may see fit to forbid the insertion of their monstrous claims in the columns of newspapers.

A POINT IN MEDICAL ETHICS.

To the Editor of The Lancet.

Sir,—Noticing a letter written by an M.R.C.S. and L.R.C.P. to you, I should rather like to call attention to an incident which came under my notice and which in some respect bore a resemblance to this particular case. A medical man called at my office and we conversed for about half an hour on the subject of the purchase of a certain practice. I was in a position to give him particularly full details of the practice as the vendor was personally known to me and had called on several occasions respecting the proposed sale. The would-be purchaser, having obtained all details, visited the practice in question, and then decided, for some reason, not to buy it.

To my extreme surprise I afterwards heard that the very man who had obtained particulars of the practice had started on his own account within a very short distance of the would-be vendor's house, and subsequently the vendor writes a letter to me stating what has happened, and I, in reply, advised him that it would be absolutely impossible for him to sell fairly, anyhow for the present. It was particularly unfortunate for him, as his health was bad and necessitated him leaving the practice to recuperate for weeks at a time, which fact I had carefully pointed out to the man who received particulars of the practice from me. (The intending vendor having since died, in a sense confirms the bad state of health he was in previously.) The action of the doctor who had the particulars from me of course rendered it impossible for the would-be vendor of the practice to transfer it, as any intending purchaser going down to the place would at once notice that there was a practitioner close by, and his first question would probably be, "How long has he been there?" or [illegible] asked such a question, would, if he were an intending purchaser that his neighbour had greed that it is somewhat hard for a man to be debarred from practising in a town because he has particulars of a practice there, yet at the same time it seems absolutely impossible to me for a man to conscientiously "put up his plate" in the said town should he have received fully discussed particulars of a practice for sale, and particularly in the instance of a man who was in reality selling his practice because his health would not allow him to continue his practice with any comfort to himself or carry out his duty to his patients. Thinking that you might like to hear another view on the same unquestionably important subject and apologising for trespassing on your valuable space,

I am, Sir, yours faithfully,

A Medical Agent.

Sept. 26th, 1903.

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of The Lancet.

Sir,—Concerning early medical books in English I did not suggest that the "Governal of Health" was the earliest English "work." I said "book," which, I think, means (whatever may be the dictionary definition) a printed work. I should not term a manuscript a book, for although it may be divided in sections called "books," in every catalogue I receive a distinction is made between manuscripts and books. With regard to the earliest manuscripts being of the fourteenth and fifteenth centuries, surely this is a mistake. To quote only one instance: there is a collection in three volumes of early Saxon medical works, entitled "Saxon Leechdoms," which are certainly much earlier.

I am, Sir, yours faithfully,

Oscar Jennings.

Sept. 28th.

THE "LITTLE LEARNING."

The following extract is from the leading columns of a provincial newspaper, for unearthing which we are indebted to the *Guy's Hospital Gazette*. The versatile writer was seeking to mould his readers' minds on the problems raised by Mr. Francis Darwin at the recent meeting of the British Association for the Advancement of Science. He asks:

> "What is ontogeny? It is, we presume, a process of development, either in plants, in the lower animals, or in man. The epigenetic point of view, we may similarly surmise, is that of those who hold that the germ of an organism does not pre-exist in the parent, but is brought into existence by the parents' powers of procreation.
>
> "Here, again, we pause to inquire who and what are the somatists? They are those who believe in the inheritance of acquired characters. The designation, which is new, is rather far-fetched, but has a certain applicability, soma being the juice of a plant offered in libation to a Hindu god to strengthen him in his fight with the demons. It is identified—and here its applicability comes in—with the invigorating and immortalising principle in nature."

It is true that the modern journalist is expected to have a range of information universally wide, if of no appreciable depth, but the letters to the editor which the above contribution to the thought of the age must surely have called forth may perhaps give its writer pause before he again rests so pretty an interpretation upon the single authority of an encyclopædic dictionary.

THE MYSTERY OF THE LAW.

To the Editor of The Lancet.

Sir,—Two years ago the wife of a tradesman called me in to her husband who was suffering from pernicious anæmia. After four months he died and the widow went away without notice. After some time I found her living in a private house with an aspect of great comfort. She expressed regret and paid about a quarter of my account. To further applications she was deaf. Acting on the advice so liberally bestowed upon us in the columns of the daily press I took out a summons. As I know that solicitors consider debt collecting beneath their dignity I did this personally. Her solicitors then wrote offering half of the amount of my claim in settlement. Secure in the justice of my case I declined this and went into court. To my utter astonishment the county court judge decided that I had no claim, but advised the widow to make me "a small offer." I make no complaint of the judge's ruling. I suppose that he gave me good law, but where is the equity or the sense? If it had been a curable case the man might perhaps have paid me. As it was a hopeless one, demanding close attention and one consultation, I am entitled to nothing.

I long for the happy days of the nineteenth century, when people paid their doctors.

I am, Sir, yours faithfully,

Retrorsum.

A THEORY CONCERNING THE RELATION OF BACTERIA TO DISEASE.

To the Editor of The Lancet.

Sir,—Diversity of opinion inevitably tends to the advancement of science, and a new theory, even if it be wrong, affords fresh material for reflection and often throws new light on some obscure doctrine. The influence of bacteria in the causation of disease has of late years been generally recognised and in many instances the presence of bacteria has been considered the sole proof of the existence of a specified disease. The diagnosis of disease would indeed be simplified if for every ailment a definite bacillus could readily be detected, but practical experience has amply demonstrated that this simple method of arriving at a correct conclusion has not as yet been perfected. But even granting specific bacteria existed in every disease and were capable of being recognised, very slight advantage would accrue, had considerable influence on the practitioner. This period has seen the public health services—the department of State medicine, the sanitary departments of the Services both military and colonial—become firmly established. There is no doubt that there will be further increase in this direction, a development of the medical officer at the expense of the general practitioner. As Dr. Ewart has so well expressed it, the profession is dividing itself into two uneven sections, that of practice and that of research. The latter works unpaid for the gain of the State and against that of the profession. There is a well-known warning as to the fate of a kingdom divided against itself. If the profession carefully watches the State, however, the effect will be to produce a *redistribution* rather than a *diminution* of the sources of emolument. The recent establishment of the system of school inspection of children has created a small army of officials and the introduction of a definite course of hygiene in the training of school board teachers must call for medical instructors. The present is not a bad time for the young medical man; the pinch comes in the later stages when promotion to the small number of higher posts becomes slow or ceases. Again to quote Dr. Ewart, the State has always gladly exploited the medical profession, and it behoves us to see that it does not develop its vicarious charity too greatly at our expense. The danger is not small. The public and the State have been accustomed to pay for cure and have not yet learned that it is much better to pay for prevention—they have yet to learn that to reduce the incidence of disease is worth a hundredfold more, expressed in hard cash, than the cure of the cases. We have to teach the public and public officials this. It has always been easier to get grants for the prevention of animal disease than for the prevention of disease in man because it has been possible to express the loss to the community in money terms. The State blinked at what Carlyle calls the cash nexus in the case of man on grounds of false sentimentality. But this same cash nexus is producing its effect on the insurance companies in regard to the prevention of tuberculosis and the support of sanatoriums. At present, however, the attitude of the official mind on learning of the reduction of a disease, as, for instance, the reduction of cases of enteric fever in the Indian army by 20 per cent. by our now highly trained army medical service, is to regard this as a chance to retrench the official or to diminish the special subsidies by which the improvement has been effected, regardless of the fact that the money expended, multiplied by the brains, has produced a hundredfold. It will be hard to root out this attitude from the official mind, even by the efforts of what I recently heard a distinguished surgeon speak of—without irony apparently—as our "powerful profession." It should be powerful, but I fancy the Cabinet Minister who was present and was engaged in this policy of exploitation smiled at this amiable delusion. However, thanks to the better organisation of the profession and to the better education of the official and the politician this abuse of the medical man will diminish steadily.

This growth of the official side of medicine has a secondary effect in prolonging the period of education and creating the compulsory attendance on what are practically courses of post-graduate teaching. The need for a diploma of public health is rapidly becoming a necessity for successful candidature for many appointments. The diploma may not actually be demanded, but a candidate who possesses it has such an advantage over his competitors that its absence is a barrier to employment. So far as this demand postpones the already long-deferred earning period of the medical man it is serious, but it must be recognised that medical education cannot stop at the qualification stage but must more and more involve post-graduate courses, and the work for the public health diploma is both valuable and interesting and not divorced from pure medicine. But ordinary medical practice has also become interpenetrated by the influence of the laboratory owing to the constant need for the latter's aid in diagnosis. The causes which led to the necessity for clinical laboratories in connexion with hospitals led to the provision of similar institutions in connexion with the sanitary services of towns and rural districts and to meet the requirements of the general practitioner. Some of these were official or semi-official and others were frankly commercial, founded, as the phrase is, to meet a much-felt want. Skilled as the modern qualified man may be in the use of scientific methods of diagnosis, the exigencies of practice, the want of time, the want of special apparatus, and a thousand other things make it advisable, if not absolutely necessary, for him to seek the aid of the laboratories of clinical research. The success of a method of investigation depends not only on the knowledge of the worker but on the technical skill gained by constant practice—a practice which must be very intermittent in the course of active professional work. But it is useless to insist on this point as the need is practically admitted, and the parcel of bottles, swabs, and blood tubes is as much a part of the physician's or surgeon's armamentaria as the stethoscope or the sterilised dressing. Every day adds a new method and a new direction in which the pathologist can aid the practitioner. The latest direction in which this aid may be furnished is in the diagnosis of syphilis in its early and late stages, and what would be of great importance should it prove possible, the determination when cure has been effected. It has been used to a considerable extent in Germany, but as yet but few observations have been reported in England. It is of interest from the scientific side as it does not depend upon the discovery of the spirochæta but on a method founded on a theoretical conception, the deviation of complement which a short time ago would have appeared wholly unconnected with any practical applications.

Now what is the kind of relationship which has existed or is to exist between the clinical laboratory and those who *employ its service? Is that relationship to be one of pure* commerce or a relationship of mutual help in solving a difficult problem? Are we to be merchants or scientific workers? You can make the relationship which you like, but the value of the aid you get will be very different. I would first put it as an appeal *ad misericordiam.* Have you ever realised what a soul-destroying industry it becomes to examine sputa, throat swabs, or urine without a word as to clinical details? Is it a wonder if this work is left in the hand of the assistant? It is only when the examination of the pathological product can be co-related with the clinical condition that we escape from commerce and get results of scientific importance. I know of one laboratory where it is an absolute rule that if the papers accompanying the request for an examination are not filled in with the clinical details asked for no report is sent; but it is not every laboratory the position of which is so secure or the finances of which are so sound that this position can be taken up. It is quite certain, however, that if we are to get the maximum benefit out of the laboratories, consultation between the clinician and the laboratory will have to be more resorted to. The financial difficulty, again, crops up, but I think it would soon prove that the pathologist's opinion based on a full knowledge of the problem was worth more than his report on an isolated specimen of morbid material. What is gained by trying to obtain an unbiassed report is far more than lost by the errors introduced by the want of information which would enable the pathologist to interpret his results and give a sound opinion. The old habit of setting pathological conundra to be guessed must be given up. At present, from one cause and another—all causes, however, which spring from lack of mutual consultation—a great many reports which are asked for and furnished are, and must be, useless, as the pathologist has never known what the clinician really wanted to learn, nor on the other hand has the latter discovered how the laboratory could best help him. I am far from undervaluing the difficulties which arise in this matter of mutual coöperation; a brief experience, and mine is now no longer brief, of the obstacles which arise as to a proper understanding between the laboratory and the clinician, even in a hospital where the conditions for such mutual help are most favourable, would soon dispel this delusion. There is always some natural hesitation in allowing the claims of a new class of specialist to enter into the crowded field of practice, and when these pretensions are pressed by one of the new class the argument may reasonably be regarded as not free from bias. The necessity of the consultant pathologist has, however, been recognised and his cause pleaded vigorously by Mr. A. W. Mayo Robson in a paper read before the Bristol Medical Society. At the recent meeting of the British Medical Association at Sheffield Dr. J. Kingston Fowler said: "The bacteriologist," and we need not confine it to him, "in some at least of the general hospitals is regarded as the servant of the physician who orders that certain investigations should be undertaken. This is not, I submit, the position to which he is entitled. In important cases in which his advice and

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: [illegible] Demonstrations:—10 A.M., [illegible]

WE[illegible] 5 P.M., Dr. F. Taylor: [illegible]hthalmology. Out-patient [illegible]nd Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Radiography, [illegible] Out-patient Demonstrations:—10 [illegible] 12 noon, Ear and Throat. 3.15 P. [illegible] Bennett: The Relation of Some [illegible] Local Lesions, Traumatic and Otherwise.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

THURSDAY.—4 P.M., Mr. J. Hutchinson: On so-called Soft Chancres. (Opening Lecture of the Winter Session.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthop[illegible] St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.[illegible] (2.30 P.M.), West-minster (2 P.M.), [illegible] Throat (9.30 A.M.), Cancer (2 P.M.), [illegible]), Guy's (1.30 P.M.), Royal Ear (2 P.[illegible].), Children, Gt. [illegible]al, 2 P.M.), Tottenham [illegible].M.).

TH[illegible] P.M.), St. Thomas's [illegible]ring Cross (3 P.M.), St. [illegible]lege (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (10th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 1st, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Sept. 25	29·94	E.	0·03	76	61	54	55	56	Overcast
" 26	29·83	S.W.	0·03	113	66	54	55	57	Fine
" 27	29·96	S.W.	...	81	64	53	55	59	Cloudy
" 28	29·93	S.W.	...	83	69	57	59	61	Raining
" 29	30·17	S.W.	...	115	74	61	63	65	Fine
" 30	30·23	S.W.	...	117	79	62	63	65	Fine
Oct. 1	30·17	S.E.	...	92	72	59	60	60	Hazy

During the week marked copies of the following newspapers have been received:—*Liverpool Daily Post, Ross Gazette, Shields Daily Gazette, Hertfordshire Mercury, Perthshire Advertiser, Ardrossan and Saltcoats Herald, Oxford Times, Referee, Liverpool Courier, Belfast News-Letter, Evening Chronicle (Newcastle-upon-Tyne), Reading Mercury, Dumfries Courier and Herald, Surrey Advertiser, Wimbledon Gazette, &c.*

disease which you should have no difficulty in recalling in the future.

[Sir John Broadbent proceeded to define the various spheres of activity presented by modern medicine, and after forecasting the limitations of the physician's functions which will follow upon the spread of sanitation and the consequent diminution of infective diseases he proceeded :] Sir Almroth Wright will tell us that all that will be left for the physician of the future will be the functions of an opsonist and immunisator. Now I am not so pessimistic, or should I say "opsonistic," as that. I believe that the day will come when Sir Almroth Wright will evolve an anti-rheumatic vaccine which will rob the heart specialist of his livelihood. There will still, however, be left to the physician a host of other maladies which I need not enumerate, and I defy Sir Almroth Wright to discover a vaccine for what I consider one of the most serious disorders of the present day—neurasthenia, or nervous breakdown as I would prefer to call it. By this I do not mean the born-tired feeling of the unemployable or the *blasé* invertebrate condition of the born-rich without occupation, but the loss of nerve control and of mental energy which comes to the neurotic when the nervous system is strained to breaking point, and the hapless sufferer drifts like a ship without a helmsman, storm-tossed on the sea of his emotions. In such case he will look to the physician to assume command and pilot him back to safety. A sympathetic understanding of the symptoms, firmness combined with patience and great tact, will be necessary if the physician is to acquire the confidence of the patient which is essential for the successful conduct of the case. We are, naturally, apt to pay more attention to what we consider "interesting" cases from our point of view, but we must remember that to the patient his own ailment, however trivial we may consider it, is all important. If we bear in mind Bacon's advice[1] on the choice of a physician and regulate our conduct accordingly we shall not, I think, go far wrong. "Physicians are, some of them, so pleasing and conformable to the humour of the patient as they press not the true cure of the disease; and some others are so regular in proceeding according to art for the disease as they respect not sufficiently the condition of the patient. Take one of a middle temper; or if it may not be found in one man, combine two of either sort; and forget not to call as well as the best acquainted with your body, the best reputed of his faculty."

Unfortunately, the tendency of a large section of the British public at the present time is to take no physician at all, but to take some of the secret so-called remedies for every ill that are advertised in such a barefaced manner in the daily press. It is calculated that over two and a half million pounds were spent on this kind of trash during the past year. I think if the medical profession would set to work and see that some legislation is adopted to check the indiscriminate sale of these articles, they would do more good than constantly crying out about hospital abuse by patients who can afford to pay. Personally I have seen very few who could be suspected of coming to my out-patient department under false pretences, and we are at St. Mary's Hospital safeguarded against such abuse by the services of an inquiry officer who investigates the financial position of any doubtful case and refers the patient to a special committee which rejects him if he can afford to pay a doctor. This precaution should be adopted by all hospitals, and I think it would be an excellent thing if there were some coördination of hospitals with neighbouring provident dispensaries, so that cases unsuitable for treatment at the former could be referred to the latter.

[The speaker proceeded to consider certain points in out-patient work which are eminently unsatisfactory from the point of view both of the physician and of the patient. The first of these was the treatment of consumptive patients. He pointed out the frequent inability of such patients to carry out the dietetic and hygienic advice given them in the hospital out-patient department, and described the limited nature of their dwellings and surroundings. He then continued :] You may ask, Why not send these patients to sanatoriums since it is generally recognised that sanatorium treatment offers the best prospects for the arrest and cure of the disease? In the first place many of these cases are too advanced for admission to sanatoriums, as the working man does not usually seek advice till the disease is so advanced that he is too ill to follow his employment; secondly, the sanatorium accommodation for the poor is so inadequate that even if we get an early case the patient may have to wait some four to six months before he can be admitted, by which time the disease will probably be too advanced to allow of his admission. Practically the free sanatorium accommodation for working men in London consists of 100 beds at Northwood, to which admission can only be obtained through the Mount Vernon Hospital, and 100 beds at Frimley Sanatorium, which is attached to the Brompton Hospital for Consumption. There are a certain number of sanatoriums to which patients are admitted for a comparatively small payment, such as the Kelling Sanatorium at Holt (37 beds), the Maltings Sanatorium at Nayland in Suffolk (32 beds), the National Sanatorium at Bournemouth (85 beds), and a few others. In this connexion I must not omit to mention the Sanatorium at Benenden in Kent of 68 beds, which is of especial interest in that it represents the first attempt in this country on the part of the working classes to provide a sanatorium which shall be self-supporting and maintained by their own efforts. This has been carried into effect by the various friendly societies and trade unions, such as the Post Office Union, Hearts of Oak, &c., which have agreed to subsidise beds for the benefit of their members. There are many institutions of this kind in Germany, and it has been found by the working class insurance societies in that country as a matter of experience that it is more economical from their point of view to maintain beds at sanatoriums for their members attacked by pulmonary tuberculosis, many of whom as a result of treatment at the sanatorium for a few months are able to return to work, than to have to dole out sick pay for indefinite periods with no prospect of recovery to their phthisical members. In this country the excellent results obtained at the Frimley Sanatorium by Dr. M. S. Paterson and Dr. A. C. Inman, the former a St. Mary's man, by the scientific methods they employ in utilising the opsonic index as a means of graduating the amount of work which can be safely undertaken by convalescent patients, have shown how the consumptive working man can be restored to a condition of health and bodily vigour such that he can again undertake the most arduous manual labour. It will, however, be many years before the supply of sanatoriums for the poor can possibly equal the demand. In the meantime it is desirable and essential for the proper control of the disease that there should be some coördinated medical and sanitary supervision not only of cases awaiting sanatorium treatment but also of the large number of cases considered too advanced for this. How, then, can this be effected? In Edinburgh, New York, Boston, and other cities in America it has been found that satisfactory and encouraging results in this direction have been attained by tuberculosis dispensaries or clearing houses for consumptives, and I believe that the establishment of a system of similar institutions throughout London working in coöperation with the general hospitals and existing charitable agencies would be the most effectual method of dealing with the tuberculosis question in the metropolis. As a commencement a scheme is now on foot to found an institution of this nature in the borough of Paddington, modelled on the Royal Victoria Dispensary for Tuberculosis which has been working successfully in Edinburgh for the last 21 years. The outlines of the scheme are as follows: That patients should attend regularly at the dispensary. That they should be visited at their homes and instructed as to the proper sanitary precautions to be observed, and that measures should be taken to see that these are effectively carried out. That the coöperation and aid of existing philanthropic agencies and private individuals should be sought to provide for prompt admission of suitable cases to sanatoriums when practicable, and failing this to arrange as far as possible for such patients to live an open-air life. Dr. J. H. Pratt of Baltimore, in an interesting paper read at the meeting of the British Medical Association this year at Sheffield, showed how the open-air treatment of consumption may be effectively carried out even in the homes of the poor, and how by judicious and inexpensive alterations to provide effective ventilation, or by the erection of a balcony or a roof shelter what appear to be utterly unsuitable dwellings can be successfully adapted. The medical supervision of cases discharged from sanatoriums would also form an important part of the work of the institution. It is hoped also that

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[1] Essay on the Regimen of Health.

An Address

ON

HOSPITALS; PUBLIC MEDICINE AND MEDICAL STUDIES.

Delivered at the Opening of the Medical Department of Victoria University, Manchester, on Oct. 1st, 1908,

BY SIR T. CLIFFORD ALLBUTT, K.C.B., M.D. CANTAB., HON. D.SC. OXON., F.R.C.P. LOND., F.R.S., &c.,

REGIUS PROFESSOR OF PHYSIC AT THE UNIVERSITY OF CAMBRIDGE, ETC.

GENTLEMEN,—It is one of the noble attributes of the human mind never to rest contented with an achievement, be it never so useful, never so glorious. The old Manchester Infirmary, which happily escaped the division so injurious to some other hospitals, was as famous in its great physicians and surgeons, and in its generous and enlightened benefactors, as in form it was stately and in its history monumental. Yet the mind of your citizens, thankful as they have been for a great past, would not rest contented on form and history; gazing still insatiably into the future, contemplating the new scope and potencies of modern medicine, both personal and national, reading the principles on which this progress had been, and is being, made, and the signals of these ever-widening ranges of knowledge, power, and beneficence, Manchester men, in alliance with their University, are inspired to build yet more stately, to endow more richly, and thus to organise that still vaster compass of charity, of learning, and of municipal and national efficiency which I have visited and to which I have the great honour of bearing witness to-day. Thankful, nevertheless, as I have said, for a great past; but while these words are passing my lips the most ardent pilgrim will pause, for a moment as, in the visions of his memory, are reflected the figures of those strong companions who so lately were breasting the hill with us, but whose hands are now dropped and whose familiar and prophetic voices are fallen into silence. Manchester and Manchester University, even after the loss of such men as Leech, Dreschfeld, Harris, Ashby, Cullingworth, Jones, Collier, will be more and more; notwithstanding we are haunted by the pathos of human life and death, wherein they, who of all of us knew best how to rejoice in your new hopes and new promises, have lately been taken from us; and we are left to rejoice, if by no means alone, yet without their wise counsels, without the enthusiasm of their presence. And yet I repeat "by no means alone." It is indeed the older men, such as he who now addresses you, who see most vividly, and feel most keenly, that the fountains of life ever renewed, and of progress reinforced and accelerated, have their springs not in our generation but in the bands of eager young men whom year by year and day by day your University bears in its pride. And if sometimes in their naughtiness these ardent youths are inwardly disposed to scorn our ingatherings, to despise our experience, and even to hold our wisdom in suspicion,—well, it is better than if they had fed themselves with our formulas and fondled our idols. Social development has always been discontinuous, and a succession of slightly explosive generations is better than the alternative of revolution, of catastrophe by longer accumulation of pent-up stresses.

HOSPITAL MANAGEMENT.

Permit me on the threshold of this new infirmary to make a few remarks on hospital purposes and management. Of the management of the Manchester Infirmary I know nothing, and under this head no word of mine can be charged with censure or innuendo. I speak generally when I say that a prevailing error in hospital government is the failure of the lay managers to act in frank and equal partnership with the medical managers, whereby the full coöperation and best results of money and knowledge are more or less sacrificed, the machine runs with needless friction, and occasionally jams. In this matter the lay governor is a little apt to be arrogant, a little purse-proud. Yet, after all, money is but the raw material, to be worked up with knowledge. Upon a hospital board laymen, even wealthy laymen, may come and go and be noted of no man; whereas such changes in the hospital medical staff would be promptly disastrous, for the layman's hospital is a stationary hospital.

That money is of more value than knowledge is a vulgar and erroneous notion; yet in our partnership too often the lay manager presumes that the physician or surgeon is at the hospital not his partner but in some sort his servant. Occasionally indeed he is ungenerous enough to depreciate the equal benevolence of the medical services on the ground that if unsalaried they "pay" in profit and reputation. But do we find that in other professions public officers—as a clerk to justices, for instance, as a solicitor to a great banking company, as a consulting engineer or chemist to gas or water works—are unsalaried, because the office carries with it opportunities, reputation, and fees! By no means. The other day I asked a distinguished physician and a distinguished surgeon on the staffs of two leading London hospitals if it paid them, however indirectly, to devote thus their priceless services for the sick and for the raising up of successors like themselves? They answered almost in the same words, "The time I give to the hospital costs me 20 or 30 guineas a week"—surely a more than ample pecuniary recompense for any promotion in earlier years. Moreover, even in London, and more generally in the provinces, a man of parts and address, starting independently of a hospital, has opportunities of material gain on the average as good as, and quicker in return than, those of his fellow student who, more disdainful of commercial balances, at the hospital devotes himself in the first instance to science and charity. Yet it is on these men that the virtues and the honours of a great hospital chiefly depend.

Let us put it more plainly; a layman, with a purse in his hand, and a physician stand on either side of the bed of a sick man. The layman offers to spend £5 on the patient if the physician of his learning and benevolence will convert this cash into means of solace and cure. Neither partner is of much use to the sick man without the other. The man with the banknote cannot, it is true, allow the physician to spend the money uncontrolled; but, on the other hand, without the physician his money would be wasted. The partners, then, are not master and servant, but comrades; and if with many banknotes and many patients a great healing engine is created, the principle of frank and equal partnership is not modified. If the expert, after the manner of experts, is prone sometimes to forget the relative proportions of things, to push ideas beyond the limits of common sense, to be importunate, or even extravagant, the layman on his side is as prone to be domineering, meddlesome, and short-sighted. Everything in the healing machine costs money, and the layman must regard the ultimate economy of it; but as everything in it is also therapeutical whatsoever he may do or avoid affects more or less directly the treatment of the patients; whether it be, let us say, the heating and ventilation, the decoration of the walls, or even the baking of the bread and the quality of the blankets. Unless, then, the lay manager keep incessantly in touch with the medical he will continually make little mistakes and large blunders. Now do we, generally speaking, find this broad and continuous counsel between these partners in large hospitals? Do we not too often find on the contrary a lay board shutting itself up by itself, and week by week proceeding to business without conference with the honorary staff; acting, indeed, sometimes as if the staff existed only to do what it is told; a custom surely discourteous as well as mischievous to the business the two partners have at heart. How, then, should concord, mutual understanding, and harmonious and efficient coöperation be maintained? At Leeds every member of the honorary staff is, *ex-officio*, a member of the weekly board; thus at every board one or other of the staff is sure to be present; so that if any innocent-looking proposal be made which in so complex a machine might react prejudicially upon the welfare of the sick, a warning note is heard, and the proposal is deferred or modified. Larger issues are discussed, on due notice, by full boards of lay and medical members, with frank and equal interchange of opinion; but the staff vote is properly limited,—in my day to eight, the eight votes being readily distributed among the staff at the discretion of the members present; votes being, of course, allotted first to the members of any special department chiefly concerned in the issue. The result during my experience was that no cool breezes

In all seriousness, however, let me now beg you to give your undivided attention to the cell in its manifold variations of form and power; here in this microcosm you shall find sufficient to engage and satisfy all your cravings for learning. Let me insist further that not only medicine but surgery also are both equally dependent upon the good pleasure of our structural unit, for what good purpose would it serve to bring the broken ends of the bone together if the osteoplastic cell failed to exert its powers? why tie, twist, or seal the artery with the cautery unless you can count upon the tissue cell to make good the ligation, torsion, or cauterisation? wherefore the delicate plastic operation except in reliance upon the plastic properties of the cell? It is manifest this corpusculum has an importance disproportionate to its size and the question how we may influence it becomes of great consequence. Look at it as there it trails a pseudopodium or brandishes a cilium or otherwise exhibits the fundamental property of contractility; or again there as it incorporates the simpler molecule and builds it up into some higher form of synthesis, or, reversing the process, breaks down the absorbed molecule into some simple grouping—in other words, as it builds up the internal secretion in the one case, prepares the excretory product in the other; again, see it as it busies itself storing potential energy in its substance with a view to its becoming dynamic at the right moment. Now all these activities depend upon processes which, being intracellular, intermolecular, are minute. How shall they be influenced, supposing them to fail in vigour or to become perverted?—by knife, or forceps, or other surgical engine? This is not conceivable; only by processes not less minute than their own, processes which can find room for their working within the body of the cell, only thus can they be reached. But these processes in request are none other than those we term physicochemical and they are just such as the materia medica presents. The theory is unexceptionable. The medicamenta should be by nature eligible for the purpose indicated; but what says the ounce of practice which proverbially outweighs the ton of conjecture? For the answer I will refer you to the surgeon, ask him for his opinion as to the value of the mercurial, the iodide, the antiseptic. If he allow their value the whole case of the utilisability of the drug, its legitimate sphere of action, is established. Of course, such admission proves nothing as to the value of this or that particular drug, neither does it lend countenance to indiscriminate drugging, just as little as the wise operation justifies the injudicious one, in particular, or a meddlesome surgery, in general. [The lecturer illustrated this point by a eulogy of Lord Lister's employment of antiseptics.] You must next proceed to the medicamenta, and here you must be very searching in your investigation of what they claim to do and of the explanations which they proffer of their usefulness; do not, however, be too exacting in your demand for a reason; considering the complexity of the problem this were unreasonable, therefore unscientific. The only right course is upon sufficient evidence to act and *make trial.*

[Dr. Sainsbury proceeded to guard his remarks by a warning against the indiscriminate use of drugs and laid much of the blame for it upon the public love of "a prescription." He insisted that treatment by drugs should always be subordinate to treatment dietetic and hygienic and proceeded:—] And now I want to pass to another matter and must ask you to look at the cell unit as it may happen to be contracting or secreting or otherwise functioning. In the midst of this business suddenly by way of a nerve fibre comes a something and we note one of two things, either that the business of the cell goes on at an increased pace or that it begins to slacken, proceeding even to a complete standstill. What has taken place? Force of some kind must have been conveyed by the nerve fibre, for the momentum of the cell has been added to or taken from, but how exactly the exciting or inhibiting dose of energy has been brought to bear this is a more secret matter. Attractive as is this question I may not stay to inquire into it, for indeed it has been mentioned only for the purpose of insisting that after this very fashion works that obscure power which we call the mind. What the mechanism of conveyance and application may be, however concealed the route, the fact is unquestionable that the mind influences the body, now quickening, now depressing the vitality of the cell. By the mind we understand the intellectual faculties, but there is another side to the subjectivity of man—viz., the emotional or affective—and these influence even more powerfully cell activity. How? Here is a great mystery, but again the fact is certain—the psyche is a great moving element in what we are pleased to regard as the lower planes of life, the bodily workings. But does this bear upon the medical curriculum? It does indeed, nor must you ever lose sight of it. If the working of the cell is subject to the mental and emotional factor, then the psychology of man becomes a study of direct and supreme interest for you. Henceforth it becomes yours to enlist that psychology into the medical service of the body, yours to learn how that may be done. Now for one thing to touch another it must have affinity, must be in sympathy with it, and hence since the psychology of one man will be in closest relationship with the psychology of another, it follows that by psychic influences you will impress most readily the inner man. Do not, therefore, forget your own psyche, cultivate it, let it grow; expansion, by giving it a larger periphery, will cause it to present a larger surface for contact with other subjectivities and thus will enlarge the scope of your influence upon your fellows. Do not imagine that this is sentimentalism; sentiment it is, I admit, but whereas sentimentalism is a mere affectation, sentiment is a very real thing and you must not let it go, as much for your own sakes as also for the sake of those others whose minds and bodies you will be able to influence thereby. These things you may not be able to weigh, but believe me they have weight. The trouble, however, is that the practical business of life, in your case the medical curriculum for the next five years, is often so engrossing that it tends to monopolise the attention and to leave no room for studies and recreations which stand outside the line of its strong compelling current. What shall you do? You must fight against this compulsion, and thus—let us suppose that in your progress so far you have acquired an interest in poetry, in art, in music, to consider only the æsthetic side of the psyche—well, you must keep these interests alive. To do this you need not fear that time will be lacking; it will not be necessary to devote yourselves in excess to the culture of the æsthetic, a small attention will suffice; give that attention. [*In illustration of this point the lecturer quoted Charles Darwin's lamentation over the atrophy of his æsthetic sense in the pursuit of science.*]

The æsthetic aspect of man does not reveal to us the whole of his humanity; there is, besides, the ethical aspect and the religious aspect, both calling aloud for consideration by the physician, both standing for much more than the æsthetic in the standardisation of character; but though this is so I may only remind you that these aspects of humanity cover forces of immense potential which, for your own sakes as well as for the sake of others, you cannot afford to ignore; forces, moreover, which are subject to the great law of growth with use, of atrophy with disuse. Give this whole subject your very earnest consideration and endeavour by the development of your own psychic powers to the best of your ability to have as much as possible in common with your fellows; this will apply not merely to the five years' curriculum but to your work, the pursuit of medicine, throughout life.

MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY A. M. KELLAS, PH.D., B.SC., LECTURER IN CHEMISTRY.

Dr. Kellas in his opening words welcomed Mr. Rudyard Kipling and the other guests of the school and also the new students, to whom he commended the motto "Labor Omnia Vincit." He proceeded to announce the title of his discourse as "A Glance at the Development of Medicine as a Science." He passed rapidly in review the salient events in the history of medicine in the early ages of the world and in classical times, dwelling especially on the doctrines of Hippocrates and Galen; he then spoke briefly of the Arabian physicians and pointed out the influence of Arabian upon European medicine in the Middle Ages, illustrating it by the work of Avicenna, Paracelsus, and others. He then passed on to Ambroise Paré and after describing William Harvey's discovery of the circulation of the blood he continued:

Contemporary with Harvey there flourished an iatrochemical school founded by a famous professor at Leyden called Sylvius (1614–1672) who attempted to form a system of medicine depending upon the current views in chemistry and the circulation of the blood. Fermentations took place in the body and might produce acids which caused fever and other diseases. The most distinguished disciple of Sylvius

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frequency current, and the Finsen light can merely be mentioned. Bacteriology and Protozoology must be passed over. One cannot refrain from mentioning a most successful piece of work carried out during this year by one of the staff of this hospital in connexion with cancer. He has discovered how to obviate the terrible effects caused by a blocking of the axillary lymph spaces and ducts by cancer growth in long-standing cases.

[The lecturer then said a few words regarding the development of preventive medicine, and concluded with some remarks upon recent applications of chemistry to medicine.]

A division of chemical medicine which has risen into prominence during the last ten years is the "ionic" system of treatment, which aims at introducing curative elements where required by means of passage of an electric current through the body. Many interesting cures have been effected, the current being even applied to the brain. Many patients treated with the current through the brain assert that it clears their ideas, and one lady felt so much better mentally that she insisted upon her husband taking the treatment in order to improve his faculties. The precedent seems dangerous. Work in connexion with the new "ionic" treatment is being carried out in the Cancer Research Laboratories and Electrical Department of this hospital.

And now, in order to show the nature of the work to be done in chemical physiology and chemical pathology, one might perhaps be excused for entering into a few technical details. The human body is made up of microscopic living structures called cells, which contain many different chemical substances—e.g., a drop of blood contains about 5,000,000 living cells floating in blood serum, and for simplicity we will confine ourselves to substances present in the blood. The chemical compounds present are generally extraordinarily complex, consisting chiefly of bodies called proteins. Some simple substances are also present, two of small complexity, being water and sodium chloride. Now, before we can understand the chemical changes taking place in the human body our knowledge of proteins must be greatly increased. The proteins must be split up and the percentages of the different decomposition products formed must be accurately estimated for each. The methods of building up the proteins artificially from these parts must then be worked out. Two of the most important substances present in blood are serum albumin and hæmoglobin. The probable chemical formulæ of these substances are $C_{450}H_{720}N_{116}S_6O_{140}$ and $C_{758}H_{1203}N_{195}O_{218}FeS_3$. The relative numbers of atoms present (1432, 2378, 3, and 2 respectively) give a vague idea of the relative complexities but not of the relative difficulties of investigation. The difficulties increase out of all proportion to relative numbers of atoms present. A few decomposition products of serum albumin and hæmoglobin are histidin ($C_6H_9N_3O_2$), leucin ($C_6H_{13}NO_2$), and tyrosine ($C_9H_{11}NO_3$). So far as yet investigated hæmoglobin probably contains 36 residues of leucin molecules, 12 residues from histidin molecules, along with residues from tyrosine, arginin, cystin, and many other components. The chemical constitutions of the decomposition products and also of synthetic substances formed from them must be completely worked out. The difficulties which must be surmounted are extraordinary.

This completes the brief and inadequate glance at the development of medicine as a science. It has been shown that chemical pathology and chemical physiology are advancing comparatively slowly, because of the great difficulties inherent in these subjects, and that this fact delays the development of medicine. It was stated in the introduction to this address that continuous work would be required to surmount the difficulties. One would venture to suggest that continuity of effort could readily be attained by the endowment of several professorships or lectureships in the subjects named. (I hasten to add that I am not remotely eligible for such appointments.) The cost would be moderate. If the salaries of lecturers were £500, rising to £800 per annum, £1000 per annum would cover the cost for each post endowed, and one cannot doubt that the effect upon the development of medicine would be far-reaching. Young medical men who were ready to undergo a thorough training in analytical chemistry, and prepared to make the subject their life's work, would alone be eligible. One might expect that a State which can afford £65,000,000 for army and navy and £6,000,000 for old age pensions would not hesitate to endow at the small cost mentioned professorships in medicine which would have world-wide influence of a beneficial nature. Unfortunately our statesmen are most parsimonious towards any learning except primary education. Professor Starling, in a recent oration at University College on the "Building of a University," sums up their position as follows: "The attitude of our Government to a University is that of a gentleman who is asked for a copper by a tramp on the high road. They do indeed throw us a trifling dole, but take care to couple with the gift the statement that we have no right whatever to the money." At present very little work of the nature indicated is being done in this country, there being only one professorship of chemical pathology here. A considerable quantity of work is carried out in Germany which is to the front in scientific matters. If the State will not move in such a matter we must await the generosity of individuals. In the sketch of medical development just given the work of members of the Middlesex Hospital staff has been repeatedly mentioned, and we wish to emphasise the fact that a hospital which has been connected with William Hunter, Sir Charles Bell, Campbell de Morgan, and other eminent medical men of the very first rank whom exigencies of time have prevented one from mentioning, such as Sir Erasmus Wilson, Sir Thomas Watson, Sir William Flower, and Sir J. Burdon Sanderson, has traditions of a very high order, which should incite both to study with a view to excel in the profession and a desire to promote the progress of medical science. That the hospital is to-day abreast of its highest traditions you must admit, when I mention that among honours held by its present staff are the following: Sir Richard Douglas Powell is President of the Royal College of Physicians of London, Mr. Henry Morris is President of the Royal College of Surgeons of England, and Dr. J. Kingston Fowler is Dean of the Faculty of Medicine of the University of London.

A CASE OF DIVISION OF THE AUDITORY NERVE FOR PAINFUL TINNITUS.

By CHARLES A. BALLANCE, M.V.O., M.S. LOND., F.R.C.S. ENG.,

SURGEON TO, AND LECTURER ON SURGERY AT, ST. THOMAS'S HOSPITAL.

A WOMAN, aged 49 years, was sent to me by Mr. W. G. Sutcliffe of Margate on Nov. 14th, 1906. Her illness commenced suddenly in February, 1906, with buzzing tinnitus, vertigo, and nausea, and on several subsequent occasions a similar attack occurred. After a time the tinnitus became continuous and was more and more often accompanied by giddiness. No benefit was derived from medical treatment nor from staying at Margate and the Isle of Wight. In September, 1906, the character of the tinnitus suddenly changed from a buzzing to a most distressing steaming or whistling noise which, at its height, became actually painful; the patient's own expression was "the noise is the pain." When I saw her on Nov. 14th, 1906, about ten months after the commencement of the illness, she complained of intolerable tinnitus in the right ear, occasionally accompanied by giddiness and nausea. She was in great distress and feared that if no relief could be given she would go mad and kill herself. The right ear was almost totally deaf; the watch and the voice were not heard at all and the tuning fork was scarcely perceived. The tympanic membrane looked normal. There were no signs of a gross intracranial lesion; the disease was clearly labyrinthine. I suggested division of the auditory nerve but advised the

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DESCRIPTION OF ILLUSTRATION ON PAGE 1071.

Figure illustrating the positions of the nerves exposed in the

and dural flaps are visible below this bright area and the cut edge of bone and scalp above. The cerebellum was displaced by dry sponge pressure. N.T., Nervus trigeminus (motor root on median aspect of sensory root, indicated by dotted lines). S P S., Sinus petrosus superior. N F., Nervus Sinus petrosus N V., Nervus nus sigmoideus jugulare. N.H.,

An Address

ON

HOSPITALS; PUBLIC MEDICINE AND MEDICAL STUDIES.

Delivered at the Opening of the Medical Department of Victoria University, Manchester, on Oct. 1st, 1908,

BY SIR T. CLIFFORD ALLBUTT, K.C.B.,
M.D. CANTAB., HON. D.SC. OXON., F.R.C.P.
LOND., F.R.S., &c.,

REGIUS PROFESSOR OF PHYSIC AT THE UNIVERSITY OF CAMBRIDGE, ETC.

GENTLEMEN,—It is one of the noble attributes of the human mind never to rest contented with an achievement, be it never so useful, never so glorious. The old Manchester Infirmary, which happily escaped the division so injurious to some other hospitals, was as famous in its great physicians and surgeons, and in its generous and enlightened benefactors, as in form it was stately and in its history monumental. Yet the mind of your citizens, thankful as they have been for a great past, would not rest contented on form and history; gazing still insatiably into the future, contemplating the new scope and potencies of modern medicine, both personal and national, reading the principles on which this progress had been, and is being, made, and the signals of these ever-widening ranges of knowledge, power, and beneficence, Manchester men, in alliance with their University, are inspired to build yet more stately, to endow more richly, and thus to organise that still vaster compass of charity, of learning, and of municipal and national efficiency which I have visited and to which I have the great honour of bearing witness to-day. Thankful, nevertheless, as I have said, for a great past; but while these words are passing my lips the most ardent pilgrim will pause, for a moment as, in the visions of his memory, are reflected the figures of those strong companions who so lately were breasting the hill with us, but whose hands are now dropped and whose familiar and prophetic voices are fallen into silence. Manchester and Manchester University, even after the loss of such men as Leech, Dreschfeld, Harris, Ashby, Cullingworth, Jones, Collier, will be more and more; notwithstanding we are haunted by the pathos of human life and death, wherein they, who of all of us knew best how to rejoice in your new hopes and new promises, have lately been taken from us; and we are left to rejoice, if by no means alone, yet without their wise counsels, without the enthusiasm of their presence. And yet I repeat "by no means alone." It is indeed the older men, such as he who now addresses you, who see most vividly, and feel most keenly, that the fountains of life ever renewed, and of progress reinforced and accelerated, have their springs not in our generation but in the bands of eager young men whom year by year and day by day your University bears in its pride. And if sometimes in their naughtiness these ardent youths are inwardly disposed to scorn our ingatherings, to despise our experience, and even to hold our wisdom in suspicion,—well, it is better than if they had fed themselves with our formulas and fondled our idols. Social development has always been discontinuous, and a succession of slightly explosive generations is better than the alternative of revolution, of catastrophe by longer accumulation of pent-up stresses.

HOSPITAL MANAGEMENT.

Permit me on the threshold of this new infirmary to make a few remarks on hospital purposes and management. Of the management of the Manchester Infirmary I know nothing, and under this head no word of mine can be charged with censure or innuendo. I speak generally when I say that a prevailing error in hospital government is the failure of the lay managers to act in frank and equal partnership with the medical managers, whereby the full coöperation and best results of money and knowledge are more or less sacrificed, the machine runs with needless friction, and occasionally jams. In this matter the lay governor is a little apt to be arrogant, a little purse-proud. Yet, after all, money is but the raw material, to be worked up with knowledge. Upon a hospital board laymen, even wealthy laymen, may come and go and be noted of no man; whereas such changes in the hospital medical staff would be promptly disastrous, for the layman's hospital is a stationary hospital.

That money is of more value than knowledge is a vulgar and erroneous notion; yet in our partnership too often the lay manager presumes that the physician or surgeon is at the hospital not his partner but in some sort his servant. Occasionally indeed he is ungenerous enough to depreciate the equal benevolence of the medical services on the ground that if unsalaried they "pay" in profit and reputation. But do we find that in other professions public officers—as a clerk to justices, for instance, as a solicitor to a great banking company, as a consulting engineer or chemist to gas or water works—are unsalaried, because the office carries with it opportunities, reputation, and fees! By no means. The other day I asked a distinguished physician and a distinguished surgeon on the staffs of two leading London hospitals if it paid them, however indirectly, to devote thus their priceless services for the sick and for the raising up of successors like themselves? They answered almost in the same words, "The time I give to the hospital costs me 20 or 30 guineas a week"—surely a more than ample pecuniary recompense for any promotion in earlier years. Moreover, even in London, and more generally in the provinces, a man of parts and address, starting independently of a hospital, has opportunities of material gain on the average as good as, and quicker in return than, those of his fellow student who, more disdainful of commercial balances, at the hospital devotes himself in the first instance to science and charity. Yet it is on these men that the virtues and the honours of a great hospital chiefly depend.

Let us put it more plainly; a layman, with a purse in his hand, and a physician stand on either side of the bed of a sick man. The layman offers to spend £5 on the patient if the physician of his learning and benevolence will convert this cash into means of solace and cure. Neither partner is of much use to the sick man without the other. The man with the banknote cannot, it is true, allow the physician to spend the money uncontrolled; but, on the other hand, without the physician his money would be wasted The partners, then, are not master and servant, but comrades; and if with many banknotes and many patients a great healing engine is created, the principle of frank and equal partnership is not modified. If the expert, after the manner of experts, is prone sometimes to forget the relative proportions of things, to push ideas beyond the limits of common sense, to be importunate, or even extravagant, the layman on his side is as prone to be domineering, meddlesome, and short-sighted. Everything in the healing machine costs money, and the layman must regard the ultimate economy of it; but as everything in it is also therapeutical whatsoever he may do or avoid affects more or less directly the treatment of the patients; whether it be, let us say, the heating and ventilation, the decoration of the walls, or even the baking of the bread and the quality of the blankets. Unless, then, the lay manager keep incessantly in touch with the medical he will continually make little mistakes and large blunders. Now do we, generally speaking, find this broad and continuous counsel between these partners in large hospitals? Do we not too often find on the contrary a lay board shutting itself up by itself, and week by week proceeding to business without conference with the honorary staff; acting, indeed, sometimes as if the staff existed only to do what it is told; a custom surely discourteous as well as mischievous to the business the two partners have at heart. How, then, should concord, mutual understanding, and harmonious and efficient coöperation be maintained? At Leeds every member of the honorary staff is, *ex-officio*, a member of the weekly board; thus at every board one or other of the staff is sure to be present; so that if any innocent-looking proposal be made which in so complex a machine might react prejudicially upon the welfare of the sick, a warning note is heard, and the proposal is deferred or modified. Larger issues are discussed, on due notice, by full boards of lay and medical members, with frank and equal interchange of opinion; but the staff vote is properly limited,—in my day to eight, the eight votes being readily distributed among the staff at the discretion of the members present; votes being, of course, allotted first to the members of any special department chiefly concerned in the issue. The result during my experience was that no cool breezes patient first to consult Dr. D. Ferrier. I did not see her again until January, 1908, when she came to me with Dr. Soden. In the interval she had been under Dr. Ferrier, Dr. Purves Stewart, Mr. Lake, Mr. Woods, and others. Many methods of treatment, including hypnotism and high-frequency currents, had been tried. In November, 1907, Mr. Lake removed the semicircular canals of the affected side; this operation almost completely relieved the patient from the vertigo but in no way affected the painful tinnitus. Facial palsy followed Mr. Lake's operation but from this there were signs of commencing recovery. The general condition was not good; the patient was feeble, fat, and flabby, and the pulse, for some reason or another, varied from 100 to 120. I renewed my original suggestion that the auditory nerve should be divided and this was now agreed to by Dr. Ferrier.

On Jan. 18th, 1908, bone was removed over the right cerebellar region, and nine days later the operation was completed. The dura was opened and the cerebellar hemisphere displaced backwards and inwards by marine sponge pressure. On removing the sponges the cerebellum remained in the retracted position, so that the fifth, seventh, eighth, ninth, tenth, eleventh, and twelfth nerves were exposed to view (see figure). The eighth nerve was depressed so as to enable me to see clearly the rounded cord of the facial nerve and to avoid injuring it when dividing the auditory nerve. Then the division of the auditory nerve was easily accomplished. I made no attempt to separate the nerve of Wrisberg from the auditory nerve; indeed, I did not see it, no doubt because it was concealed by the arachnoid sheath. There was slight hæmorrhage from the auditory artery. On recovery from the anæsthetic there was conjugate deviation of the eyes to the left, and the eyes could not be moved towards the right. In about 48 hours this movement was again possible, but was feeble and was attended by lateral nystagmus with wide excursions. Convalescence was very slow, the pulse remained at 100, or over, for some weeks, and there was a little difficulty in swallowing due to paresis of the right side of the palate and of the right side of the pharynx. There were occasional syncopal attacks and also paroxysmal feelings of impending suffocation by which she was sometimes awakened at night. There was absolute deafness of the right ear. The facial palsy was not increased by the operation. On March 13th there was still slight paresis affecting the right side of the palate and pharynx. Nystagmus was still present. The optic discs were normal and the pupils were equal. The respirations were 22 and feeble. The pulse was 100 and regular. The heart was normal. There was neither anæsthesia nor ataxia. The plantar reflexes were flexor. I saw the patient again on May 24th. The scalp flap was concave. *The painful tinnitus had ceased.* There was still some weakness on the right side of the face. The tongue deviated very slightly to the left when protruded. There was nystagmus when looking to the right but less than formerly, and only slight jerks on looking to the left. The palate, pharynx, and vocal cords moved normally and there was no longer any difficulty in breathing or in swallowing. The sense of taste was lost along the right side of the tongue. There was an area of deficient sensation (as tested with a camel's hair brush) of about the size of a split pea at the junction of the middle of the posterior border of the right external meatus with the concha. There was no affection of any other cranial nerve. The knee- and ankle-jerks were greater on the right than on the left side. The supinator jerks were equal. The pulse was 60. There were no indications of gross disease and no apparent reason why the patient should not get quite well.

Attempts to divide the auditory nerve have been previously made, but I am not aware that the operation I have just described was employed in any of them. It presented no difficulty; by the use of marine sponge pressure the nerves were clearly exposed and the view was not obscured by blood or cerebro-spinal fluid. I learnt this method from Dr. Ferrier, who employed it with great success in his experiments on the monkey's brain. I think it could often be used with great advantage in preference to the metal retractor when we have to displace the brain in order to divide a cranial nerve or remove a deeply seated tumour, such as one situated in the cerebello-pontine angle or one growing from the pituitary body.

The operation of division of the auditory nerve is a means of relieving a patient from distressing tinnitus and vertigo not amenable to other measures. Such patients are almost invariably deaf on the affected side so that no sacrifice is made by cutting off the labyrinth from its connexion with the brain. The operation being undertaken for disease of the labyrinth or its ganglia does not give rise to that group of symptoms which follows division of the auditory nerve or extirpation of the labyrinth in animals so well described by Bechterew and Risien Russell. Mr. Lake's skilful operation for removing the semicircular canals cannot be expected to relieve a painful tinnitus. Either the cochlear ganglion must be destroyed or the cochlear division of the auditory nerve divided.

Further successful cases would afford opportunities of correcting or confirming the views which have been expressed as to the course of the nerve fibres transmitting impulses of taste. Such opportunities would be of especial value since the sense of taste cannot be satisfactorily tested in the lower animals. At the operation several cranial nerves were so clearly exposed that I determined to recognise each one by stimulation. The fifth, seventh, ninth, tenth, eleventh, and twelfth nerves were stimulated both mechanically and electrically. The muscles of mastication, supplied by the motor division of the fifth; the muscles of the face, supplied by the seventh; the sterno-mastoid and trapezius, supplied by the eleventh; and the muscles of the tongue, supplied by the twelfth; all contracted. The glosso-pharyngeal and the vagus were stimulated but the results were not observed as the larynx, pharynx, and palate were not seen. No alteration in the pulse-rate or in the respiratory movements was detected. The nerve of Wrisberg was divided with the auditory in the case here related, and the sense of taste was lost on the corresponding side of the tongue, not only in the anterior two-thirds but also in the posterior third, which is usually considered to depend upon the glosso-pharyngeal for its connexion with the brain. Should it be found possible to divide the auditory nerve without injury to the nerve of Wrisberg we should expect the sense of taste to remain unaffected.

It is well known that when the chorda tympani, or the facial trunk above the point where the chorda tympani is given off is paralysed the sense of taste is lost on the anterior two-thirds of the tongue on the same side. In the complete mastoid operation the chorda tympani nerve can seldom escape injury and may be paralysed by disease before the operation. I have tested the sense of taste in a few patients after their recovery from the mastoid operation and found that it was lost on the anterior two-thirds of the tongue. Unfortunately the sense of taste was not tested in my case prior to division of the auditory nerve and the nerve of Wrisberg. It must have been already lost on the anterior two-thirds of the tongue owing to the facial palsy, but there is no reason to suggest that it was lost on the posterior third of the tongue.

The facial nerve and the nerve of Wrisberg together form a mixed nerve comparable to a spinal nerve; the motor impulses pass by way of the facial and the sensory by way of the nerve of Wrisberg. The fibres connected with the unipolar cells of the geniculate ganglion, both proximally and distally, convey impulses towards the brain; the ganglion itself being the so-called ganglion of origin or trophic centre of the sensory root of the seventh nerve, just as the ganglion on a spinal root is the trophic centre of the sensory portion of a spinal nerve. The sensory portion contains special sense fibres from the taste organs of the tongue and trophic and sensory fibres from the skin of the external meatus and concha, but the precise extent of the peripheral area from which it transmits impulses is not yet defined. The anatomical course of the sensory division of the facial nerve, between the periphery and the geniculate ganglion, has not yet been traced, but the taste fibres pass from the periphery to the geniculate ganglion through the chorda tympani and through the glosso-pharyngeal nerve. The taste fibres in the glosso-pharyngeal nerve pass, probably *viâ* Jacobson's nerve and the superficial petrosal nerves, to the geniculate ganglion.

The afferent fibres from the skin of the meatus and auricle on their way to the geniculate ganglion may travel by one or other of several routes: (1) through the auriculo-temporal branch of the fifth *viâ* the otic ganglion and the small superficial petrosal nerve; (2) through the auricular branch of the vagus to the trunk of the facial; or (3) *viâ* the auricular massage, electricity, x rays, or medicated baths, which in general practice are out of reach. Again, in respect of diagnosis, there are poor patients as well as rich whose maladies are obscure in nature or difficult to manage; patients who may have made, and be making, payments to a medical man, but are quite unable to add the fees of a consultant or the charges of costly methods of cure. Even in the poorer families of the middle classes serious illness is a grievous or even a crippling expense, especially in these days of elaborate and costly therapeutics, against which some more orderly provision is sadly needed. As things are, these important cases are more or less swamped by the horde.

How, then, is the out-patient department to be organised for efficiency, and with respect to the general practitioner, who in these latter days has become far too competent a man to be ignored? Time permits me to consider one part only of the problem. It has been proposed that access to an out-patient department shall be only by the introduction of a medical man in the district. This is too narrow a proposal. To deny a ready relief to the sick and needy who have no doctor, or know none, or in any case are unable to pay for his intervention—in cases, for instance, of incipient acute disease, of infections, or more insidious maladies—would not be, and ought not to be, tolerated by the public, whether in the name of charity or of civil order. Moreover, the delicate question must arise, How fairly the general practitioner would play the game? As things are, the ill-paid "club doctor" often, and not unnaturally, declines to add to his bounden duties; nay, the physician who resents a hint at "farther advice," or sniffs at it when obtained, is not quite extinct. Again, what about the time, the trouble, and the comparative ineffectiveness of brief notes or messages?

The proposal as it stands, then, is narrow and impracticable; yet it touches an important principle, especially as regards cases of difficult diagnosis, those again which need costly methods of cure, and afflicted persons who have paid fees but can pay no longer. To encourage family doctors to refer to the hospital patients of these two classes is then the duty of the managers; and for the cases of difficult diagnosis or treatment I suggest that the need would be met by the appointment at every hospital, and in each department, of an invariable hour when the outside physician and his patient could rely upon a consultation with one or other of the honorary staff in his respective department. These hours should be fairly frequent and invariable; the busy practitioner cannot be counting days and hours, he must be able to say offhand when John or Mary shall meet him at the hospital gates. There he would probably meet others of his brethren on similar errands; and if all could join in each consultation they would derive for themselves as much of interest and experience as of advantage for their patients. Such a system would surely extend itself in many incalculable ways; it would offer a fertile field for the younger consultants, raise the value of medical methods in the eyes of the public, and tend by example to reduce the burden of hangers-on and of routine prescribing among them, and even, perhaps, of vague discontent and quack-hankering among the well-to-do. I will only add that on the medical side provision should be made for consultation in cases of mental disease also.

MEDICINE AND THE STATE.

There is no doubt some discontent in our profession that Medicine has not the rank and consideration which are its due; such as are accorded for example to the Church, the Law, the Navy and Army. Now in so far as any such uneasiness is engendered of petty personal ambitions we need not dwell upon it longer than to recollect that we shall attain to the social consideration we may deserve by the self-respect which ignores the trivial conceits of the day, which is quick to think for others, slow of offence. But this is not all. The physician, if a somewhat touchy person, is not arrogant; the discontent lies deeper and springs from more honourable motives; from a nobler jealousy for our calling, its achievements and services; from a restless sense of great powers not finding their full play and responsibility in the national functions and counsels. Thus regarded, our discontent may be justified, and desire only what is due to the honour and interests of the commonwealth.

Now there must be some reason, if Medicine has failed hitherto to rank with the other great services, why this is so. The answer is not difficult: that in so far as we are concerned only with individual pains, in so far, as some naughty wit has put it, as we are but plumbers and glaziers of the individual body, we have neither place nor claim to public recognition. It is in respect of our concern with the larger issues of public health that our service and responsibilities become of national importance. In this respect, however, until yesterday and to-day we had not the knowledge to justify our vocation. The history of Medicine, broadly speaking, is melancholy reading; it is a record of devastation by pestilence, deplorable blights upon family life, and catalogues of medical formulas and practices as prodigious as the plagues before which priest and physician alike vaunted themselves in vain. Open the pages at hazard, perchance at John Evelyn's story, but a common instance of a common fate. Of Evelyn's nine children a son and a daughter only reached adolescence, and one of these, in the words of Jeremy Taylor, "that pretty person your strangely hopeful boy," was then cut off also; the daughter alone survived him. As in some classes even yet, in all classes then, such disaster was rather the rule than the exception, and the people went upon the facts accordingly: the fighting men, they more or less consciously argued, make us into a nation; the lawyers bring order into our midst; the Church has fostered learning and religion; it is the no less high vocation of medicine before commerce, before other subsidiary ends, to conserve and fortify man's body, the tabernacle of this prowess and this wisdom—the tabernacle, do I say? nay, in the words of Dr. Caird, St. Paul's dramatic contrast between the flesh and the spirit had but a temporary and rhetorical meaning, like the contrast between matter and energy; the body, spiritually considered, is the immediate organ and instrument of the soul. To maintain this organ and instrument not in the individual man only, but in the social body also, was the vocation of medicine, but science had hardly come to the birth and applied biology had not even been conceived. Medicine could not humbly wait for science, as science was waiting for the experimental method; competent or incompetent, she was forced to the front. Her pontiffs, therefore, strewed before the people chiefly some withered branches of tradition, and the Dead Sea fruit of a curious but mostly grotesque and unregenerate folklore. In the Middle Ages, indeed, great men could not fight for clear causes; they were confronted not only by truths in array one against another, but also by monstrous regiments of error and fiction—regiments to be mown down by the artillery of experiment, as feathered savages before the hail of the machine gun, but till then irresistible. Not till our time and with these arms victorious could medicine advance; but now it is moving so quickly that, borne on by the moving mass, we do not perceive the speed until we look back to see whence we have come. The belated knowledge is won. To-day we can answer bravely to our invocation. We are commanding the ear of the nations and solving their problems with deeds and revelations so triumphant that in their quandaries, even our unidea-ed governing classes, who had fallen to a belief in "compromise not as politics but as an excuse for routine," and had satisfied themselves of the efficacy of ignorance, are now compelled, bit by bit, to yield us some brusque and clumsy heed, to bully and then to knock under. For from the hands of our leaders the kings of the earth and its merchants have received the keys of Suez and Panama, the gates of the hemispheres; their wardens, the twin ogres of malaria and yellow fever,[1] being by our art if not dead yet toothless and impotent as Pope and Pagan; we have tortured the secret out of the demons of tuberculosis, sleeping sickness, plague, Mediterranean fever, wool-sorters' disease, cerebro-spinal meningitis, tetanus, syphilis, puerperal and surgical fevers—need I prolong the list of these modern discoveries, so brilliant as to shine best by their own light?—and where we have not yet extorted the whole secret, as from small-pox, scarlet fever, infantile diarrhœa, hydrophobia, we have so far mastered the tactics against them as to be reducing them to phantoms of their former malignity. Sadly late then as we have come into the field, we are in time to be the saviours of the nations as well as the guardians of the family; and to endow mankind with vast and fertile or even absent on occasion. The temperature was no criterion of severity; as a rule it remained moderately elevated, between 100° and 101° F.; sometimes it was scarcely higher than normal. Most of these cases had no abatement in their condition; they died during the period of acute infection, usually within the first week of illness.

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[1] To yellow fever in Havana, year by year for some 200 years until 1902, about 750 lives were sacrificed. In the last three years not one death from this plague has been recorded there.

Others, however, whose symptoms of acute invasion were scarcely less grave terminated abruptly in recovery. The ominous signs passed off; the temperature rapidly fell and remained permanently normal; Kernig's sign and some nuchal rigidity persisted for a few days longer. This favourable crisis occurred on any day up to the tenth of illness, but the most usual days were the seventh and eighth. By the severity of their symptoms, their recovery by crisis, and their convalescence with normal temperature these cases recalled the course of acute pneumonia.

Chronic cases.—Other cases were more prolonged. Some at the outset showed an acute phase resembling that described above; others began without acute symptoms but with evidence of local infection; others, again, had a transient acute invasion. Surviving the early days of their illness and entering a chronic phase, they tended to end by a lysis with considerable morning remissions. The duration of these cases varied within wide limits. Frequently, however, the temperature became normal within four weeks or thereby from the onset, so that recovery by lysis in four weeks' time came to be regarded by us as a common favourable termination for cases that survived the acute period. We ascertained by examination of the lumbar fluid that resolution was proceeding side by side with the decline in temperature.

During the continuance of the disease in its chronic form the condition of patients fluctuated in an uncertain manner from day to day. Sometimes they remained free from symptoms for a complete day or even for a few days, and thereupon entered on a period of headache, restlessness, irritability, and pyrexia. Sickness, too, was apt to recur from time to time between quiescent intervals. Such successive remissions and exacerbations were distinctive features of the chronic group.

From what has been said above it will be sufficiently apparent that spontaneous improvement in the condition of patients was liable to occur during the natural course of the disease as seen by us, alike in the acute group of cases with their critical recoveries, and in the chronic group with their oscillations between betterment and relapse. After serum treatment during the acute phase in certain of our examples the temperature suddenly fell and the symptoms passed, but this early favourable termination, as noted above, was by no means uncommon in our untreated patients. The clinical appearances after serum treatment in the chronic phase were not less equivocal. In some cases decrease of restlessness, headache, and general irritability occurred on the day following administration; in other cases two days later. In some cases the improvement was lasting; in others the symptoms recurred. Some cases again which had several injections of serum reacted differently with the different injections; a particular dose might appear to produce a satisfactory abatement of symptoms and a second dose for recurrence seem quite inert. Relapses were not prevented by serum treatment either during the acute or chronic phases of illness. In their influence on the phenomena of the disease frequent injections and large injections did not differ from injections at longer intervals or in smaller quantity.

On these observations we base the view that the administration of serum to our cases was followed in individuals by no consistent modification of the natural course of the disease.

STATISTICAL CONSIDERATIONS.

In the absence of clinical indications that benefit was derived from the serum we turn to the statistical side of the question. We compare treated and untreated cases in respect of case mortality, duration of fatal illnesses, duration of illnesses ending in recovery, and survival beyond the first ten days of illness. With reference to the course of the disease we have recognised two periods of time; one is the first ten days—days 0 to 9 of the tables; the other begins at the close of day 9. During the first ten days our cases, almost without exception, concluded the acute phase of their illness either by death, recovery, or passage to the chronic phase. Those which ended by death or recovery form the acute group of the clinical section. During the second period our cases were in the chronic phase; these are the chronic group of the clinical section. We have recognised the same two periods in considering the date on which serum treatment was begun with the view of noting the effect of early administration.

Case Mortality.

Total.—Of the 330 cases 83 recovered, while 247 died, a mortality of 74·8 per cent. for the total cases apart from the question of treatment. This figure is nearly approached by a mortality of 74·7 per cent. among 83 cases at Leith reported by Robertson (1907). Billings (1906) records 2755 cases in Greater New York, of whom 73·5 per cent. died; and Ames (1908) speaks of 166 cases in Boston City Hospital which had a mortality of 72 per cent. At Königshutte, according to Curtius (1905), among 200 cases 70 per cent. lost their lives; and 230 cases at Belfast, as noted by Robb (1907), had 70·43 per cent. of deaths. Other recent statements are appreciably lower. In the administrative district of Oppeln, as detailed by Kirchner (1905), over the period 1895–97, of 297 cases 41·4 per cent. proved fatal, while in the same area in 1905 during the Silesian epidemic the case mortality of 1955 sick persons was 51·2 per cent. 45 cases at Milan in the spring of 1907, as indicated by Bordoni-Uffreduzzi (1907), lost about 27 per cent. of their number; and in a military report published at Berlin (Genickstarre Epidemie, 1905) there is an account of an outbreak which attacked 26 men in a battalion, with a case mortality of only 3·8 per cent. Our cases had thus a higher total mortality than any of the records cited.

Serum treatment without reference to period of administration (Table I.).—Of the 330 cases 105 were serum-treated and 225 were not so treated. Among the 105 serum-treated cases, with 68 deaths, the case mortality was 64·8 per cent. Among the 225 untreated cases, with 179 deaths, the case mortality was 79·5 per cent. Considered with reference to the number of cases involved and also with reference to the fact that many cases admitted *in extremis* during the acute phase of the illness did not receive serum treatment, the difference between these percentages is barely significant. Our mortality of 64·8 per cent. for treated cases may be compared with other records. Robb (1907) with various sera treated 79 cases, of whom 74 per cent. died. Raczynski (1907), using Jochmann's serum, with nine cases had 66 per cent. of deaths. Krohne (1908) reports a fatality-rate of 47·6 per cent. among 135 patients, in the administrative district of Düsseldorf, who were treated with various sera, and Wassermann (1907), for 57 treated persons, states a case mortality of 47·3 per cent. Jochmann (1906) records 17 serum-treated cases with 29 per cent. of deaths at the time of his writing, and Flexner and Jobling (1908), among 47 cases which had their serum, report 27·6 per cent. mortality. Robb (1908), treating 30 patients with Flexner and Jobling's serum, had a mortality of 26·6 per cent. Dunn (1908), giving Flexner's serum to 15 cases, lost, or expected to lose, about 20 per cent. of their number. Lastly, Levy at Essen, with Kolle-Wassermann serum, had 11·76 per cent. of deaths among 40 sick. By these standards our treated cases had a somewhat high mortality.

Serum treatment with reference to period of administration (Table II.).—For the 105 serum-treated cases Table II. shows the day of illness on which serum treatment was begun. One case which proved fatal had serum on day 0—that is to say, within 24 hours of onset. Among 15 cases in which serum treatment began on day 1, with 13 deaths, the case mortality was 86·6 per cent. On day 2 the mortality was little less than on day 1, while from day 3 to day 7 inclusive the percentage of deaths was appreciably lower, varying from 30 to 66·6 per cent. After day 7 the number of cases on single days or groups of days was in general less than on the earlier days; but the eight cases opposite day 15, with three deaths, had a case mortality of 37·5 per cent.

It will thus be observed that the mortality was highest among the cases in which serum treatment was begun during the early days of illness. This disposition of case mortality is at variance with the results of serum treatment recorded by Wassermann (1907), who found that among 57 serum-treated cases regarding which information was obtained, the mortality rose from 21 per cent. for the first to second day of illness and 28 per cent. for the third, to 75 per cent. for the sixth day of illness and 80 per cent. for the fourteenth day. We do not ascribe this difference of case mortality to of all irresistible knowledge; and a proneness to the sinister device of "*Divide et impera.*" Moreover, the English public has a wholesome dislike to the multiplication of officials; but by organisation the number of officials at any moment would be diminished rather than multiplied. *It is true that* each department would still need its own standing medical counsel as it has its standing legal counsel; but how far more valuable would such a counsellor be when speaking from the consolidated opinion of a *corporate and disciplined* medical Ministry than as an isolated medical *colleague* expressing no more than individual opinions. The crying need of reform in the separate peripheral areas must be freely admitted; and Dr. Bushnell[3] *is correct in attributing to me an* "*apprehension* of harm in excessive or premature centralisation, lest *the* central machinery be too powerful for the peripheral equipment." But, on the other hand, without parallel development, coördination, and distinction of central powers, how are local authorities and local medical officers, in all the far-reaching and various departments of national function now *being intrusted* to them, to derive their instructions and judgment, to command attention, to be supported in their legitimate functions, to be furnished with knowledge, and to be inspired with earnestness and devotion to duty?

CLINICAL PROFESSORS.

In passing now from hospital and public medicine to the school, I would congratulate this University on the recent appointment of responsible professors of medicine. The rich services and the accomplished staffs of the London hospitals fall far short of their potential capacity because in this respect everybody's business is nobody's business. By general report, by the uneven quality of the clinical training of Cambridge students in London, and by personal comparison of the services in great continental hospitals, or, indeed, of Edinburgh Infirmary as it was in the days of Begbie and Stewart when I knew it best, and as no doubt it is still to-day, I note in foundations so magnificent as the half dozen chief London hospitals that their defect of responsible clinical professors results in grave shortcomings. The apprenticeship system died out and no other methodical system took its place. Admirable are the gifts, devoted are the sacrifices of individual physicians and surgeons, and by such virtues this member of the staff or that gathers for a time a fairly regular class about him; yet he is but an unpaid or ill-paid volunteer, whose personal and private interests must be his chief consideration. None of the senior staff is invested with specific duties or responsibilities. *Thus as a whole the teaching is* without system, without concentration, without definite standards. At the best it is a procession of brilliant episodes; in the mean it is casual drills under no commanding officer. Where in these great hospitals do we find, as in France and Germany, a clinical professor of experience no less ripe, of repute no less eminent, devoting the best of his golden hours to the hospital; making and controlling his *assistants*, and guiding his classes in research, working out leisurely his own problems before their eyes? In our visits to great English hospitals do we not see more frequently the great physician or surgeon flitting rapidly from bed to bed, hemmed in by a crowd of foreign admirers, dropping indeed as he goes pearls of wisdom, but educating nobody? *His seed thoughts* we pick up thankfully, but still we want also the curious, the leisurely, responsible professional teacher, such professors as you fortunately now possess in those eminent physicians Dr. *Graham Steell* and *Dr. George* R. Murray.

MEDICAL STUDIES.

Although in my little book on "Professional Education"[4] I have dwelt at some length on medical studies, yet the present occasion and the recent discussion at Sheffield seem to call for some reiteration of opinions for which hitherto I have obtained more attention outside our profession than within it. I hope it is a pardonable conceit on my part to surmise that, had they been noted at Sheffield, the discussion would have moved toward clearer issues and led to more definite conclusions. To-day I can but touch upon the central problem, the evasion of which at Sheffield gave an arbitrary character to what might have been a very important debate—namely, *the relation of university to technical study.* When *directly* challenged, all competent observers admit that education does partake of these several qualities; and that however commingled in practice, however conflicting, the virtue and functions of each must be discriminated, valued, and compared. Moreover, it is generally admitted that as *university education,* looking as it does to the man and to the future, is apt to be thrust aside for technical equipment which is for immediate gain, the cause of individual development and future knowledge should be the more jealously guarded. Forgive me if under limits of time I put the matter bluntly. A father says, "I can spare neither the time nor the money to give my son a university education, in the proper sense; indeed, I am not sure that I *desire it*; I do desire to make a special workman of him, and as soon as possible; all beyond this may bring in no more than its own reward. Yet, as many universities have been granting medical degrees on diploma standards, and for training no more than technical, these degrees have become an indispensable business asset; consequently my son must have the stamp, not as a mark of a liberal education, about which I am *not now concerning* myself, but to testify to good average technical attainments. Specifically I *mean that every candidate, competently* instructed in the art and mystery of medicine, must be furnished with an M.D. degree." This is the idea now prevailing in our profession and the claim is a serious one; perhaps, in the tangle of these matters, irresistible. At any rate, as things are, it has my sincere sympathy.

There is, however, no inconsiderable part of our profession which goes not quite so far. This party, while still regarding the curriculum as narrowly from the technical point of view, *would*, however, hold back the university degree *for a* minority of candidates who have distended their minds with a bigger content; though still of technical stuff. With this party I have less sympathy, little or none. If for mere technical instruction the world compels us to give the seal of a university—that seal which ought to attest a disinterested education, aiming chiefly at the making of the man himself—well, we have the recognised excuse of duress. For in the past technical medicine has edged its way into the machinery of the universities as no other technical instruction has done. Save in this anomalous case of medicine, universities have never regarded themselves as engines for the manufacture of professional men as such. The parson is made in the seminary and the parish, the lawyer in chambers and court, the soldier in the field, the engineer in the workshop, and so on. To none of these does the university give the seal of practical competency; it testifies to the individual development only. By this anomaly in medicine our conception of a liberal education has been so warped, or at any rate so confused, that university degrees on diploma standards may be inevitable. But, I repeat, I can feel no *sympathy with the party* which, by withholding the degree until as much of this erroneous conception as possible may be accumulated, would give our principles away more completely and force the universities to the manufacture of pedants. For the more intense the specialism the deeper and broader must be the universal foundation. The function of the university is to make the man; and if the man be but half made—I am speaking, of course, of the average student, not of the genius who makes himself—the greater burden upon his back serves only to exhibit the slightness of his frame. A technical instruction cannot by mere length and toughness become a liberal education; yet herein the Sheffield discussion reminded me of the old comparison between rheumatism and gout: turn the thumbscrew till the pain is intolerable and you have rheumatism; give it another turn or two and you have gout. So with study: by turning the screw beyond the already exacting pressure of the medical schools we are to carry the technical into a university education. Wince from the truth as we may, a liberal or university education is primarily of different scope, and means a different method and course, not at the end of the curriculum but from the beginning; the professional school, however exacting, educates the average physician not otherwise than the clerical seminary educates the average clergyman.

But, it may be urged, if we can entrust a university with our technical training, and can set a hospital in the middle of it, shall we not get the best of both worlds? Will not universal methods and scholarly standards mould the technical methods on lines which, if not as generous as could be wished, may yet be fairly ample? Can

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[3] Brit. Med. Jour., August 29th, 1908.

[4] Published by Messrs. Macmillan, 1906.

11 cases, or 23·9 per cent., and days 10 upwards in 35 cases, or 76·1 per cent. According to Table XI. the administration of serum did not appear to increase the number of recoveries during the acute phase of the illness.

Date of permanent return of temperature to normal with reference to period of [illegible]*um (Table XII.)*—In this table the [illegible] whose treatment began during days 0–9 [illegible] untreated cases. The conclusion is the same as in Table XI.

Survival of Days 0–9.

Number of cases surviving days 0–9 (Table XIII.).—It remains to ascertain whether it is possible that serum treatment within the first 10 days of illness—apart from the question of ultimate death or recovery—had been instrumental in inducing the survival of treated cases beyond the period in question. In Table XIII. the survivals of patients whose treatment began during days 0–9 are compared with those of untreated patients. Of 89 such serum-treated cases 54, or 60·7 per cent., survived the 0–9 period. Of 225 untreated cases 133, or 59·1 per cent., survived the 0–9 period. The percentages are all but identical, and no influence of serum treatment can be discerned.

Mortality of cases surviving days 0–9 (Table XIV.).—When, however, the mortality among serum-treated cases which survived days 0–9 is contrasted with that of untreated cases which survived the same period a difference is readily noted. Among 54 serum-treated cases which survived days 0–9, with 25 deaths, the mortality was 46·3 per cent.; while among 133 untreated cases which survived days 0–9, with 87 deaths, the mortality was 65·4 per cent. The proportion differs by almost 20 per cent. in favour of serum-treated cases. From this point of view, therefore, serum treatment within the first 10 days of illness seems to have had a limited good influence. Though serum-treated cases did not survive days 0–9 in greater number than untreated cases, yet serum-treated cases which did survive ultimately recovered in greater number than cases not treated with serum. The effect of serum would appear to have been to improve the prospect of recovery of cases which survived the first ten days of illness.

CONCLUSION.

An examination of our cases of cerebro-spinal fever during the period covered by this report, while leading in general to a negative conclusion, has nevertheless revealed one result in favour of serum treatment. It is true that on the clinical side we have not seen any obvious or constant train of events following the injection of serum; and on the statistical side we are unable to report that total case mortality was reduced, or fatal issues delayed, or favourable illnesses curtailed, or even that after administration of serum there was an increase in the number of patients who survived the first 10 days. But when, as in Table XIV., serum-treated survivors of the first 10 days are compared with untreated survivors in respect of case mortality, it is found that the treated cases recovered in greater number, and the difference between the respective percentages is sufficient to carry the implications that serum-treated cases which survived the first 10 days of illness had a better chance of life. This result, as we think, is significant; it suggests that the treatment in these cases, though failing to arrest the disease out of hand, was yet able to hamper its progress, aiding in this way the natural defences of the body and hindering in all likelihood the formation of exudates which would stand in the way of recovery.

We have already stated that the relatively high general fatality among our serum-treated cases and the absence of demonstrable benefit from early administration are to be ascribed, at least in some measure, to the severity of the acute phase during the time when the disease was most prevalent in Glasgow. But the part played by the site of injection and by the quality of the sera used may also be borne in mind.

As regards the site of injection our cases, with exceptions, had serum at least on one occasion into the spinal theca, after the withdrawal of cerebro-spinal fluid. Our frequently repeated injections, however, were subcutaneous for the most part, and our massive injections were necessarily so. Our results do not favour the combined method. More successful records have been obtained by others with exclusively thecal injections. On general grounds the thecal site seems better suited than the subcutaneous for the application of a bactericidal remedy to a local bacterial infection; and it is of interest to note in this connexion that McKenzie and Martin have shown that the cerebro-spinal fluid of cerebro-spinal fever cases did not contain substances which were bactericidal to the meningococcus *in vitro*, even when the blood serum of the same patients had markedly bactericidal properties.

As regards the quality of the sera used, it may be that the most recent sera have a higher specific value than those accessible to us during the period under notice. One of these recent sera, that of Flexner, is now in use here. The results of its administration are not embodied in this report. They will be recorded in due course.

We may conclude these remarks with a comment on early administration of serum as applied in acute and chronic cases respectively.

It is stated by authors that early administration is the essential condition of success in serum treatment, yet it is evident by Table II. that our earliest treated cases had the highest mortality. These acute cases, however, proving fatal shortly after admission and coming to section, were found to show general meningitis, hæmorrhagic patches, copious exudation, and the like. Their disease had run a rapid and virulent course. They were admitted, one within 24 hours, some within 48, and some within 72 hours from onset, but their chances of recovery, as the issue proved, were already compromised. With attacks which may be beyond control in a few hours from the first appearance of symptoms timely serum treatment is difficult to attain. These cases, though early within reach of treatment, were presumably not early enough.

Chronic cases, on the other hand, which survived the acute toxæmia became the subjects of profound pathological changes. Hydrocephalus, for example, led to death in our experience long after the stage of acute infection and after a study of the cerebro-spinal fluid had shown that the greater part of the exudate had disappeared. Post-mortem examination disclosed either complete resolution of exudate or organised exudate at the base of the brain. In such cases

TABLE I.—*Case Mortality. Serum Treatment without Reference to Period of Administration of Serum.*

—	Figures.			Percentages.		
	Died.	Recovered.	Total.	Died.	Recovered.	Total.
Serum-treated cases	68	37	105	64·8	35·2	100
Untreated cases	179	46	225	79·5	20·5	100
Total cases...	247	83	330	74·8	25·2	100

TABLE II.—*Case Mortality. Serum Treatment with Reference to Period of Administration of Serum.*

Day of illness on which serum treatment was begun.	Number of cases.			Case mortality per cent.	Day of illness on which serum treatment was begun.	Number of cases.			Case mortality per cent.
	Died.	Recovered.	Total.			Died.	Recovered.	Total.	
0	1	—	1	100·0	10	—	1	1	0·0
1	13	2	15	86·6	15	3	5	8	37·5
2	14	3	17	82·3	20	1	1	2	50·0
3	10	8	18	55·5	25	1	1	2	50·0
4	8	4	12	66·6	30	1	—	1	100·0
5	3	7	10	30·0	35	1	—	1	100·0
6	1	1	2	50·0	40	—	—	—	—
7	5	3	8	62·5	45	—	—	—	—
8	1	—	1	100·0	50	—	—	—	—
9	4	1	5	80·0	75	1	—	1	100·0
Days 0–9	60	29	89	67·4	Day 10 upwards	8	8	16	50·0

thing is smaller than another, to the small mind everything is insignificant. Herein the American surpasses the English plutocrat; he sees beyond the counter, he has faith in the best knowledge in every field; we have not this salvation. Let me contrast with such complacency the words of an even more considerable teacher: "You are citizens of the great and mighty city of Athens (a city by the way mightier than any of ours); are you not ashamed of heaping up the greatest amount of money and honour and reputation, and caring so little about wisdom and truth, and the greatest improvement of the soul which you never regard or heed at all?" German commerce is teaching us the bitter lesson that even in his own material field your "practical man" over-reaches himself; that his "good workman" is unable to investigate even practical problems, to appreciate the discoveries of others, or to teach his apprentices. If he is to transform human energies into the best material results the practical man must have the best kinds of minds at his service; not merely the handy man, sharp and resourceful in common emergencies, but of no insight and no horizons.

PORTAL OF QUALIFICATION.

If then a university degree is to be exacted for utilitarian teaching which, as it is to occupy only the time officially prescribed for a diploma, cannot attain to university standards, we shall lose sight of the first principles of all education and barter away the foundation of medicine herself and of all progressive knowledge. It has been, however, as I have said, a part of the anomaly of university medicine that for this profession universities have been endowed, or shall I say "saddled," with the duty and responsibility of qualification for practice; a concern which, as we have seen, is none of theirs, or is theirs only in common with society at large. By the establishment of one portal to the Register the State will, I trust, soon relieve us of this alien burden and of the duty of tests no less alien to our best purposes. At Cambridge, indeed, I consider that to impose upon those of our M.B.-B.C. candidates who are already on the Register, as are some 75 per cent. of them, a repetition of these diploma tests, is not only otiose but a grave evil; it prolongs what Professor Starling well calls the "stuffing" period, the period during which the candidate denies himself the wards that he may sit in his lodgings with a teapot, and a wet towel about his brow, fagging up handbooks. The contents of these, in dilute solutions or on sheets divided into opposite columns of neatly docketed cram, he retails to us over again at Cambridge. Now many of these candidates, as later we find by their M.B. theses, we really had led to think for themselves; yet in a qualifying examination they dared not venture to betray it. Occasionally an audacious spirit may enter a timid demur to current doctrine or phrase, and if so, from me at any rate, he obtains a good mark, whether his demur be justifiable or not. But, if I exclude the few riper students who give more time to the university, I can hardly recollect a paper in medicine in which a candidate broke away from conventional notions and sheepish assent. Man by man and year by year, their papers are as conventional and as flat as willow-pattern plates.

TESTS OF METHODS.

But it may be urged, are not these remonstrances rather fanciful, rather academic, counsels too rare for a common world! Well, we will try, as the children say, to prove our sum. We must go beyond these tests of current doctrine and common formulas, of the capacity of swallow and regurgitation by which our examination candidates regularly amaze us. We shall seek a test not of the volume but of the design of the candidate's work, of the power and quality of the human organ we profess to have built; of the personal character informing his notions. We shall mark whether his argument signifies that his ideas were spun in his own loom, or are all warehouse goods; and if in the accuracy and lucidity of his language he betrays a precision and balance of thought. We shall note as highly significant such fresh observations and ideas as offer themselves on all sides to the developed intelligence, the quickened eye, and the arm which has learned to know the quarry and handle the pick.

Whether the qualities of the university graduate are as remarkable as they should be in current medical writing it might be ungracious at present to inquire; and I must not assume the truth of the recent complaints that English Bachelors of Science, when they visit Germany, are found to be trained so much on books and laboratory clerking, and so little on personal initiative, that their education has to be recommenced on better lines; I must then confine myself to one, but this a definite, test. At Cambridge, before an M.B. candidate can receive his degree, he must prove to us that, however well "stuffed" a pupil, he is able also to show that he is not a mere mouthpiece, but in some reasonable measure has developed and realised his own personality. Before he is admitted to graduation he must show us not only how much he can repeat, but hidden under the pile of his tasks and cram he must also discover himself. Plaintively as at first he may protest that he has nothing "original" about him, he has none the less to set to work on some piece of research—when to his surprise and pleasure he usually finds out that we had made a thinking and even a creative being of him after all, and on this discovery he goes into practice a different man. But this research work for the M.B. is unfortunately the boon only of Cambridge men. I have therefore to seek my test in the M.D. exercises, where, if at all, lies the test of personal construction as contrasted with borrowed furniture. The M.D. candidate is too old for examination and he should be too good for a test so coarse. Therefore, every university, perhaps all universities, began by making the M.D. dissertation the chief test of its peculiar influence, of its formative discipline, of its power of developing the mind as compared with mere schooling. Yet what are we witnessing to-day? That even this one test, the one test of the quality of the university itself, as well as of its progeny, is being quietly evaded. On inquiry I find that now of the M.D.'s of the London University scarcely more than 10 per cent. give evidence of this or any such developed and ripened faculty; and it is whispered to me that on this same path even Victoria is a backslider. Yet is not this not only to relinquish all interest in the higher qualities of our students, but also tacitly to shrink from the wholesome test whether a university has justified itself as such, or, under whatever duress, is allowing itself to be dragged down to the place of a mere technical school? This can but mean stationary pupils, and stationary pupils make stationary teachers; if a university is to become an organ of life and discovery it must begin and end by making research compulsory all round. Research must as surely be implied in the earliest stages of the teaching, as actively developed and testified in the later.

REASON, IMAGINATION, AND LIFE.

And now, in conclusion, may I turn myself for a moment to the young men entering into or crossing the threshold of medicine. You have heard me insisting upon the power of knowledge, you have heard me resenting that worst part of ignorance, the conceit of knowing what we do not know, and the inveterate habit of calling opinions "facts"; you have heard me lamenting the English fatuity of disregarding causes to throw all our energies into mopping up their consequences; and you may begin to accuse me of the creed of the Jew of Malta, "I count religion but a childish toy, and hold there is no sin but ignorance." Far indeed from me be any such counsel! I agree that a man's overbeliefs are the most interesting thing about him. I bear in mind Carlyle's judgment on one who "had a great deal of unwise intellect." I see that the lower the idea the easier it is to formulate it; so that in our satisfaction with the solidity of our foundations we are prone to forget the superstructure for which ethical and imaginative insight must also be enlarged and illuminated. For if in logic we distinguish these endowments, if indeed in practice some may be nursed to the starvation of others, yet in the fulness of life they make each other, interpenetrate each other, and are bonded together. If then, limited by our prejudices or wearied by the quarrels of sects, we divide them in the mimic life of education, if we constrain our schools and universities to force intellect to the impoverishment of ethical and imaginative faculties, or even to nurse them in separate compartments, evil rather than good will ensue.

> "My brain I'll prove the female to my soul,
> My soul the father."

In the everyday world we observe, even in persons of moderate parts, that character, consisting in a high idea of duty, in an intuitive perception of the essential and a sense of relative values, a generous sympathy with various human

TABLE XII.—*Duration of Illnesses which Ended in Recovery. Date of Permanent Return of Temperature to Normal with Reference to Period of Administration of Serum*

Cases which ended in recovery.	Number of cases reaching permanent normal temperature.			Percentages.		
	During days 0–9.	During day 10 upwards.	Total.	During days 0–9.	During day 10 upwards.	Total.
Cases ending in recovery whose treatment began during days 0–9	4	25	29	13 8	86 2	100
Untreated cases ending in recovery	11	35	46	23·9	76·1	100

TABLE XIII.—*Survival of Days 0–9. Number of Treated and Untreated Survivors.*

Cases.	Number of cases.			Percentages.		
	Dying days 0–9.	Surviving days 0–9.	Total.	Dying days 0–9.	Surviving days 0–9.	Total.
Cases whose treatment began days 0–9	35	54	89	39·3	60·7	100
Untreated cases	92	133	225	40 9	59·1	100

TABLE XIV.—*Survival of Days 0–9. Mortality among Treated and Untreated Survivors.*

Survivors of days 0–9.	Number of survivors.			Percentages.		
	Died.	Recovered.	Total.	Died.	Recovered.	Total.
Survivors whose treatment began days 0–9	25	29	54	46·3	53·7	100
Untreated survivors	87	46	133	65·4	34·6	100

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Glasgow.

AN ATTEMPT TO REHABILITATE THE PERMANGANATES.

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MORE than half a century has passed and a whole scientific world has been opened since the action of the permanganates as disinfectants was first brought to the notice of the medical profession. Indeed, this first of popular disinfectants was, in the time of its introduction to public notice, coeval with the first actual observation of a bacterium, that of anthrax, by Pollender in 1855. With the growth of bacteriological science and the recognition of one concrete agent of infection after another, numberless other claimants to destructive powers in connexion with them have been more or less successfully exploited, and except for popular use and upon vague and indefinite lines the permanganates as disinfectants have almost dropped out.

It is the purpose of this article to inquire how far this neglect is justified. The permanganates have many qualities which, given a reasonable disinfectant power, entitle them to consideration. Their very great power as generators of nascent oxygen, their non-poisonous character, their cheapness, and, lastly, their distinctive colour, are all features of value, whilst they alone possess the power of destroying the odour of putrescent matter and of thus affording, in the absence of odour, a very evident, if somewhat rough-and-ready, criterion of the amount of disinfection which has been effected. Finally, they have the advantage of leaving the substance to which they have been applied, whether solid or liquid, in a condition in which it is incapable of giving rise to disease either by the bacteria contained in it or by their products.

Having been consulted with reference to the choice of a disinfectant for a system of sewage disposal, which should be cheap, non-poisonous to both plants and animals as regards the subsequent disposal of the sewage, and yet should sterilise the sewage for the time being, the writer's choice was necessarily greatly narrowed down, and the only substances available appeared to be the cresol compounds and the permanganates. It was essential that the matter should be soluble, since a part of the system consisted in the addition to the sewage in its flow of a carefully and automatically measured amount of the substance chosen. The choice finally narrowed itself down to permanganate of potassium, izal, and Jeyes' fluid. The two latter had been more or less closely investigated, but it soon appeared that of the first named nothing exact was known at all. It was therefore necessary to institute a series of comparative experiments, keeping in mind the question of cost in large-scale working, and in the circumstances it was obvious that no method of testing, other than that carried out on the lines of actual working, could possibly give useful results.

The experiments were accordingly carried out as follows. Crude sewage actually flowing in the sewers of Camberwell was drawn up in a bucket, divided mechanically as completely as possible, and then placed in quantities of 10 cubic centimetres in a series of tubes. To each of these tubes except the first was then added 1 cubic centimetre of a disinfectant to be tested, the solutions being made 11 times as strong as the dilution to be tested, so that the latter might be present in the tube in the proper proportion. The first tube was at once diluted 100,000 times in a series of flasks of sterile tap water, and cultures were made to the number of three, each with 1 cubic centimetre of the dilution, in alkaline nutrient gelatin. These were incubated at room temperature, and furnished a standard of the number of bacteria present in the sewage. The disinfectants used were as follows:—

Permanganate of potash Jeyes' fluid ... ... Izal	1–5000: 1–2500. 1–1000.

These were allowed to act upon the sewage in the tubes, finally the practitioner into whose daily routine its influence has crept and whose future it will certainly mould." Dr. Slater proceeded to give an account of the evolution of laboratory training and equipment which has taken place in St. George's Hospital of recent years. This led him to a consideration of the causes which induced its medical school to give up the teaching of the "preliminary and intermediate" subjects of the medical curriculum, a decision to which he felt sure other London schools would be driven sooner or later. In support of this contention he gave a very able and comprehensive summary of the present unfortunate position of medical education in London, of the severe competition for students of provincial universities, and of the unfortunate disagreements which have led to the handing back by the University of London of £70,000 to the would-be founders of a Central Institute of Medical Sciences. He deprecated the rapid increase in licensing bodies and advocated strongly the introduction of a "one-portal" system of qualification, and the bestowal of degrees by the Universities only upon State-qualified men. We regret not having space to report at length this part of Dr. Slater's address, but as the arguments which he used are known to most of our readers we have chosen the second part which dealt more especially with the scientific education of the medical student and the relationship of the laboratory to clinical medicine. After pointing out the advantages of a "one-portal" system, he proceeded:—

In addition to the modifications in medical education which either have been, or will be in the near future, forced upon us by financial difficulties due to the growth of science we have—and this is the factor of greatest importance to the student—the effect produced by the time taken by the scientific subjects which either lengthens the curriculum or robs the professional subjects of their due proportion of time. Probably none of the subjects introduced into the syllabus of medical studies, even that of the University of London, are, considered in the abstract,. undesirable, but it is also desirable that the student should be able to get qualified before he is grey-headed. The time taken before a medical man is in a position to earn his living is already very long and cannot be lengthened without harm to the profession. It is not surprising, therefore, that at the present time the educational pruner is anxiously looking to see what branches may be cut back from the tree of scientific knowledge, both to render it more fruitful in itself and prevent it from crushing out other branches of learning which suffer from its overshadowing. Attempts have been made to meet the difficulty by ordaining that only so much and no more of the curriculum shall be spent on the preliminary and intermediate subjects. But this is a paper regulation—a Partington policy—you cannot stop the Atlantic of science with the mop of a syllabus. The minimum time before which a student may not go in for an examination may be fixed but if no reduction is made in the amount which has to be learned there is but little use in reducing the time in which the student is permitted to learn it. Whether the necessary alteration in the teaching and equally requisite alteration in the examination which would be required to make these regulations effective will be introduced seems in the light of the discussion at the British Medical Association somewhat doubtful. The methods advocated by the various speakers for shortening the time required always, when stripped of phrases, took the form of a cutting down the instruction in subjects other than that taught by the speaker. It is instructive to note that the practical result of the alteration of the University of London syllabus designed for this express purpose is to lengthen the curriculum by six months. It is said that as the examiners are generally medical men there would be no danger of examinations taking a form inimical to medicine. Experience shows that this is not the case, and it is especially in the scientific subjects of the curriculum, where the connexion between the teacher or examiner and medicine has never been close and tends more and more to widen, that the risk becomes most serious. The most important suggestions made in the discussion related to the teaching of science in the schools and to the teaching of the intermediate subjects not as pure sciences but as applied science—science in relation to medicine. All practical exercises and theoretical instructions were to be such as would be of service to the student in his profession. Possibly this could be done, though there would be grave risk of our giving that half-knowledge which is so great a danger in most systems of technical education and which is so useless if progress is to be made. Still there is no doubt room for economy of time in this direction. With regard to the elementary subjects chemistry and physics, these are well fitted for the educational purposes of the school; in them a standard might be reached which with some mechanism for the granting of school certificates such as those which free the undergraduate from his "Little-go" might enable the medical student to start his intermediate subjects at once.

With regard to the scientific teaching of the student in his later stages after the intermediate subjects have been disposed of there is less difficulty. The laboratory and the wards should go hand-in-hand. It is much easier to make the problems furnished by the ward subserve the purpose of the teacher of pathology and bacteriology; in fact, the problems of the ward are also those of the laboratory, the difference lies merely in the side from which they are attacked. If the exigencies of examinations would allow, and one of the latest changes in the Cambridge examination was designed for this end, the ideal course would be for the student to take a short practical and theoretical training in pathology and bacteriology—clinical pathology as it is sometimes called—fitting him to take advantage of his clinical instruction and enabling him to examine his cases by the simpler laboratory methods. During his later years after he has spent some time in the wards and acquired some clinical knowledge and has learnt what are the problems of the bedside, he should then return to a fuller course of pathology and a further practice based on ward work of the methods which are used in the solution of these problems. As a matter of fact, that is the way things have worked out here, though to a certain extent accidentally, and I think with satisfactory results. Professor W. Osler's contribution to the discussion to which I have already referred was concerned almost entirely with this stage of the student's education, and his recommendations are valuable though they quite ignore considerations both of time and expense. Among other desiderata he suggests well-equipped rooms in which men fresh from the laboratories of the school may be trained in the use of instruments of precision in practical medicine, and a good clinical laboratory attached to the hospital in which each senior student has his place and apparatus. As I have hinted, he also includes numerous and well-paid teachers and ample time. There is no doubt that the establishment of clinical laboratories—i.e., pathological laboratories used for the purposes of diagnosis and research—has much facilitated this side of the educational problem and has been the lifeboat which has saved the schools from financial storms which would have arisen in the strictly professional practical courses as they had done in the preliminary and intermediate subjects. It was possible quite legitimately to economise by utilising for the purposes of advanced study the resources of the clinical laboratories which the progress of medicine has compelled the hospitals to found and maintain. It was an economy in salaries and maintenance to both the hospital and medical school and the work carried on in such a laboratory is obviously of the highest educational value to the properly trained and equipped senior student or post-graduate worker. If such a laboratory is not utilised so fully as might be desired perhaps this is due to lack of money and time—time of the staff and of the student. There was a period when this happy solution of a difficult problem seemed in danger owing to the ill-advised action of a commission of the King's Hospital Fund, but the common sense of the public brushed aside difficulties raised as to the use of hospital funds for school purposes when it was shown that the hospitals gained by the arrangement and that to veto this action would have been very bad economy. With us at St. George's the necessary hospital service has been provided by organising the pathological, chemical, and bacteriological laboratories with their staffs, together with the curator's department into a clinical department with arrangements for recording and correlating the work of the individual laboratories and for linking these by means of the registrars with the wards. It is in keeping touch with the clinician—in what might be styled the intelligence department—that the chief difficulties are met with in combining what tend to be isolated observations so as to subserve the purposes of true scientific advance.

The rise of preventive pathology and its development into preventive medicine during the past 30 years has naturally

M. Balthazard of Paris. The various bacterial infections are first described and the account of each is prefaced with a detailed description of the pathogenic organism, its growth, its method of action, and its effects in animals. The diseased conditions produced in man are carefully detailed, including the complications, the varieties, and the modes of infection. Diagnosis and treatment are then considered. The general arrangement is excellent and the accounts given of each disease are full and interesting; that devoted to enteric fever may be specially mentioned as constituting almost a monograph on the subject, since although no references are given the names of authorities are quoted for most of the statements made. Sections devoted to maladies produced by agents as yet undetermined, by fungi, by protozoa, and by large parasites follow. The description given of syphilis is also worthy of special notice. The account given of the treponema pallidum and its relation to the disease is most interesting, as might have been expected from M. Nicolas who has been active in establishing its importance in regard to the disease. In dealing with the intoxications, M. Balthazard discusses the rôle of the various forms of intoxication in pathology and then describes the mode of action of poisons and the defensive mechanisms of the body. The toxic effects of arsenic, phosphorus, mercury, and lead are considered in detail and the appropriate treatment is indicated. Certain organic poisons are next dealt with, including opium, alcohol, tobacco, and food intoxications. Among the auto-intoxications, myxœdema, exophthalmic goitre, tetany, sclerodermia, and acromegaly are included.

In the second volume M. Balthazard describes the diseases of nutrition and those of the blood and blood-forming organs. Among the diseases of nutrition, the account given of diabetes is worthy of special notice, that on gout being less exhaustive. In the section on diseases of the blood stress is laid upon the view that chlorosis is the result of a defect in the development of the cardio-vascular system and of the genital organs, as was originally maintained by Rokitansky and Virchow, a view which finds but few adherents in this country. A good account is given of the various forms of leucocytosis, both normal and pathological, and the forms of leukæmia are carefully described. Diseases of the heart and lungs are concisely but thoroughly described by M. Macaigne, the subject matter being well arranged. The forms of pulmonary tuberculosis are described at some length. The appropriate treatment of each condition is fully detailed.

The third volume contains articles on the diseases of the digestive tube, the peritoneum, and the pancreas, by M. Balthazard, and stress is laid on the importance of early diagnosis in cancer of the stomach and in conditions of perforation of the stomach and intestine. M. Claude contributes the section devoted to the liver, kidneys, and suprarenal capsules, and the subject matter is well up to date. The considerations of the methods of estimating the renal function and that of the subject of uræmia are both worthy of special commendation. The account of the various forms of cirrhosis of the liver is clear and interesting, as might be expected from the French school, to whom we are indebted for much information in regard to these conditions.

The fourth volume is devoted entirely to diseases of the nervous system and is written by M. Cestan of Toulouse and M. Verger of Bordeaux. The diseases are considered under various groupings and special attention is devoted to the symptoms in regard to locality and then each disease is separately considered. The various inflammatory affections of the nervous system also receive special attention and the concluding section is devoted to the neuroses. This volume constitutes an excellent manual of diseases of the nervous system and is well illustrated by figures and plates.

French text-books of medicine are usually well written and conveniently arranged. We can strongly recommend the present work as an admirable summary of the present knowledge in regard to medical diseases. Although references are not as a rule given the names of authorities are generally quoted, and the authors have not confined themselves to French workers but quote liberally from English and German writers. One of the most commendable features is the importance which is accorded to pathological considerations and their clinical applications.

Cast Iron House Drainage, with Especial Reference to the Drainage of Town Houses. By GERARD J. G. JENSEN, C.E. London: The Sanitary Publishing Company. 1908. Pp. 206. Price 4*s.* 6*d.* net. Also by the same author and another (name not given), *By-laws as to House Drainage and Sanitary Fittings made by the London County Council, with Annotations.* Second edition. Same Publishers. 1908. Pp. 147. Price 3*s.* 6*d.* net.

THE first of the above works is intended to emphasise the importance of using iron drains in town houses, especially when they are laid under a house. In these days of heavy motor traffic and of tube railways the necessity for their employment has been pretty generally recognised. Indeed, 20 or even 25 years ago iron drains found favour with the more advanced sanitarians. The book will be found a useful guide to that large class who intend to adopt the system but have not yet done so. It combines the advantages of a well-illustrated catalogue with valuable and independent criticism as to the desirability or otherwise of the various appliances shown; their purpose is fully explained together with the best methods of fixing, and a fund of useful information relating to weight of pipes, gradients, and capacity is given. Mr. Jensen, in fact, sets forth the general details of the drainage and sanitary plumbing work of a house as it should be done in the light of the best modern practice.

The second book, on By-Laws, a first edition of which was originally published in 1901, has been brought up to date and includes a notice of the Metropolitan Management Acts which came into force in 1903. The authors have evidently very carefully studied each individual by-law, as their annotations testify. We are first given the by-law in its bald, not to say repellent, form. Then by the aid of pen and pencil there are shown the probable reason for its creation and its possible interpretations. There are in all 23 by-laws. Other subjects there may be that are more exhilarating, but we have conscientiously read through the book and can confidently recommend it, especially to those who are daily employed either in endeavouring to conform to, or to avoid, these by-laws, and who, like many of us, experience a difficulty in grasping the inner meaning of the legal prolixities in which such documents abound. In a work of this kind the reader does not look for anything startling, but there are some interesting side lights which appear as notes and enable comparisons to be made between the by-laws of the several large towns, as Dublin, Liverpool, Birmingham, Manchester, and so on, and those of London. Some of these by-laws would seem to require speedy revision. For instance, under By-law 8 no privy may be constructed within 20 feet of a dwelling house, public building, or one used for manufacturing purposes. In Manchester, Birmingham, and Dublin the distance is 6 feet only, and in Belfast 4 feet. Also, whereas By-law 7 restricts the cubic capacity of such receptacle to 2 cubic feet, Birmingham permits a capacity of 40 cubic feet and only insists on its contents being removed at three months' intervals, while Dublin limits the time to a week and the capacity to 9 cubic feet. Under By-law 9 no privy may be constructed within 100 feet of any well, spring, or stream of water used, or likely to be used, by assistance are required he should consult on equal terms with the physician at the bedside, and the investigations to be made or the treatment to be adopted should be the joint result of their deliberations." This, to my mind, grants all, and more than all, that the pathologist desires. I say more than all, because Dr. Fowler includes the treatment to be adopted in the scope of the consultation. Now, advice as to the nature of the investigations to be undertaken and the conclusions to be drawn from the results is obviously within the province of the pathologist, but advice as to treatment seems to lie outside his functions except in so far as he is a medical man as well as a pathologist, and that possibly his work has made him specially qualified to speak with regard to some particular disease. I think Dr. Fowler had in his mind a much more serious competitor of the practitioner than the mere pathologist. I mean that recent product of laboratory specialism, the immunisator—the Frankenstein monster who has been described by its maker as sitting armed with syringe and phial of bacterial emulsion ready to inject all and sundry. There is no doubt that the demonstration of opsonins in the serum and the practical applications of methods for their estimation has had a very great influence on recent methods of diagnosis and has thrown much work on clinical laboratories. It is work of such a highly technical kind that it has inevitably passed out of the hands of the practitioner into the sphere of the laboratory. The further development, too, of vaccine treatment, developed on the basis of control by the estimation of the opsonic index, has thrown fresh work and fresh power on to the laboratory. Till lately the laboratory has been the handmaiden of the ward, but in this latest development in its present phase the balance has been reversed and the laboratory has become the preponderating partner and consultation has ceased to be merely desirable and has become necessary. It is possible, as Dr. Latham is attempting to show, that a clinical method of control may be substituted for the control by the opsonic index, but the vaccine method of treatment will still lie largely with the laboratory. It has been suggested that the immunisator is the physician of the future. A very small object will obscure the sun if held sufficiently near the eye, and it would seem to me that there is a want of perspective in this view. The physician is a product of the wards, not of the laboratory. All disease is not infective, nor are microbes the be-all and end-all of pathology—the ferment is already rising above the horizon and threatening the supremacy of the germ, and there are still regions where errors in cell metabolism play the principal rôle. It seems, however, that specialism will still further develop; there is no longer room for a Teufelsdruck as professor of things in general, and indeed I seem to see sooner or later the establishment of a still further branch, a kind of information bureau required to keep the specialists in touch amongst themselves and to counteract the present centrifugal forces. There is no doubt loss in these divisions, but they seem inevitable, and our efforts must be to make the loss as small as possible.

Of one aspect of the laboratory I have said nothing—its influence by research on progress. This, of course, is its highest function, its birthright which it must not exchange for a mess of pottage. I have said nothing because the advance made during the 30 years we have been considering is eloquent as to the quantity and the quality of the research work done and of the practical services which have been rendered by observations which seemed at one time to have but a theoretical interest. But this is the view of the man in the street—the theoretical interest is the important one, for it is on the thread of theory that the pearls of progress are strung. There is, however, room for ever more work in this direction, and I do not think the advantages of the hospital have yet been utilised to their fullest extent. It is difficult to imagine conditions more favourable for the solution of many problems of disease than those which obtain in a large hospital furnished with efficient laboratories, and willing workers. The stumbling-block has been the excess not the want of material, an excess which has meant that routine work has filled the day and left but scant time for investigation. It is the old difficulty of finance and the birthright bartered for the pottage. The liberality of the citizen in America and the enlightened statesmanship of continental governments have provided a way of escape which we seek with small hope in this country. Still, even here, commerce has not proved so blind or so parsimonious as our politicians. In what direction are we to look for advance. Some improvement may be made in the machinery of research and chiefly in mutual coöperation of workers, and the past few years have seen the development of collective investigation which in the case of cancer has become international. The line of scientific advance seems to lie in the regions of biochemistry which has been progressing steadily and without any sensational discoveries. The chemist was slow to rush to the attack of problems with which physiological chemistry did not fear to deal. Slowly during the period we have considered solid foundations were laid on which a sound superstructure of knowledge has been built, and the chemist, on the basis of synthetic methods, can now do much more than guess at the composition and constitution of complex organic substance and even of proteid itself. The prevailing theories of immunity are biochemical, and metabolism and function are explained on chemical lines. We have vision, too, of a modern therapeutics widely different from the empiricism of the past. The advances we have witnessed give us sure and certain hope of still more rapid advances in the future, and though we shall not live to see the abolition of disease and suffering, still we may each from our own Pisgah top catch glimpses of the promised land.

ST. MARY'S HOSPITAL.

INTRODUCTORY ADDRESS BY SIR JOHN F. H. BROADBENT, BART., M.D. OXON., F.R.C.P. LOND., PHYSICIAN IN CHARGE OF OUT-PATIENTS.

After a few words of welcome to new students Sir John Broadbent said: It is not the quantity of study or the amount of reading you get through which are important but concentration of the mind on the subject you are trying to master and the ability to make practical use of the knowledge you acquire. Some men will sit down in front of a book and read page after page, comforting themselves with the assurance that they do so many hours' reading a day, and yet when the time comes for them to put down on paper what they think they have learnt they fail dismally. Others may attend lectures and demonstrations and yet fail to pass examinations when the time comes. I believe that this is in many instances due to the fact that they do not make abstracts of the matter they read or take any notes at the lectures they attend. It is given to few to assimilate knowledge by mere abstract auditory and visual impressions, so much so that "in at one ear and out at the other" has passed into a proverb. These visual and auditory impressions are only the way in for what may or may not be stored up as knowledge, but if you make abstracts of what you read and take notes of what you hear you call into operation a further intellectual process, the motor side of the sensori-motor mechanism of the brain, whereby you are compelled to think for yourselves, a procedure which is somewhat neglected in these days when everything is made easy and prepared for you by countless lectures, demonstrations, tutorial classes, and coaching of every kind. I think that this opsonic process if applied too freely to the mental pabulum is liable to debilitate the mental digestion which, like the physical, requires a stimulus and plenty of hard work to keep it in good order. As Gibbon puts it, "Every person has two educations, one which he receives from others, one, *more important*, which he gives himself." By all means make use of the help which is provided but do not consider it a substitute for the work you should do for yourselves. The best way of acquiring medical knowledge is to study a case in the wards, so that by daily observation you become familiar with the aspect of the patient; to note carefully for yourselves the various physical signs and symptoms which may be present, how they change from day to day and affect the prognosis, and above all not to neglect the opportunity, when occasion offers, of observing in the post-mortem room the pathological changes to which the disease has given rise. Do not be content with merely taking notes in the wards but make a copy of them in your own clinical notebooks, reading up at the same time an account of the disease in some medical text-book. Then add as a supplement to your notes a brief summary of the points in which the case you have been watching differs from a so-called "typical" case. You will thus have a clear mental picture or object lesson of the

We cannot agree with him that bony ankylosis never occurs in tuberculous disease in childhood; it is certainly rare but specimens of it exist in museums. The book is ably written and it should prove of interest to all who have to deal with tuberculous disease of the hip-joint.

A Text-Book of Minor Surgery. By EDWARD MILTON FOOTE, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University; Lecturer on Surgery, New York Polyclinic Medical School, &c. Illustrated by 407 engravings from original drawings and photographs. London: Sidney Appleton. 1908. Pp. 752. Price 21*s.* net.—Minor surgery includes nowadays many surgical procedures which at one time were looked upon as major operations, but the progress of surgery has made them of less severity and importance. The ordinary text-books often devote attention mainly to the more serious operations, yet the general practitioner has much more interest in the simpler common conditions with which he will have to deal. The book is lavishly illustrated; the illustrations are very good and in nearly all cases they show what they are intended to show. We can commend the work to the attention of junior practitioners who need some help in dealing with the ordinary surgical cases which come to them.

Climate, Considered especially in Relation to Man. By ROBERT DE COURCY WARD. With illustrations. London: John Murray. 1908. Pp. 372. Price 6*s.*—The most interesting chapter to medical readers, at all events, in this clearly written work is that entitled "The Hygiene of Zones" (Chapter VII.). In this chapter the author points out the complexity of the subject and explains the difficulties of establishing the exact relationship between climate and disease. Untrustworthy statistics are often at the root of this difficulty, while there are factors, such as sanitation, food, water, and so forth, which, of course, have an influence on the health of a community. The modern view, however, is that the cause of disease may no longer be traced directly to meteorological conditions but to the effects, more or less direct, of these conditions upon the micro-organisms which are the specific cause of the disease. As the author points out, atmospheric conditions may help or may retard the development of the micro-organisms and may strengthen or weaken the individual's power of resistance against the attacks of the germs. Further, Sir Patrick Manson has pointed out that in the case of malaria the mosquito is not only a vector but serves also as a medium in which the germ undergoes certain developmental changes necessary for its existence as a species, as well as for its successful introduction into a fresh human host. After this generalisation the author deals with various diseases and the kind of places in which and when they are prevalent. Further chapters deal with the changes of climate, the characteristics of the zones, and the classification of climates. He does not omit to mention the observations of the old Greek philosophers or to make reference to the attempted classification at relationships between climate and disease outlined by Hippocrates. The book furnishes a very interesting and readable contribution on the subject.

The Radio-active Substances: Their Properties and Behaviour. By WALTER MAKOWER. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1908. Pp. 301. Price 5*s.* —At this stage in the history of radio-activity the want is felt of a text-book giving a clear and straightforward account of the phenomena and theories concerned so far as recent developments have gone. The discovery of radio-activity has, in fact, opened up a new branch of science which it cannot be doubted is going to be of some importance to medicine. We are satisfied that the book before us supplies a need and the author happily does not fail to realise the difficulties which face the student who for the first time approaches the subject. We need hardly point out that this student must often be the medical man in active practice who therefore has no time to go into undue detail and who, in fact, requires a clear, concise, and practical account of the position reached by recent studies of the subject. This book serves as an admirable and intelligently written introduction to the study of radio-activity. The subject is beset with some difficulties in regard to making it clear, but the author knows quite well the points which need the careful treatment by which they are made intelligible. He has avoided so far as possible the use of mathematics, and in those cases where the application of mathematics cannot be ignored he has used homely illustrations to help the reader to a clear appreciation of the theories involved. We cordially commend the book to those who would keep pace with the developments of this most interesting branch of scientific study.

The National Physique. By A. STAYT DUTTON, L.R.C.P. Lond., M.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1908. Pp. 188. Price 5*s.* net.—Mr. Dutton has been engaged in practice during 15 years in no less than 50 districts of England and Wales, including 12 in London, and has been so struck with the apparent prevalence in all of them of a common disease that he set himself to collect convincing evidence thereof and this book is the result of his inquiry. The disease in question is anæmia of the chlorotic type and his research has consisted in the estimation of the hæmoglobin in a large number of nominally healthy persons of various ages who were living their ordinary lives, his subjects being chosen at random chiefly amongst the working classes. In the first part of his book he records the results of these investigations which showed in almost every district that a considerable preponderance of people tested had a hæmoglobin percentage of between 10 and 20 below the normal, whilst many others had still poorer blood; the deficiency was more marked as a rule in boys than in men. On these premisses Mr. Dutton founds longer chapters which deal with the causes and prevention of physical deterioration, army recruiting, and prevalent diseases in connexion with the blood, from which it is clear that he subscribes whole-heartedly to the oldest of all physiological maxims, "The blood is the life." In the physical degeneration which he acknowledges to be a national danger he sees anæmia writ large, and though his book shows some signs of the special pleader we should not like to assert that he is altogether deceived. The connexion which he declares to exist between anæmia and imperfect physique would certainly have been more convincing had he given us some information concerning the weight and measurements of the people whose blood he examined, and until he has made some such systematic comparison he can be hardly said to have proved his case. The argument that because he finds anæmia very prevalent in a nation which is suffering from physical degeneration these two facts have a causal relationship might be appropriated by another who should desire to prove that any disorder of frequent occurrence, such as dental caries or dyspepsia, was responsible for deterioration in the national physique. Mr. Dutton has, however, written a suggestive little book and he is to be congratulated on having found time and inclination for a laborious piece of research in the exercise of an amazingly ubiquitous practice. It is not everyone who uses exceptional opportunities in so practical a manner.

The Solar System: A Study of Recent Observations. By CHARLES LANE POOR. With illustrations. London: John Murray. 1908. Pp. 310. Price 6*s.* net.—This book deals with an obviously wide subject but the author, while admitting that many interesting matters have had to be omitted, has succeeded, we think, in giving an impressive account of the results brought to light by modern methods sufficient funds may be forthcoming to provide assistance for dependants while the breadwinner is undergoing treatment. The institution is not intended to interfere with the work of existing institutions or that of the medical practitioner, but rather to work in coöperation with them. No patient would be treated or allowed to attend the institution who could afford to pay a doctor, or who is attending a hospital, or who is or has been under the care of a medical practitioner without the written consent of the doctor whom he has consulted.

[Turning from this subject the speaker devoted much of the remainder of his address to the dental needs of the poor. After describing the magnitude of this evil and the urgency for a remedy from the point of view of the national health, he deprecated Mr. J. G. Turner's suggestion of the levy of a special dental rate and advocated that the dental departments of the general hospitals should undertake the filling of teeth and the supply of dentures, and that similar departments should be added to the provident dispensaries. The dental inspection and treatment of school-children and their instruction in the use of the tooth-brush were of the first importance. Sir John Broadbent then concluded with the following words:]

There is one other point I should like to touch upon. In the out-patient department we see many distressing cases in which the breadwinner, though seriously ill, is unwilling to give up his work and come into hospital for a time, though the rest and treatment there afforded might avert a fatal issue, as he says that this would mean starvation for his wife and family. To give one or two instances which have recently come under my notice. A hansom cab driver with serious heart disease (aortic incompetence with failing compensation) insisted on continuing to drive his cab in spite of warnings, to the great peril of its occupants as well as himself, as he was liable at any time to drop down dead. A stableman with advanced dropsy refused to come into hospital for treatment which would have afforded immediate relief. A window cleaner with an internal cancer persisted in following his occupation, though he was so weak he could hardly stand (a pleasant prospect, this, for the uninsured householder). These are instances out of many of the dilemma in which the really plucky working man is placed by illness, and I should like to see the hospital in touch with some charitable agency so that some provision could be arranged for the support of the wife and family while the breadwinner is temporarily incapacitated. I am sure there would be little difficulty in raising a special fund for the purpose and I think that some charitable agency, such as the Charity Organisation Society, would be only too glad to act as almoners to the fund. In these days when so much is done for the unemployed, for whom work and a comfortable berth at a farm colony are provided by public subscription, I think it is time that something should be done for the genuine working man who, by no fault of his own, is temporarily incapacitated by illness.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

INTRODUCTORY ADDRESS BY H. SAINSBURY, M.D. LOND., F.R.C.P. LOND., SENIOR PHYSICIAN TO THE ROYAL FREE HOSPITAL.

Dr. Sainsbury took for his subject "Some Points of Importance in the Study and Pursuit of Medicine." After some opening remarks inculcating earnestness of study he warned his students against too early specialisation in either medicine or surgery, which great branches should be regarded as complementary and not antagonistic in their aims. He proceeded:—If I were asked to define medicine and surgery I should, whilst disclaiming any pretence at a sharp demarcation of sciences which touch and blend at so many points, describe medicine as applied physiology and surgery as applied anatomy. I mean by the latter expression living anatomy—i.e., the living, working organs and systems; but you will say this is physiology, and so it is, and thus at the very outset my attempt at separation breaks down. And yet I hold a very definite conception which I must try to convey; this living anatomy is structure on a *large* scale and function upon a correspondingly large scale, and in this grosser functioning, from the surgical standpoint, the topography of the organs and parts assumes a predominant importance, and hence the anatomy of death—i.e., the structural relationship of the parts at a standstill—is so essential a study. Give yourselves enthusiastically to this study, look intelligently at the facts of structure which you discover, and try in your mind's eye to bring them back to life and see them not in static but in dynamic equilibrium. Then consider why it is that you are prying into these intricacies of working and having found the answer, viz., in order that when the occasion comes you may safely enter this structural maze, interfering without deranging, or at least at a minimal cost of disturbance; having this answer in mind, look at your facts from the practical—i.e., applicable—side, always thinking how might this piece of knowledge be made use of. A fact with a reason behind it appeals to the mind and is the more easily remembered, whereas a bare fact, void of particular significance, is as difficult to impress as it is hard to retain. (I speak relatively, for the facility of the unaided memory is in the case of some people nothing short of marvellous.) Moreover, mere memory is the lowest form of mental process; the mind grows least upon its exercise; it is reasoning that we want, some attempt to put and meet the everlasting "why" of Socrates. Accordingly, make as large as you can your collection of reasonable facts.

Surgery, as applied living anatomy, will provide scope for the exercise of the highest powers of the mind in diagnosis, in forecast, and in treatment, and when you come to practise, certainly if the present phase of mind persist, you will find that it casts a wide net and secures a heavy draught. Is there anything which surgery, as above defined, does not cover? Sometimes I am tempted to doubt whether there is (I am talking, of course, of practice, there being no lack of medicine in the text-books), for the physician's remainder, after the surgical net has been cast and drawn, shows a remarkable paucity of fish and such as they are they run rather fine. And yet, and yet, medicine is a noble study and I would not change it if I had to begin all over again. Possibly, also, readjustments may in the future make their appearance sufficient to satisfy that modicum of the *auri sacra fames* of which the physician stands possessed, for as the obstetric physician has in self defence become the obstetric surgeon it is possible that the chest physician may come to think that chest surgery should be his also, and so forth. These are horrid suggestions and I apologise for making them, and in requital will offer this consolation that should such things come to pass we shall then all be specialists, each in his own department, practising both medicine and surgery; the reconcilement of the physician and surgeon will then be complete, the lamb and the lion united in one person will thenceforth lie down and uprise together. But whether we separate medicine and surgery or unite them in the person of one practitioner it matters not a whit—in the main they are quite distinct in their spheres of activity. The surgeon may claim more and more of the grosser structure and functioning of the body: he may say, "This organ is mine or at any rate I demand my share in it"; nay, he may claim even this cell cluster and this cell tract. Driven from pillar to post, always in retreat, the physician will make his final stand and say, "But the cell is mine, its powers, its potentialities are mine; away with knife and forceps, make room for my armamentarium." The chemist is telling us that the time-honoured theory of the elemental atom as an irreducible, unchangeable, material minimum no longer holds, that conceivably the atom may be raised or degraded up and down through the Mendeleef scale. Conceivably, perhaps, actually remotely possibly, even so will not the Daltonian atom as a material minimum still continue to play the chief part in the practical politics of chemical changes? I ask the question, having no authority to do more. In like manner though it were vain to forecast the future pronouncements of the physiologist in respect of the biological cell, yet may we not take it that in the practical politics of biology it stands now and will stand in the future for the irreducible structural unit? Here, then, we shall make our stand, intrenching ourselves behind its powers *in esse* or *in posse*. Good generalship, however, requires that there should be a hinterland of some sort at the back of even a last stand, and so, as the surgeons are an enterprising race, let me remind you, embryo physicians, that there are still the nucleus and the nucleolus upon which to fall back, good rallying points whence to hurl defiance at the pursuer before making good your retreat into the physico-chemical fastnesses of changing molecules and vanishing atoms and vanished fees; there you will be allowed to flounder in peace.

THE LANCET.

LONDON: SATURDAY, OCTOBER 10, 1908.

The Introductory Addresses.

AT the beginning of October in each year there arises a flood of oratory issuing from most of the medical schools and intended to assist the medical student on his onward course. Some of the medical schools, however, have discontinued the custom of an introductory address, the advantages or disadvantages of which we need not now discuss. When the number of medical schools is considered it is not surprising that the same subjects are often dealt with year after year. At the same time there is a really remarkable variety in the matters discussed and in each recurring October we find fresh illumination on the many problems of medicine.

The Huxley lecture, which is delivered biennially at Charing Cross Hospital, deservedly holds a high position among the introductory addresses, and the lecture delivered by Sir PATRICK MANSON dealt very felicitously with the important subject of tropical medicine which he himself has done so much to advance and to bring to its present high state of perfection. He showed that while many of the diseases with which we are acquainted in temperate climes are also known in the tropics there are various diseases peculiar to warm climates. Most of these tropical diseases are caused by organisms which require a high temperature for their successful passage from host to host, or which need animal intermediaries which flourish only in high atmospheric temperatures. As these conditions only occur in tropical or subtropical countries the diseases produced by germs or parasites such as these can arise and spread only in warm countries or in warm seasons. A living intermediary is needed in malaria, yellow fever, trypanosomiasis, and filariasis. In ankylostomiasis no intermediate host is required, but the parasite needs a warm moist nidus for the development of the egg. It is thus clear that for the study of tropical diseases much knowledge is required not needed for most of the pathology of temperate climates. As Sir PATRICK MANSON mentioned, a school of tropical medicine should include a protozoologist, a helminthologist, and an arthropodologist in addition to the usual lecturers. Most tropical diseases are due to protozoa or helminths, and therefore the assistance is needed of those who have specially studied these branches of zoology. The intermediary hosts of these pathogenic protozoa and helminths are nearly all insects, ticks, or crustaceans and therefore the services of an arthropodologist are required. Sir PATRICK MANSON presented a table showing all the known diseases which may be called tropical, with the causative agents to which they are due and the mode in which transmission occurs, and the list was remarkably long. We do not remember to have seen a better presentation of the importance of the diseases of warm countries or a more powerful plea for their adequate study. At the Victoria University, Manchester, Sir T. CLIFFORD ALLBUTT spoke mainly on hospital management. He urged the necessity of the recognition of the fact that the members of the medical staff of a hospital are not the employees of the hospital board but they should be looked upon as equal partners in the management of the hospital. It is not uncommon to hear the benevolent services of a hospital staff depreciated on the ground that its members are paid by the opportunities, reputation, and fees which their position carries with it, and Sir CLIFFORD ALLBUTT showed that this is very far from being true. He spoke of the great value of pathology and suggested that pathological laboratories should be more closely connected with the wards than is generally the case. Lastly, he showed that medicine is now beginning to take its true place in the State, and he urged the need of the appointment of a Secretary of State for Medicine, on a par with the Secretary of State for War. He dealt with the problem of medical education and the need for a one-portal method of qualification in order that the universities may be able to devote themselves to real training and not merely to the teaching of text-books and the testing of text-book knowledge. At St. Mary's Hospital Sir JOHN BROADBENT dealt with the future of medicine and considered that although much of the present-day work of the physician might be taken out of his hands by the discovery of vaccines and serums, ample work would still remain for the physician to do in the general management of the patient and especially with regard to the treatment of such conditions as neurasthenia, where no vaccine could avail but where a general control of the life and habits of the patient would always be required. He quoted with approval the advice given by BACON in his "Regimen of Health," where he says that some physicians are "so pleasing and comformable to the humour of the patient, as they press not the true cure of the disease," while others think so much of the disease that they disregard the condition of the patient, and he advises the choice of "one of a middle temper, or if it may not be found in one man" he suggests that the patient should "combine two of either sort." The second part of his address Sir JOHN BROADBENT devoted to a consideration of out-patients. He urged that the ordinary medical treatment should be supplemented by agencies for looking after the families of patients who really need treatment as in-patients and who yet persist in continuing at their work because the cessation of their occupation would mean the starvation of their families.

At St. George's Hospital Dr. CHARLES SLATER took for his subject the importance of the laboratory in medical education and practice. He claimed a fuller recognition by the State of the value of medicine in the prevention of disease. The public and the State have been accustomed to pay for cure, but they have not yet learned that it is far better to pay for prevention and that to prevent the occurrence of disease is worth a hundredfold more, even in hard cash, than the cure of the cases of disease when they have occurred. He suggested that it is customary too often to look upon the pathologist merely as a servant of the was Willis of London, a famous anatomist. He extended the system. All bodies in nature were regarded by him as composed of three elements—spirit, sulphur, and salt—spirit being only found in quantity in animals. His application of chemistry to examination of secretions was important, especially in connexion with diabetes, but his main system soon became obsolete. The multiplicity of dogmatic schools started a reaction towards a study of disease *without preconceived* hypothesis, and the leader of this natural school, as one might term it, was the great Sydenham, who has been termed the English Hippocrates. The philosopher and physician Locke was a friend of his, and admirably sums up his good characteristics in the following letter. "You cannot imagine how far a little observation carefully made by a *man not tied up in the four* humours (Galen) or the salt, sulphur and mercury of Paracelsus, or the acid and alkali of Sylvius and Willis which has lately prevailed, will carry a man in the curing of diseases, though very stubborn and dangerous; and that with very little and common things and almost no medicine at all." Sydenham may be said to have inculcated the true scientific spirit, which was greatly required, for he seems to have maintained throughout his work an "open mind." He revived the ideas of Hippocrates regarding the *vis medicatrix naturæ*. The attitude of most of the dogmatists of that age might be said to be similar to that of the gentleman who, during an argument, was taunted with not being open to conviction. "Not open to conviction," said he with great indignation, "I am open to conviction, but—*show me the man who'll convince me!*" The following incident indicates the artificial condition of affairs in his time. Sir Robert Talbor, a noted empiric, on being admitted to a consultation with certain learned dogmatists, was asked by one of them (doubtless superciliously) "What is fever?" "Fever," replied Talbor, "is a disease which I cannot define but can cure, and which you cannot cure but can define." Talbor's cure for fevers contained cinchona bark which had been introduced not long before and was denounced by many at the time as a special invention of the powers of evil. This is merely another example of unscientific criticism, still common enough at the present day, and of the truth of the adage, "Die Menschen verhöhnen was sie nicht verstehen" (i.e., "Men despise what they don't understand"). In the eighteenth century although some good work was done the making of dogmatic systems went on. Hofmann and Stahl formed separate pneumatic or animistic systems. Cullen of Edinburgh developed a system based upon von Haller's doctrine of "irritability," and Brown introduced his "stimulus" theory known as the Brunonian system. As the result of investigation Brown concluded that some diseases required stimulating treatment and others depletion. But 97 per cent. required stimulating and therefore the treatment of most physicians from Hippocrates onwards must have been wrong, because bleeding and depletory treatment had been common, the idea being to remove morbid matter by elimination. Brown's theory caused great excitement at the time. In Scotland and Germany there were riots among the students which seems to indicate that the student of those days took his work seriously if not always scientifically. The checking of excessive bleeding has probably been of considerable importance. A large amount of work in connexion with the scientific foundations of medicine was carried out in the century. The premier position should, perhaps, be given to Boerhaave and his students. Boerhaave was professor of medicine at Leyden, and although in the hospital there only 12 beds were available for teaching, Leyden became the centre of medical influence in Europe. A student of his, von Haller, was a distinguished physiologist and anatomist. He proved experimentally that "irritability" was a property of muscular tissue, and "sensibility" a property of nerve cells, and thus undermined the animistic hypothesis. The two brothers William and John Hunter, the former of whom was on the staff of the Middlesex Hospital, had a great influence in stimulating research in anatomy and pathology. William Hunter has been described as the first great teacher of anatomy in England. Jenner, who introduced vaccination, a practice empirical at the time but now readily understood on the recent doctrine of immunity, was a pupil of John Hunter. Lady Mary Wortley Montagu had previously introduced inoculation (about 1720) which proved unsatisfactory.

The beginning of the nineteenth century produced a further crop of theories. One of the most extraordinary—the homœopathic—introduced by Hahnemann (1755–1843) survives to the present time. Hahnemann held, first, that as Hippocrates had expressed it, "*similia similibus curantur*"—i.e., like cures like—which meant that the cure for a disease is the drug which would produce symptoms similar to those of the disease in a healthy person; secondly, that diseases were spiritual dynamic derangements of the vital principle; and thirdly, that medicines became more powerful on dilution, and claimed that he had proved these principles to be true by numerous scientific experiments. He theoretically rejected the *vis medicatrix naturæ*, although his good results in many cases probably were due to the truth indicated by the term, seeing that he often used medicines in such dilution that it was almost impossible to detect by analysis that anything was present. He would take the ordinary tinctures, dilute to 1-50th, dilute again to 1-50th, and so on for 30 times. Important advances had by this time been effected in physical diagnosis. Piorry improved the percussion method for recognising diseases of the chest introduced by Auenbrugger of Vienna some time before, and Laennec (1781–1826) introduced the stethoscope. Laennec was a keen student of morbid anatomy in connexion with auscultation, so that his work as regards diseases of the chest is of fundamental importance.

In Britain by far the most important work in the first half of the century was carried out by Sir Charles Bell, surgeon to the Middlesex Hospital. Bell's work is generally regarded as the most brilliant since that of Harvey. He showed: 1. That in the main nerve trunks there are special sensory filaments which transmit impressions from the surface of the body to the brain, and special motor filaments which convey motor impressions from the brain or other nerve centres to the muscles. 2. Some nerves consist entirely of sensory filaments and are therefore sensory nerves, and others are composed of motor filaments and are therefore motor nerves, while a third variety contains both kinds of filaments—sensori-motor; in the nerves proceeding from the spinal cord, for example, the posterior are sensory, and the anterior are motor. 3. The brain and spinal cord may be divided into separate parts, each part having a separate function, either sensory or motor. Incidentally one might mention that Bell took a great deal of trouble in connexion with the formation of our medical school, his interest and generosity probably being only surpassed by that of Mr. Morris a few years ago, when the school was in danger of being completely engulfed and assimilated by the University of which it is proud to form an autonomous part. Bell's work has been followed up by Marshall Hall (1832), who has been called the discoverer of the "reflex nervous system," Abercrombie, Broca, who discovered the centre of speech (1861); Brown-Séquard, Bastian, Ferrier, Charcot, Romberg, Golgi, and others have worked out results of great importance in connexion with clinical diagnosis and surgery of the brain in disease, since successfully applied by Lister, Horsley, Macewen, and others. Much further important work was done in the first half of last century, associated with the names of Bright, Addison, and Stokes in England, Rokitansky in Austria, Schonle in Germany, and many others. In 1839 Schwann published his epoch-marking cell theory, in 1859 Darwin published his "Origin of Species," and in 1860 Lord Lister published his theory of asepsis, founded upon the brilliant work of Pasteur.

It is difficult to overestimate the incalculable benefits which the Listerian system has conferred upon humanity. Taking an approximate average for the more important hospitals in Germany and in this country prior to 1860 the mortality in operative surgical cases was 40 per cent.; it is now under 3 per cent., notwithstanding that operations which no surgeon would have dared to attempt before 1860 are now commonly performed. In connexion with the Listerian antiseptic treatment might be mentioned the introduction of zinc chloride as an antiseptic in certain cases by Campbell de Morgan of the Middlesex Hospital. This is of interest because recent experiments in connexion with the ionic treatment (to be mentioned presently) have shown that the zinc ion is the best coagulating agent known in medicine.

Unfortunately time does not permit of one's giving even a *résumé* of the advances made in connexion with the application of physics to medicine. The Roentgen rays, the high-the post as a stepping-stone to other and more lucrative positions upon the staff. He alleges that there is little inducement for seasoned workers in the field to compete for the appointment of anæsthetist because they receive no adequate status and their work is brushed aside as being of scant value. Thus, we are told, anæsthetists do not enjoy the privileges accorded to physicians and surgeons, to assistant physicians and assistant surgeons, and to officers such as surgeon-dentists who control special departments. "A Hospital Anæsthetist" complains that surgeons ignore the usual amenities which should exist among colleagues, and in the case of the anæsthetists dictate to them what they should do and withhold from them alike courtesy and appreciation of their special knowledge of their department. The natural result of this, we are asked to believe, is that the public as a body do not hold the anæsthetist in much repute and are not encouraged by consulting surgeons to call him in as an expert when dangerous or critical operations have to be faced. The surgeon is sought with care while the anæsthetist is chosen at haphazard is practically the complaint of the writer to the *Times*. The view is much the same as that expressed by Dr. HEWITT. He considers that the *personnel* and the system of teaching at some hospitals are capable of improvement, and circumstances can hardly have failed to bring home to the minds of all of us that in some instances there is a lack of organisation in this department. This has led to public comment and undoubtedly a vast amount of misapprehension exists upon the subject of anæsthetics, the bulk of the public being unaware of the importance of the work of the anæsthetist. It is usual to hear of the wonders of modern surgery and the triumphs of the scalpel; how often is it recognised that a skilled and experienced anæsthetist has fought for his patient's life through a weary hour or more and has enabled his eminent colleague the surgeon to accomplish another victory? For the sake of the patient the potential dangers of the anæsthetic are minimised, and in some cases this may lead to the anæsthetic being given by men sound, no doubt, in the knowledge of their profession but lacking in a scientific grasp of the facts underlying the rules governing narcotism. It may happen that such men undertake the duty reluctantly and only yield to the entreaties of a nervous patient who dreads the advent of a stranger, while it is not recognised by the public that a rule-of-thumb knowledge of anæsthetics is not skilled anæsthetisation.

While all are agreed that medical students ought to be taught more fully the recognised methods of administering anæsthetics, the amount which they should be taught and the due relations of the specialist anæsthetist to the general practitioner make up between them a most delicate question. To administer anæsthetics with complete knowledge in difficult cases and with the absolute minimum of risk demands scientific knowledge and judgment begotten of experience—those who can do it ought to be held in the same regard at their schools and hospitals as any other specialist attached to the institution. But for this very reason every medical student cannot become an anæsthetist of this class; he cannot in the present state of the curriculum spare the necessary time for the training, he may lack opportunities for the teaching, while he may not have the individual aptitude for an arduous and responsible branch of his profession. All that can be done for him, as yet at any rate, is to see that he is thoroughly grounded in the principles of giving anæsthetics in uncomplicated cases, and the specialist anæsthetists will no doubt approve of such a man giving anæsthetics, if only because it is he whom the public will in many cases employ. There are vastly more operations, large and small, where anæsthetics are used than it is possible that any specialist class could cope with, while rural neighbourhoods, towns of under 5000 inhabitants, and parochial authorities cannot possibly support the services of a member of such a class. For the present all th can be done is to make the teaching in anæsthetics at a our schools thorough, to insist upon all students learnin the principles of the administration of anæsthetics as compulsory subject, to raise the position of the anæsthetis upon our hospital staffs to that of the other members of th honorary staff, and to trust that such reforms will result i the diffusion of generally adequate skill.

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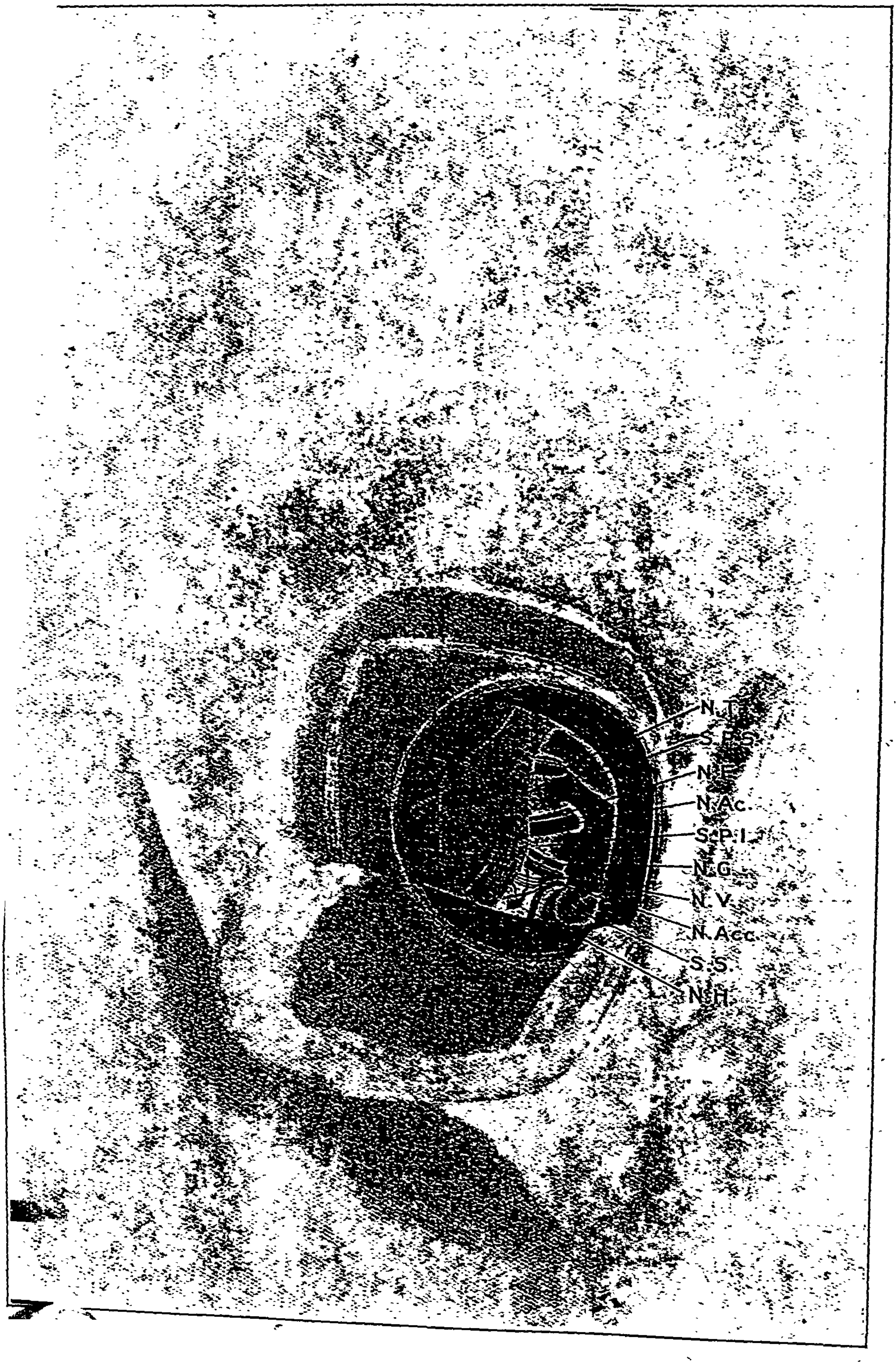
The Health of the Army.

THE Army Medical Report for the year 1907 recently issued has excited more than usual general comment. This is probably due to the fact that during the present period of reorganisation and transfiguration of our land service military affairs have aroused greater interest than they do normally in the public mind. The medical organisation of our army has come in for its share of this increased attention, with the result that the public is able to realise with PLATO the importance of the influence of the physician in matters of State. The report deserves the wide comment that it has obtained, for it bears record to good and careful work on the part of this department and enables us to perceive that a deep debt of gratitude is due to the men of science and men of affairs—amongst whom SIDNEY HERBERT and EDMUND A. PARKES are the most famous—who after the Crimean war founded, in the face of strenuous opposition, the Army Medical School. One section alone of the present report affords a triumphant vindication of the foundation of that school—namely, that which deals with the almost complete stamping-out of "Malta fever." This fever but a few years ago was a mysterious disease of unknown origin, levying a heavy toll on our regiments, and it may be counted one of the greatest victories of modern science, systematically equipped and organised, in general, and of the medical department of the army in particular, that this toll will no longer have to be paid. The official statistics proving the reality of this triumph of therapeutics have been so recently before our readers that we need not recapitulate them here.

We publish in another column an abstract of the report on individual diseases as they affected the troops in 1907, but it will be convenient now to draw attention to two outstanding causes of sickness in the army. The amount of venereal disease appears always to vary in every part of the world from various reasons, some easily traceable, and others unknown. It is a matter of great regret that the entries for 1907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with improvement, both as regards variety of food and cooking, which cannot fail to affect favourably the general health of the men. As we have pointed out before, it will be practically impossible to do so well in very small craft, torpedo boats, and so on. Here, however, we have no doubt that the practical adaptability to environment of the "handy man" will assert itself and the best possible be made of surrounding circumstances. Compared with the dietary of his predecessors the *menu* of the modern blue-jacket is a *menu de luxe*, at any rate in large ships, where it has been found possible to adopt the general mess system, although, as we stated in a leading article last year, we regret that the meat ration was reduced. Earnestly desiring, as we do, the welfare and progress of the Naval Medical Service we hope that some other reforms which we have suggested recently may soon follow and that some of the best stamp of young medical men may be attracted to the Service afloat.

HISTORICAL ASSOCIATIONS OF ARSENIC.

IN a series of articles in the *Pharmaceutical Journal* Dr. J. Gordon Sharp deals in an interesting manner with the history of arsenic from the time of Hippocrates (B.C. 460–357) to the present day. Geber was the first to prepare white arsenic in Europe in the eighth century, at a time when the diabolical art of poisoning was becoming popular as a means of removing a foe or rival. Arsenic was eagerly welcomed by the poisoner owing to its solubility and freedom from odour and taste, and it was most extensively used for nefarious purposes during the fifteenth and sixteenth centuries. It was through arsenic that the Borgias attained their unenviable reputation, and so great was the fear of it that makers of antidotes and amulets drove a thriving trade. In Italy two women acquired notoriety as poisoners during the seventeenth century, Tofana, after whom a solution of arsenic was named "Acqua Tofana," and Beatrice Spara, whose pupil Exili afterwards became suspected of being concerned in many cases of poisoning that had occurred in Rome and fled to Paris. There he founded his art and became the first of a long series of professional poisoners. One of his pupils, Sainte-Croix, passed on the knowledge to his inamorata, Marie Marguerite d'Aubray, afterwards wife of the Marquis de Brinvilliers. This base woman visited patients in the Hôtel Dieu Hospital at Paris in the guise of charity with the object of poisoning them by arsenic, and subsequently poisoned her father and two brothers. Among other pupils of Sainte-Croix were Penautier, treasurer of France, and Cardinal de Bonz, both of whom employed their knowledge to remove those who stood between them and their ambition. The unholy trade was then carried on chiefly by midwives, nurses, perfumers, and fortune-tellers until well into the eighteenth century. Poisoning has never been popular in the British Isles, so that very few cases of poisoning by arsenic have been recorded. In the Middle Ages men were terror-struck because no test was known for the recognition of this deadly agent. This reproach was removed when Black, the celebrated chemist, in 1752, at the trial of Mary Blandy, gave two tests for arsenic—viz., by reduction to the metallic state by heating with black flux in a tube, and by deposition of the element on copper. Afterwards Orfila (1787–1853), Christison, Alfred S. Taylor, Casper of Berlin (1796–1864), and the late Sir Thomas Stevenson helped to establish toxicology on a firm basis and placed the detection of minute traces of arsenic beyond dispute chiefly by the aid of Reinsch's and Marsh's tests. It is not known with certainty who was the bold individual who reasoned that there might be some valuable remedial properties even in the deadly "Acqua Tofana" if administered in suitable doses. Dr. Sharp hazards the opinion that Thomas Goddard (1617–1674), one of Cromwell's physicians, was among the first to employ it in medicine. His view on the subject would appear to have been noised abroad, with the result that several remedies were sold, at first secretly and then openly, for the then universal affection—ague—under the names "tasteless ague drops," "Asiatic drops," and "Asiatic pills." Authentic history of the medicinal use of arsenic, however, commences with Fowler's solution. In 1786 there appeared a small work[1] by Thomas Fowler, M.D., physician to the general infirmary of the county of Stafford, wherein he described how he was led to introduce the preparation. A specific for ague, under the name "tasteless ague and fever drops," was being used in the Stafford Hospital and Dr. Fowler and Mr. Hughes, the apothecary, identified it as an arsenical preparation. After many trials they succeeded in devising the formula which bears Dr. Fowler's name, and it was officially recognised in the London Pharmacopœia of 1809. The formula for Donovan's solution of arsenic and mercury was first published in the *Dublin Journal of the Medical Sciences*. It is of interest to note that atoxyl was first prepared by the French chemist Béchamp in 1863, but its medicinal properties do not appear to have been studied until the last few years. Its employment in sleeping sickness was suggested by the known usefulness of arsenic in protozoal diseases, following the treatment of David Livingstone who recommended arsenic in tsetse fly disease. Syphilis is now looked upon as belonging to the same category of diseases and atoxyl is being employed in the treatment. Evidence has been brought forward to show that the favourable results obtained with atoxyl in these diseases cease after a time but that they are renewed by administering mercury.

JEWISH LYING-IN MOTHERS OF THE WORKING CLASS IN FRANKFORT AND IN THE EAST-END OF LONDON.

A CORRESPONDENT writes referring to the articles now being published in THE LANCET upon the care of infants in London: "I see that allusion is made to the question of mothers who are expected to go out to work shortly after childbirth, and the suggestion is, of course, put forward that in some instances the mother, who should be lying-in, is compelled by the exigencies of the situation to get up and to work before she is in a fit state so to do. It is, indeed, said to be a matter of more or less common knowledge that one of the reasons why so many babies of the working class are artificially fed is because the mother is not able to take a long enough rest during the lying-in period, the consequence being that the breast milk dwindles or becomes impoverished." We are not quite prepared to accept this large deduction from admitted facts, but it appears that in England, except among certain of the Jewish communities, no steps have been taken to permit the working mother to have a sufficient rest after child-bearing. In a paper read by Miss M. le F. Boileau before the National Conference on Infantile Mortality held in London in the spring of this year there was described a system in vogue in Frankfort for supplying help to poor mothers during the lying-in period or illness. A register is kept of such female helpers as wish to hire themselves out for housework in cottage homes in those cases in which the mother is unable to attend to her own work, and a committee of women manages the organisation. The female helper is required to fulfil all the duties that fall to the lot of a housewife, but she cannot minister to the very poor as branch of the vagus to the glosso-pharyngeal and thence *viâ* the nerve of Jacobson. Poirier describes the sensory nerve for the external auditory meatus (Arnold's nerve) with the branches of the facial, and points out that it presents considerable diversity in the arrangement of its connexions with other nerve trunks: Ordinarily it is connected with the vagus, but it is sometimes connected with the vagus and with the glosso-pharyngeal, and sometimes with the glosso-pharyngeal alone. Arnold's nerve is generally connected with the facial three or four millimetres above the stylo-mastoid foramen. Cunningham states that Arnold's nerve usually communicates with the facial nerve by a branch arising from the latter in the aqueduct of Fallopius. In rare instances Arnold's nerve is connected with the trunk of the glosso-pharyngeal below the ganglia. Cruveilhier, Richet, and Testut have seen a nerve pass directly from the base of the tongue and the soft palate to the facial at the stylo-mastoid foramen without joining the glosso-pharyngeal. This nerve may prove to be the nerve of taste from the posterior third of the tongue which ordinarily, but not always, is, for part of its course, included in the sheath of the glosso-pharyngeal.

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[1] Medical Reports of the Effects of Arsenic in the Cure of Ague, Remittent Fever, and Periodic Headaches. 1786. London: J. Johnson, 77, St. Paul's Churchyard.

The sensory division of the facial conveys, in addition to taste impulses, impulses of common sensation from the skin of the posterior half of the external auditory meatus and part of the concha. On division of the sensory trunk of the fifth nerve behind the Gasserian ganglion the sensation of the external auditory meatus and of part of the concha remains normal. Ramsay Hunt, in an interesting communication in the *Journal of Nervous and Mental Disease* last year, points out that inflammation of the geniculate ganglion causes herpes within the auricle and external auditory canal. Inflammation spreading from the geniculate ganglion along the sheath of the facial nerve explains why facial palsy and various auditory symptoms sometimes accompany herpes auricularis. The "zoster zone" of the geniculate ganglion lies between that of the Gasserian ganglion and that of the second and third cervical ganglia.

The operation described in this paper brings the distressing symptoms induced by certain forms of internal ear disease within the control of surgery, in that such symptoms may be cured by division of the auditory nerve just as epileptiform tic in the territory of the fifth nerve is cured by dividing the nerve or removing the Gasserian ganglion. Just as in division of the trunk of the fifth nerve we may hope some day to be able to spare the motor root, which is in no way concerned in the disease, so in division of the auditory nerve we may hope to be able to spare the nerve of Wrisberg which is in no way concerned with auditory symptoms. Labyrinthine symptoms have their origin in the cochlear ganglion or in the vestibular ganglion or in both ganglia, but we cannot yet think of a method for separating surgically the cochlear and vestibular divisions of the auditory nerve so as to be able to spare the one or the other as the symptoms may indicate.

Harley-street, W.

THE SERUM TREATMENT OF CEREBRO-SPINAL FEVER IN THE CITY OF GLASGOW FEVER HOSPITAL, BELVIDERE, BETWEEN MAY, 1906, AND MAY, 1908.

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INTRODUCTORY.

THE cases which form the material of this report came under notice during the recent prevalence of cerebro-spinal fever in Glasgow. They were admitted to the City of Glasgow Fever Hospital, Belvidere, during the two years May, 1906, to May, 1908. In May, 1906, the first admissions took place, and during the rest of that year cases continued to be admitted at the average rate of 7 per month. Early in 1907 the disease became epidemic, attaining its greatest prevalence in April when 42 cases entered Belvidere Hospital. Since that period there has been a gradual decline.

In the two years Belvidere Hospital received 330 cases of cerebro-spinal fever. Of these, 105 were treated with antimeningococcic serum, while 225 cases were not so treated. In a few examples the specific organism was not recovered, though the symptoms were typical of the disease. With these exceptions, the 330 cases were bacteriologically verified.

The four sera employed were Professor Wassermann's, Professor Ruppel's, Professor Kolle's, and Messrs. Burroughs, Wellcome and Co.'s. Wassermann's serum was given to 20 patients with 13 deaths; Ruppel's to six patients with five deaths; Kolle's to 20 patients with 14 deaths; and Burroughs, Wellcome and Co.'s to 56 patients with 34 deaths. Three patients, with two deaths, had more than one kind of serum. It is not proposed to base any opinion of the relative merits of the sera on the above figures, and the various sera will not be further distinguished.

Injection was at times subcutaneous and at times into the spinal canal. Not more than 25 cubic centimetres were injected at one time into the spinal canal. The intravenous method was also employed. Few cases had one injection only. Several had more than 10. The largest number of injections in a single case was 21. The serum reactions which followed repeated injection are discussed by one of us (Currie, 1908) elsewhere; abnormal phenomena were induced but none were of a dangerous character. Of the 105 cases one half had more than 50 cubic centimetres in all. Several had more than 500 cubic centimetres in all. The largest total for a single patient was 725 cubic centimetres.

Serum was in use continuously throughout the whole two years, but at no stage did all persons admitted undergo serum treatment. The type and severity of cases varied as the outbreak progressed, and the employment of serum for all cases entering hospital during any particular period would have left no cases of a like order to act as controls. The results of administration were thus checked throughout by control cases of a similar type and the fallacy was avoided of comparing the treated cases of one stage of the epidemic with the untreated cases of another.

In placing a value on antimeningococcic serum as used by us it has seemed fitting to approach the matter from two separate points of view. If the good results of serum administration be immediate and obvious it is plain that clinical observation of treated patients will afford evidence of the benefit received. We shall therefore consider in the first place the clinical aspect of the question. If, on the other hand, administration of serum be followed by no clinical signs of improvement, it may nevertheless be revealed by statistical inquiry into case mortality and the like that serum-treated cases profited in the end. We therefore propose in the second place to deal with the subject from the statistical side.

CLINICAL CONSIDERATIONS.

To convey a correct impression of the clinical appearances which followed our serum treatment it will be well first of all to indicate the forms in which the disease was manifest among our cases. This is desirable, not only on account of the rapid changes which may occur in the course of any single attack of cerebro-spinal fever but also because the general type of the disease may differ appreciably in different places and at different times. The case mortality, for example, is variously reported by observers; this will be referred to later. It will suffice in the meantime to note, from the clinical side, that Dunn (1908) in America had not seen or heard of a case of verified cerebro-spinal fever terminating by sudden crisis at an early stage, yet this form of recovery was familiar here.

The symptoms of the Belvidere patients have already been detailed by Dow (1908). For the purposes of this report the 330 cases under notice are classified in two groups: first, the group of acute cases; and, second, the chronic group.

Acute cases.—In the acute cases the symptoms were those of intense general infection. The onset, with severe headache and vomiting, was abrupt and often notably sudden. In a short time the patients became unconscious. Some remained deeply comatose; others had periods of extreme restlessness alternating with periods of coma. The faces of these patients were pale or cyanotic. Their eyes were bloodshot and often dotted with hæmorrhages. The symptoms of local infection in certain examples were limited to some nuchal stiffness with Kernig's sign, often not very definite, few cubic centimetres of sero-fibrinous fluid containing numerous polynuclears and some lymphocytes. In September another transient attack of polymorphous erythema occurred. A few days later hard nodules, at first tender, appeared over the patellæ to which they appeared to adhere. In October a fresh attack of bilateral pleurisy occurred. During all this time the temperature ranged from 100·4° to 103·1° and the patient rapidly wasted and became extremely pale, but the pulmonary lesions showed no signs of progress. In November the heart failed: the pulse was thready and there was acute dyspnœa; the liver was large and tender and a little ascites was present. Death occurred on Nov. 15th. Though tuberculosis was suspected it was not demonstrated during life. The oculo-reaction was positive, but the cytology of the pleural effusion was not characteristic and cultures of the blood on various media and inoculations of guinea-pigs were negative. At the necropsy only one organ showed lesions which were tuberculous to the naked eye; at the apex of the left lung was a grey translucent granulation of the size of a millet seed which microscopically showed the typical structure of a tubercle. Two tubercle bacilli were detected in it. At the base of the lung was a caseous tubercle of the size of a hemp seed. In none of the other organs were any lesions found which to the naked eye or to the microscope presented any nodular structure. The pleuræ showed some adhesions. The heart was much hypertrophied (580 grammes) and dilated. It was completely united to the pericardium by fibrous adhesions without any nodular formation even to the microscope. On the free borders of the mitral valve was a collar of very fine papillomatous vegetations. On the tricuspid valve were similar but less developed vegetations. The aortic valve was covered with irregular vegetations not so finely papillomatous as those on the mitral valve. Under the microscope all these vegetations showed a loose slightly fibrillar tissue rich in cells (lymphocytes and large connective tissue cells). The tubercle bacillus could not be found in them. There was a large nutmeg liver. In the pericranium no trace of the nodules present during life could be found. Similarly, the synovial membranes of the knees showed no traces of inflammation. On the contrary, the patellar nodules were present. They consisted of a wall of connective tissue containing abundant cells and a cavity filled with a substance like that found in hygromas. In the wall two tubercle bacilli were found. This case, like many recent observations, enlarges our conception of tuberculosis and shows that lesions may be produced which differ widely from those recognised and may spontaneously disappear.

THE COMPOSITION AND PHYSICAL PROPERTIES OF RENAL CALCULI.

IN the *Biochemical Journal* for August Dr. J. Sydney Rowlands reports the results of his investigations of a series of 22 calculi, which show that there is nothing in the appearance of a calculus that will give a trustworthy clue to its composition. The pigmentation, surface, and hardness which are usually relied upon for the classification of calculi are exceedingly untrustworthy, and it is by chemical analysis alone that their nature can be determined. The work has resulted in the discovery, at least so far as this series is concerned, that uric acid and its salts are very rare constituents of calculi. In 19 of the stones examined they were absent and in the remaining three only traces were found. Of equal importance is the unexpected fact that oxalic acid, combined usually with calcium, was found in each case, although it has hitherto been regarded as a much more rare constituent than uric acid. Phosphates were also commonly present, although they are usually considered as only occasional constituents. In regard to the physical property of hardness, on which stress has been laid by earlier observers, Dr. Rowlands considers that this property is determined by the rate and process of formation of the stone, as a compactly deposited glossy stone is the most difficult to crush, irrespectively of its composition. The degrees of smoothness and pigmentation appear to depend more on the rate of deposition and the amount of pigment present in the urine than on the chemical nature of the stone. The calculi were collected from widely distributed districts in South-west Lancashire and North Wales and were analysed by Haller's method.

THE RECENT SUDDEN HEAT.

THE vagaries of the British climate are never ending and they afford such just cause for astonishment that the national custom of making the weather the preliminary subject of conversation is quite natural and excusable. September, which, meteorologically speaking, is one of the autumn months, gave much better and more summer-like weather last year than the three real summer months, while this year, after behaving in a manner no way remarkable for three weeks and more, it suddenly became so hot that few days and still fewer nights during the preceding three months can be compared with it, and so humid that the effect of the unseasonable height of the thermometer was extremely trying even to the most healthy and robust. And the heat did not end with September, but showed no decided diminution until some days after the birth of October. The figures below show the shade readings of the maximum and minimum thermometer at various places in England, Wales, and Scotland for the five days Sept. 29th to Oct. 3rd and also the difference from the average and the number of hours of bright sunshine. In Ireland the weather was warmer than usual and very humid, but the heat was not generally excessive.

—	Mean maximum temperature.	Difference from average.	Mean minimum temperature.	Difference from average.	Mean temperature.	Difference from average.	Number of hours of sunshine.
	°	°	°	°	°	°	
London	76·6	+14·9	57·0	+10·7	68·8	+12·8	36
Margate	75·0	+14·4	58·8	+ 9·7	66·9	+12·1	44
Bath	75·0	+13·6	54·8	+ 9·3	64·9	+11·4	44
Oxford	75·0	+15·0	52·8	+ 7·4	63·9	+11·2	?
Nottingham ...	76·7	+16·8	53·0	+ 8·4	64·9	+12·6	39
Liverpool	73·4	+15·8	57·2	+ 9·5	65·3	+12·6	42
Aberystwyth ...	75·2	?	61·8	?	68·5	?	49
North Shields ...	74·4	+17·4	54·2	+ 9·0	64·3	+13·2	?
Leith	71·6	+13·1	55·0	+10·4	63·3	+11·9	?
Aberdeen	71·6	+15·7	54·4	+10·4	63·0	+13·0	24

The general character of the weather was far more like the summer than the autumn type, for it was not until it had continued for two or three days that the temperature of the nights fell sufficiently low to permit the formation of the matutinal fog which is one of the characteristics of a fine September. As will be seen by the table, the mean of the daily maximum temperatures was from about 14° to 17° above the average and the mean of the minima about 7° to nearly 11° above. The mean temperature for the five days, which was nearly 67° in London and at Margate, and the extraordinary figure of 68½° at Aberystwyth, was everywhere much higher than the ordinary level for midsummer. The absolute maxima were 80° in some parts of London and also at Manchester, Bettws-y-Coed, and several places in the Midlands. The record for October, which goes back for our use of other sera besides that of Wassermann; rather we incline to the view that the acute phase of cerebro-spinal fever was specially virulent when the Glasgow epidemic was at its height and that for this reason many cases which came under treatment even in early days of their illness were already beyond the reach of remedies.

The treatment of 89 cases was begun during the first ten days of their illness—that is to say, between day 0 and day 9 inclusive; while the treatment of 16 was begun later than the first ten days of their illness—that is to say, on or after day 10. Among the 89 cases whose treatment was begun between day 0 and day 9, with 60 deaths, the case mortality was 67·4 per cent. Among the 16 cases in which treatment was begun on or after day 10, with eight deaths, the case mortality was 50 per cent. It emerges that the percentage of deaths among cases in which serum treatment was begun between day 0 and day 9 was higher than the percentage of deaths among cases in which treatment was begun on or after day 10. This result also differs considerably from the reports of others observers. Among Wassermann's 57 cases already referred to, 46 patients whose treatment was begun within the first 14 days—a period approximating to our 10-day period—had a mortality of 39·8 per cent.; while 11 patients whose treatment was begun outwith the first 14 days had a mortality of 81 per cent. Dunn (1908), as already noted, treated 15 cases with Flexner's serum. Of the 15 cases 12 patients at the time of his writing had recovered or were recovering, while three had died or ran the risk of dying. Of the 12 cured and hopeful cases all began serum during the first ten days of illness; of the three dead or doubtful cases all began serum treatment outwith the first ten days. The divergence of Wassermann's results from ours may again be explained as above by variation in the types of disease. The divergence of Dunn's results may be accounted for in a similar way. "It is possible," says this observer, "that my series included cases of an exceptional character." At least we think that the series in question included cases of a different order from many of ours.

Quantity of serum without reference to period of administration (Table III.).—With regard to the quantity of serum administered, the 105 serum-treated cases have been separated in Table III. into three divisions. Among 53 cases which had from 1 to 50 cubic centimetres of serum, with 37 deaths, the case mortality was 69·8 per cent.; among 18 cases which had from 51 to 100 cubic centimetres, with 12 deaths, the case mortality was 66·6 per cent.; and among 34 cases which had 101 cubic centimetres or more, with 19 deaths, the case mortality was 55·9 per cent. The percentages of the three divisions would thus appear to show a progressive diminution of the case mortality as the quantity of serum increases. Even if these differences were more significant than they happen to be it would be necessary to bear in mind that cases which received large totals of serum were cases which survived sufficiently long to be injected at repeated intervals and which had for this reason alone a certain prospect of recovery. Table III. does not make it plain that large doses of serum had a specially favourable influence.

Quantity of serum with reference to period of administration.—Table IV. shows details similar to those of Table III., considered with respect to cases whose treatment was begun within the first 10 days. The three divisions of Table IV. show a slightly higher case mortality than the three divisions of Table III., but preserve the same relation to one another. Table IV. affords no evidence that the administration of large quantities of serum, if begun between days 0 and 9, was of more value than the administration of similar quantities without reference to the period of beginning treatment.

Duration of Illnesses which ended in Death.

Average length of fatal illnesses without reference to period of administration of serum (Table V.).—Of serum-treated cases 68 proved fatal; the average duration of illness of the 68 cases was 26·44 days. Of untreated cases 179 proved fatal with an average duration of 19·75 days. The table as it stands suggests that in serum-treated cases which proved fatal death on an average occurred at a later period than in fatal untreated cases. It will, however, be necessary to analyse the group of fatal serum-treated cases with respect to the period at which administration of serum was begun before any conclusion can be drawn as to the relation between serum treatment and average duration of illness. This analysis is shown in Table VI.

Average length of fatal illnesses with reference to period of administration of serum (Table VI.).—Of 60 fatal cases in which serum treatment was begun in the first 10 days of illness the average duration of illness was 20·65 days. Of eight fatal cases in which serum treatment was begun after the completion of the first 10 days of illness the average duration of illness was 69·87 days. With reference to the latter class it is desirable to note that the eight cases which compose it must be looked on as in a sense selected cases, inasmuch as they had passed the acute phase of the disease during which in our experience the risk of speedy death was greatest. By detaching these eight cases from the total number of fatal serum-treated cases the result appears that the average length of illness of fatal cases whose treatment was begun in the period 0–9 was 20·65 days, a figure which differs by less than one day from the average duration of fatal untreated cases. The details of Table VI. therefore discount those of Table V. The evidence of the two tables together is insufficient to show that serum treatment had any definite influence in postponing the deaths of fatal cases.

Date of death without reference to the period of administration of serum (Table VII.).—The dates of death of cases are considered with reference to the two periods already defined, of which the first includes days 0 to 9 and covers the acute phase of the illness, while the second extends from day 10 onwards and covers the chronic phase. Among serum-treated patients the deaths were 68; of these, 35 took place in period 0–9, a percentage of 51·5; and 33 in period 10 upwards, a percentage of 48·5. Among untreated patients the number of deaths was 179, 92 in period 0–9, and 87 in period 10 upwards, percentages of 51·4 and 48·6 respectively. Alike for treated and untreated cases the percentage of deaths in both periods was close to 50. It does not therefore appear from Table VII. that the administration of serum affected the proportion of fatal cases in the two periods under notice.

Date of death with reference to period of administration of serum (Table VIII.).—In this table the fatal cases in which serum treatment began within the period 0–9 are detached from the total serum-treated cases of Table VII., and are compared in respect of the same considerations as before with the untreated cases. Of 60 fatal cases in which treatment began within the period 0–9, 35, or 58·3 per cent., of the patients died in period 0–9, and 25, or 41·7 per cent., in period 10 upwards. The difference between these percentages is in the sense that administration of serum within the period 0–9 was accompanied by a larger proportion of deaths within that period than occurred in untreated cases. It is, however, too slight to be significant and does not admit of any conclusion.

Duration of Illnesses which ended in Recovery.

Average duration of illness before permanent return of temperature to normal without reference to period of administration of serum (Table IX.).—Of serum-treated cases 37 of the patients recovered; the average duration of fever in the 37 cases before permanent return of temperature to normal, was 34·67 days. Of untreated cases there were 46 recoveries with an average duration of 30·23 days. The average duration of treated cases which recovered was greater by four days than the average duration of untreated cases which recovered. There is therefore no evidence from Table IX. that the administration of serum shortened the fever of cases which ended in recovery.

Average duration of illness before permanent return of temperature to normal with reference to period of administration of serum (Table X.).—Of 37 serum-treated patients who recovered 29 whose treatment was begun in the period 0–9 had illnesses with an average duration of 34·34 days. Eight patients whose treatment was begun in the period 10 upwards had on an average 35·87 days of fever. These data do not suggest that the administration of serum within the first 10 days of illness had any special value in shortening the course of the fever in cases which recovered.

Date of permanent return of temperature to normal without reference to period of administration of serum (Table XI.).—Among 37 serum-treated patients who recovered the fever lasted days 0–9 in four cases, or 10·8 per cent., and days 10 upwards in 33 cases, or 89·2 per cent. Among 46 untreated patients who recovered the fever lasted days 0–9 in marked decline in the necessary period of detention, but it probably also implies a decreased prevalence of the disease. It appears, however, that 737 children were admitted to this school during last year, raising the total number under treatment to 1075; of these, 673 were discharged cured and 46 were discharged at the request of the guardians before they were certified as cured, while two children died. The number of cases treated during the year by the x ray method was 508, of which 465 were discharged definitely cured and 43 were removed from the school at the request of the guardians. Of the 737 cases admitted to this school during the year 518 were classed by the visiting dermatologist (Dr. T. Colcott Fox) as cases of microsporon ringworm and 80 of endothrix trichophyton ringworm, while 139 were undetermined. The undetermined cases included some which were not ringworm, some cases treated before admission and practically cured, and some of ringworm of other regions than the scalp.

IS BERI-BERI IDENTICAL WITH EPIDEMIC DROPSY?

IN our recent annotation concerning the views of the identity of the above two diseases we adduced the evidence of Dr. T. F. Pearse, the health officer of Calcutta, in a paper of which he was the author, in its favour. It would appear, however, that other observers by no means agree with the views of Dr. Pearse: Captain D. Munro, I.M.S., and Captain T. H. Delany, I.M.S., reading papers at the Medical Section of the Asiatic Society of Bengal, gave no support to the above view. They demonstrated the constant appearance of anæmia of a marked degree with an increase in the proportion of leucocytes and also fever in all early and severe cases in epidemic dropsy, whilst these symptoms are said to be absent in beri-beri. Colonel Harris, I.M.S., also pointed out at the same meeting that in epidemic dropsy the knee-jerk was increased, whilst in all his cases of beri-beri there was absolute loss of the same from the first with one solitary exception where an increased knee-jerk was seen for one day only. He also drew attention to the before-mentioned absence of anæmia in beri-beri, and the very rare appearance of fever in the disease; and, lastly, whilst primary cardiac failure caused death in beri-beri, this was brought about by œdema of the lungs in epidemic dropsy. Captain M. McKelvie, I.M.S., furthermore drew attention to the presence of a rash in epidemic dropsy which was absent in beri-beri. On the other hand, Captain D. McCay, I.M.S., was inclined to think that beri-beri and epidemic dropsy were one disease. His experience of the state of the knee-jerks was such that he failed to differentiate the two diseases by any difference in this respect. Lastly, Dr. G. C. Chatterjee, who had had much experience of both beri-beri and epidemic dropsy at the Medical College Hospital, Calcutta, thinks that the two diseases are distinct. He also drew attention to the anæmia with low hæmoglobin value, which symptom was absent in beri-beri. In epidemic dropsy he had found the hæmoglobin as low as 20 per cent. and the red corpuscles only 1,200,000. He had never seen anæmia in beri-beri. The tenderness of the calves and loss of knee-jerk, so characteristic of beri-beri, were always absent in epidemic dropsy. Again, he points out that whereas in epidemic dropsy heart failure might occur, in beri-beri failure of the diaphragm was to be feared. There is thus seen to be considerable divergence of opinion from the views expressed by Dr. Pearse. The latter authority, however, in his reply to the discussion still maintained his opinion and repeated his argument that there was no one symptom by which these diseases could be absolutely distinguished. Although he made no attempt to controvert the statement of the above observers that anæmia and other blood changes were constant in epidemic dropsy but absent in beri-beri, yet there is a certain amount of truth in his observations; for instance, a case of beri-beri has been shown in which an increased knee-jerk has been present throughout the illness; and as regards the dread occurrence of heart failure in epidemic dropsy, this is the chief danger to be held in view in the case of beri-beri.

INFANT MORTALITY IN IRISH TOWNS.

THE deaths of infants under one year of age in Ireland during last year did not exceed 92 per 1000 registered births, showing a decline of 1 per 1000 from the rate in the preceding year; this rate compared very favourably with the rate of infant mortality in England and Wales, which during last year was equal to 118 per 1000. In the 22 town districts of Ireland the rate of infant mortality in 1907 was, however, equal to 135 per 1000, whereas in the 76 largest English towns the rate did not exceed 127, and in 142 smaller English towns the proportion was only 122 per 1000. This high rate of infant mortality in the urban population of Ireland affords evidence of the neglect of organised sanitation in Irish towns, which is corroborated by their general mortality statistics, to which attention was recently drawn in the special report on the health of Belfast. The low rate of infant mortality in the Irish rural districts shows, however, the general care of infant life by Irish mothers. It appears that among the entire Irish population, exclusive of the 22 town districts specially dealt with in the returns of the Registrar-General for Ireland, the rate of infant mortality during 1907 was so low as 72 per 1000.

VENEREAL DISEASES IN CHRISTIANIA IN THE YEAR 1907.

COMPULSORY notification of venereal diseases in Christiania has existed for many years and the annual report of Dr. Ustvedt, medical officer of health of Christiania, in the *Tidsskrift for den Norske Lægeforening* of Sept. 15th shows the marked fall in all forms of venereal disease except hereditary syphilis. Of the 1567 cases notified in 1907 gonorrhœa claimed 1015 (903 males, 112 females, including five under the age of 15 years); soft chancre, 143 (133 males, 10 females); acquired syphilis, 374 (251 males, one under 15 years, 123 females, two under 15 years); and hereditary syphilis, 35 (10 males, 25 females). In 1906 the number of new cases was 1889, while in the worst year, 1882, the number was 2533; in fact, 2·07 per cent. of the whole population, whereas the percentage for 1907 is only 0·68. Of the cases of acquired syphilis, extra-genital infection occurred in 20, two of which also had a primary sore on the genitals. The seat of infection in these cases was as follows: throat, one; tonsils, two; gums, one; lips, six; finger, one; a point ten centimetres above symphysis pubis, one; penis and point just below nipple, one; and penis and lower lip, one. In six cases the seat of the primary sore is not given. 14 women traced the infection to their husbands, and five men pleaded infection from their wives. In consequence of notification the medical officer of health and a lady medical practitioner examined 25 men and 64 women, one man and eight women having to be summoned by the police. One man refused to be examined; one man and three women refused to attend at the medical officer's quarters. Certificates from other medical men were obtained by 12 men and 12 women, of whom seven men and five women were declared diseased. 12 men and 25 women, including some children, were examined owing to their close association with infected cases; infection among these was detected in four women. Further, 314 men and 130 women have voluntarily presented death may be said to have been due to a complication rather than to the actual infective process. The issue and duration of the phase would appear to have been determined by the quality and site of the exudate, and by its fate—that is to say, by the question of its resolution or organisation.

Gross lesions such as these are a menace in themselves, apart from bacterial activity; and it is not to be expected that an anti-microbic serum can influence their course to a useful extent once they have become established. The remedy is prophylactic. Serum must be given sufficiently early to prevent their occurrence. This view is in agreement with our finding that serum-treated survivors of the first ten days of illness had a better prospect of recovery than untreated cases.

TABLE III.—*Case Mortality. Quantity of Serum without Reference to Period of Administration of Serum.*

Serum administered.	Figures.			Percentages.		
	Died.	Recovered.	Total.	Died.	Recovered.	Total.
1–50 cubic centimetres	37	16	53	69·8	30·2	100
51–100 " "	12	6	18	66·6	33·3	100
100 " " and upwards	19	15	34	55·9	44·1	100
Total serum-treated cases	68	37	105	64·8	35·2	100

TABLE IV.—*Case Mortality. Quantity of Serum with Reference to Period of Administration of Serum.*

Serum administered in cases, the treatment of which began during days 0–9.	Figures.			Percentages.		
	Died.	Recovered.	Total.	Died.	Recovered.	Total.
1–50 cubic centimetres	32	12	44	72·7	27·3	100
51–100 " "	10	4	14	71·4	28 6	100
100 " " and upwards	18	13	31	58·1	41·9	100
Total cases, the treatment of which began during days 0–9 ..	60	29	89	67·4	32 6	100

TABLE V.—*Duration of Illnesses which Ended in Death. Average Duration of Illnesses without Reference to Period of Administration of Serum.*

Cases.	Number of cases.	Average duration of illness in days.
Serum-treated cases	68	26·44
Untreated cases	179	19·75

TABLE VI.—*Duration of Illnesses which Ended in Death. Average Duration of Illnesses with Reference to Period of Administration of Serum.*

Cases.	Number of cases.	Average duration of illness in days.
Treatment begun days 0–9	60	20 65
Treatment begun day 10 upwards ...	8	69 87
Total serum-treated cases	68	26 44

TABLE VII.—*Duration of Illnesses which Ended in Death. Date of Death without Reference to Period of Administration of Serum.*

Fatal cases.	Number of deaths			Percentages.		
	During days 0–9.	During day 10 upwards.	Total.	During days 0–9.	During day 10 upwards.	Total.
Serum-treated cases	35	33	68	51·5	48·5	100
Untreated cases	92	87	179	51·4	48·6	100
Total fatal cases	127	120	247	51·4	48·6	100

TABLE VIII.—*Duration of Illnesses which Ended in Death. Date of Death with Reference to Period of Administration of Serum.*

Fatal cases.	Number of deaths.			Percentages.		
	During days 0–9.	During day 10 upwards.	Total.	During days 0–9.	During day 10 upwards.	Total.
Cases in which treatment began during days 0–9 ...	35	25	60	58·3	41·7	100
Untreated cases	92	87	179	51·4	48 6	100

TABLE IX.—*Duration of Illnesses which ended in Recovery. Average Duration of Illnesses before Permanent Return of Temperature to Normal, without Reference to Period of Administration of Serum.*

Cases.	Number of cases.	Average duration of illness in days.
Serum-treated cases	37	34·67
Untreated cases	46	30·23

TABLE X.—*Duration of Illnesses which Ended in Recovery Average Duration of Illnesses before Permanent Return of Temperature to Normal, with Reference to Period of Administration of Serum.*

Cases.	Number of cases.	Average duration of illness in days.
Treatment begun days 0–9	29	34·34
Treatment begun day 10 upwards ...	8	35·87
Total serum-treated cases	37	34·67

TABLE XI.—*Duration of Illnesses which Ended in Recovery. Date of Permanent Return of Temperature to Normal without Reference to Period of Administration of Serum.*

Cases which ended in recovery.	Number of cases reaching permanent normal temperature.			Percentages.		
	During days 0–9.	During day 10 upwards.	Total.	During days 0–9.	During day 10 upwards.	Total.
Serum-treated cases	4	33	37	10·8	89·2	100
Untreated cases	11	35	46	23·9	76·1	100
Total cases which ended in recovery	15	68	83	18 1	81·9	100

HOSPITAL AND MEDICAL SCHOOL DINNERS.

St. Bartholomew's Hospital.—The annual dinner of the old students of St. Bartholomew's Hospital was held in the Great Hall on Oct. 1st, under the presidency of Mr. H. Gilbert Barling, Dean of the Medical Faculty of the University of Birmingham. Among the guests were Inspector-General James Porter, C.B., Director-General of the Royal Navy Medical Service, and Sir Alfred Keogh, K.C.B., Director-General of the Army Medical Service; Dr. H. A. Miers, Principal of the University of London; the Rev. Dr. Gow, head-master of Westminster School; and about 150 old students, among whom were Mr. Howard Marsh, professor of surgery in the University of Cambridge, and Dr. George Wilks, Master of the Society of Apothecaries. After the usual loyal toasts that of "The Imperial Forces" was proposed by Dr. W. P. Herringham and responded to respectively by Inspector-General Porter and Sir Alfred Keogh. The toast of "The Visitors" was proposed by Dr. Norman Moore in an eminently characteristic speech full of sound learning and wit and responded to by Dr. Miers and the Rev. Dr. Gow. One notable feature of the evening was the way in which the idea of compulsory military training was advocated by many speakers and received with loud applause. The speeches were all good and commendably brief and after dinner an adjournment was made to the magnificent new pathological block which has just been opened.

St. George's Hospital.—The opening of the autumn session at St. George's Hospital was marked this year by the inauguration of the new St. George's Hospital Club. A large number of past and present students crowded the lecture theatre, where Sir William H. Bennett was in the chair and gave the new club a send-off that promises well for its future success. In the evening the annual dinner was held under the chairmanship of Dr. T. T. Whipham, consulting physician to the hospital, and a record number of St. George's men enjoyed themselves in the manner traditional to the first of October.

London Hospital.—The annual dinner was held at the Savoy Hotel on Oct. 1st. The chair was occupied by Dr. A. J. Rice Oxley, and amongst the 180 old students and others who sat down to dinner were Sir Frederick Treves, Bart., G.C.V.O., C.B., Sir R. W. Burnet, Sir Cecil Trevor, C.B., Mr. Jonathan Hutchinson, and Colonel W. F. Cavaye. After the loyal toasts had been duly honoured Dr. Rice Oxley, in proposing the toast of the evening, "The London Hospital," spoke with pride of the progress which the institution had made since he had first entered it as a student 30 years ago. Progress was the watchword of the house committee and it had lately appointed some lady almoners to the out-patient department, whose duties would be to prevent hospital abuse and to keep the hospital in touch with the activities of various external charities. The entries to the medical school were keeping up even whilst those of the majority of other metropolitan schools showed a decline in numbers. Finally, he recommended all with rich patients to interest them in the Medical College Endowment Fund. In replying, Mr. Douro Hoare, chairman of the college board, alluded to the sad loss of Mr. Harold Barnard and dwelt upon his heroism in working up to a couple of months before the end without a murmur, although himself suffering and knowing the nature of his disease. After referring to the early days of the hospital Mr. Hoare said that the ambitions that actuated those early governors still animated those of the present day—viz., to succour the sick poor of Whitechapel, to advance medical and surgical knowledge and research, and to train the best students. For the present work of the hospital Mr. Morris, the secretary, should be consulted. The toast of "The Chairman" was proposed by Dr. A. Mantle and suitably acknowledged, and after Mr. Jonathan Hutchinson had responded to a universal request for a speech by thanking the old students for so honouring him and expressing the pleasure and interest which these dinners gave him year by year the meeting broke up.

St. Mary's Hospital.—The annual dinner of St. Mary's Hospital medical school was held in the Whitehall Rooms on Oct. 2nd, Dr. A. P. Luff being in the chair. Amongst those present were Surgeon-General Sir Alfred H. Keogh, Inspector-General James Porter, Sir Anderson Critchett, Sir Malcolm A. Morris, Mr. H. A. Harben, Mr. G. A. Byron, with many members of the staff and past and present students of the hospital. The dinner was successful in every way and was aptly described by one of the speakers as "a family gathering." The toast list was, by the chairman's benign ruling, commendably short, comprising only "The King" and "St. Mary's Hospital and Medical School," given by the chairman and responded to by Mr. Harben, chairman of the hospital board, and Mr. W. H. Clayton-Greene, dean of the medical school; and "The Visitors" proposed by Dr. W. J. Gow and responded to by Sir Alfred Keogh. Dr. Luff, in his speech, paid a distinguished tribute to Mr. Harben's untiring work for the hospital and especially to his success in coördinating the aims of the medical and lay elements of the board of management; he also referred to the remarkable success of the Hospital Rifle Club in winning the four trophies which decorated the high table. The dean, in replying, gave a list of conspicuous academical honours won by the school during the last year and spoke of the neglected responsibility of the State in the medical education of the country. Sir Alfred Keogh, in replying for the visitors, said that he was not a stranger to St. Mary's, for he had chosen that hospital for a course of post-graduate study after his return from service abroad, as he considered it to be the most progressive hospital in London. During the evening Mr. Byrd-Page gave an amazing performance called "My Hands and Your Eyes," which added considerably to the gaiety of the gathering.

St. Thomas's Hospital.—The annual "Old Students" dinner took place on Oct. 2nd at the Savoy Hotel, Mr. Thomas Wakley being in the chair, supported by a large company, including Mr. J. G. Wainwright, J.P. (treasurer of the hospital), Dr. J. F. Payne, Dr. S. J. Sharkey, Mr. H. H. Clutton, Dr. H. P. Hawkins, Mr. G. H. Makins, Dr. Hector Mackenzie, Mr. Bernard Pitts, Mr. W. H. Battle, Mr. H. Betham Robinson, Dr. W. W. H. Tate, Lieutenant-Colonel J. Lees Hall, R.A.M.C., Mr. D. K. Macdowell, C.M.G., Lieutenant-Colonel H. E. R. James, R.A.M.C., Dr. L. W. Sedgwick, Dr. J. F. Priestley, Mr. F. G. Hallett, Mr. Cuthbert S. Wallace (dean of the medical school), Mr. G. Q. Roberts, and Mr. J. E. Adams and Dr. M. A. Cassidy (secretaries of the dinner committee). After the loyal toasts had been duly honoured the chairman, in proposing the toast of "St. Thomas's Hospital and Medical School," pointed out that since the year 1875, when he entered as a student at St. Thomas's Hospital, the discoveries and advances in connexion with medicine and surgery had been of such a remarkable nature as practically to transform both the hospital and the medical school. In those days antiseptic surgery was in its youth. With regard to the days that had since elapsed he was reminded of the well-known line "Felix qui potuit rerum cognoscere causas." In that comparatively brief space of time it had been the happy lot of the profession to learn the causes of many of the diseases which afflict mankind, to obtain knowledge of, for instance, the pathogenic agents of tuberculosis, of diphtheria, of tetanus, and of syphilis, and of the mode of the spread of malaria, yellow fever, sleeping sickness, Malta fever, and other devastating tropical diseases. Then, again, the introduction of serum therapeutics and vaccines, the discovery of the Roentgen rays and of radium, and the work of Finsen and others with regard to the therapeutics of light had resulted in new and often very technical methods of treatment. He had no hesitation in saying that in the journey along the paths of scientific progress St. Thomas's Hospital and its medical school could challenge comparison with any of the great medical institutions. The toast was responded to by the treasurer, Mr. Wainwright, and the dean, Mr. Wallace. The former alluded to the many years that had elapsed since he first assumed the duties of his office and the many improvements that had been effected during that period. He concluded with a sympathetic reference to the loss which they had sustained by the death of Dr. Cullingworth. The dean (Mr. Wallace) urged the long-felt necessity in London for "an average degree for an average man," the granting of which he hoped would no longer be opposed by existing graduates, and mentioned the fact that a lying-in ward would in all probability soon form part of the hospital. The toast of "The Chairman" was proposed in humorous terms by Dr. W. J. Sheppard and suitably acknowledged.

after thorough mixing, for 12 hours. Dilutions were then made exactly as described for the original sewage, cultures made with 1 cubic centimetre, and incubated as before. The results are embodied in the following table :—

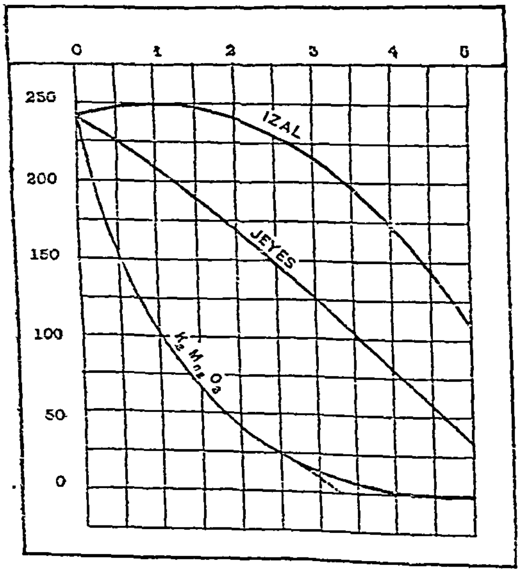
Colonies in 0·00001 Cubic Centimetre of Sewage after Treatment for 12 hours.

—	A	B	C	Average.	Corrected Average.	Conspicuous liquefiers.
Untreated sewage	185	250	279	239	239	9
$K_2Mn_2O_8$, 1-5000	83	94	93	91	99	1·3
,, 1-2500	20	28	16	21	23	0
,, 1-1000	1	0	2	1	1	0
Jeyes', 1-5000	193	165	193	192	209	10
,, 1-2500	156	106	142	134	147	7
,, 1-1000	36	25	30	30	33	2
Izal, 1-5000	252	237	224	237	261	11
,, 1-2500	209	200	226	212	233	8
,, 1-1000	101	110	92	101	111	8

The "corrected average" is made to allow for the amount of disinfectant added, which, of course, reduced the proportion of bacteria to the extent of 9 per cent.

Three strengths of disinfectant having in each case been taken it became possible to construct a curve from which the effect of other strengths could be calculated, and this is given below. It shows in the most interesting way that whilst the disinfectant action of Jeyes' fluid was proporportional to the strength of the dilution used in the case of izal the disinfectant action increased rapidly as the strength was increased, whilst with permanganate the effect ceased to increase as soon as a strength of 1 per 1000 was reached. It is, of course, to be noted in this connexion that whilst permanganate was used in the solid form, in the case of the other agents used the dilution was made from a solution, so that the results are to be interpreted accordingly. The experiments made thus pointing to permanganate as at once the strongest and cheapest agent of the three for the purpose in view, the next point was to test intermediate strengths of it, since the curve appeared to indicate that the maximum effect was reached while the dilution was weaker than 1 per 1000, as shown by the dotted line in the curve, and the time element was doubtful. The results were as follows :—

Parts of Reagent per 5000 of Sewage.



—	5 minutes	15 minutes	1 hour	2 hours	4 hours
Raw sewage	243	—	—	—	—
Permanganate 1-5000 ...	54	56	56	64	51
,, 1-4000 ...	2	1	2	1	2
,, 1-3000 ...	0	0	0	0	0
,, 1-2000 ...	0	0	0	0	0
,, 1-1000 ...	0	0	0	0	0

The fact that the results in this case were even more favourable than in the preceding series is probably attributable to the circumstance that the sewage consisted of a stool and urine, with a two-gallon flush, and not, as in the previous case, of natural sewage. The whole was intimately mixed, as before. Graduated quantities of a strong solution were also used instead of 1 cubic centimetre of a ten-times strength, so that the actual dilution was slightly stronger than before.

It was made abundantly clear that the time-element was of no importance whatever. It has been the fashion to say —upon what basis other than an *a priori* one it is difficult to imagine—that the presence of organic matter interferes with the disinfectant action of permanganates. If this be so, it appears to be a negligible factor, or, as seems more probable, the highly complex proteid of the bacteria succumbs more rapidly to the attack of the nascent oxygen of the permanganate than the less complex materials by which it is surrounded. It would seem clear also that since a solution of permanganate of a strength of 1-1000 is about the least that will completely deodorise such a mixture as that used in the experiments, we have at command a convenient rough-and-ready test of sterility. It seems safe to say that if such a mixture be deodorised completely it is also sterilised.

As regards the experiments as a whole, it may be said that for the purpose in view the Rideal-Walker method must have failed to be of service; and indeed, whilst the ideal mode of testing disinfectants has yet to be evolved, it would seem that the only safe method of procedure is to approximate the conditions of the test to those of actual practice. It is one thing to test disinfectant action on organisms suspended in sterile salt solution and another to take the organisms in their natural habitat and see what will kill them there. Moreover, the fact that the suspension of the organism containing the latter plus the disinfecting agent is transferred, without further dilution, to the culture medium and absorbed by its surface seems a distinct source of error. In the method detailed above it will be seen that the disinfectant was in each case diluted to 1–100000 of the strength at which it had been allowed to act for the purposes of the experiment, so that this cause of error was eliminated. The method is no doubt antiquated but it is not necessarily worthless for that reason, nor is every more modern one necessarily preferable. Moreover, the construction of graphic curves is, in the Rideal-Walker method, quite excluded.

Camberwell, S.E.

Reviews and Notices of Books.

Précis de Pathologie Interne. (*Précis of Internal Pathology.*) Par MM. BALTHAZARD, CESTAN, H. CLAUDE, MACAIGNE, NICOLAS, et VERGER, Professeurs agrégés des Facultés de Médecine. Paris : G. Steinheil. 1907. 4 vols.: vol. i., pp. 829; vol. ii., pp. 676; vol. iii., pp. 947; and vol. iv., pp. 868. Price complete 32 francs.

THE preface to this work, which is in effect an important text-book of medicine, is written by Professor C. Bouchard, who states that it is the product of six men who, having studied together and having similar ideals, have combined to produce a text-book which shall be at once scientific and practical.

The first volume is devoted to the infectious diseases, which are described by M. Nicolas of Lyons, and to the intoxications, the account of which is contributed by account for the rise. He seems to think, however, that the bacillus of enteric fever can retain its virulence for long periods in the walls of privy middens, and he regards evidence that he adduces as suggesting that the middens begin in July to exercise a special influence on the propagation of enteric fever which increases in August and culminates in September. He then proceeds to ask how far a theory that the house-fly is the agent of transmission of the bacillus is supported by facts. He finds that in Manchester the number of cases of enteric fever begins to ascend four to five weeks after a considerable increase in flies and two weeks after a marked increase of deaths from diarrhœa. But after further detailed consideration he expresses a doubt as to how far flies do actually act as a source of infection and he proceeds to discuss the food factor. Watercress he dismisses as improbable and his mental attitude with regard to lettuces, celery, and fruits is a similar one. The influence of shell-fish, especially mussels, is discussed in considerable detail, but Dr. Niven finally comes to the conclusion that the contribution from shell-fish is essentially secondary. To the summer and autumn holiday period some influence is, he concludes, ascribable, but the factors are so complicated that it is difficult to measure the influence. Dr. Niven does not regard the previous prevalence of diarrhœa as bearing much relation to the subsequent enteric fever, and he is unable to add any facts as regards the interesting question of seasonal predisposition—i.e., whether the climatic effects of season predispose the body to attack in autumn—but he evidently suspects that the high degree of infectivity which attaches to cases of enteric fever in autumn and winter may be an important factor in bringing about the seasonal rise in the disease. Dr. Niven sets out his purely provisional conclusions seriatim but they would occupy too much space to reproduce. His recommendations embody the abolition of pail closets and middens, effectual house drainage, protection of foods, manure, and refuse from flies, the substitution of refuse tips by destructors, the registration of sellers of shell-fish, and the discovery of overlooked cases of the disease. Perhaps the last factor ought to be placed first. Dr. Niven's report abounds with discussions of epidemiological interest, but as the volume runs to over 300 pages the report itself must be consulted. The Manchester Milk Clauses were vigorously applied during 1907 and 700 samples of mixed milk were examined for tuberculosis. These milks came from Cheshire, Derbyshire, Staffordshire, Lancashire, Shropshire, and Yorkshire, the number of farms which sent tuberculous milk into Manchester ranging from *nil* to 12·5 per cent. The tuberculous mixed samples were followed up and 28 cows were found to be suffering from tuberculosis of the udder. Of these cows 21 were slaughtered in the presence of the veterinary surgeon and in five cases the whole carcass was passed as fit for food, in two cases parts of the carcass were passed, and in the remaining 14 the whole carcass was condemned.

The City of Edinburgh.—The population of the Scottish capital for 1907 was estimated at 345,967. The birth-rate was only 21·6, a rate markedly below nearly all the large towns of England and Scotland during the same year. In 1890 the birth-rate of the city began to fall and since then it has steadily declined. Sir Henry D. Littlejohn does not discuss the matter in relation to age, sex, and class distribution. As regards the death-rate, it was heaviest in the first quarter and lightest in the third, the rate for 1907—14·4 per 1000—comparing favourably with the other large towns in England and Scotland. Aberdeen and Bristol both had lower rates. The popularity of the fever hospital appears to be on the increase judging from the percentage of the total number of notified cases of scarlet fever, enteric fever, and diphtheria which obtained admission. The increase has been most marked in the case of diphtheria, the percentage of admission being double that which obtained nine years ago. There was, too, in 1907 a marked difference in the fatality rate of those cases treated inside and those treated outside the hospital, the former rate being 4 per cent., the latter 12 per cent. Dr. Claude B. Ker in his report for the city fever hospital furnishes some interesting data. The number of cases admitted for diphtheria was 546, but subsequent experience seems to have shown that 67 were cases of tonsillitis. In many of these cases the diphtheria bacillus had, it was stated, been found prior to admission, but none could be found subsequently and the clinical appearance of the cases did not justify the diagnosis of diphtheria. Of the other cases, seven were cases of scarlet fever and two secondary syphilis. As regards enteric fever, of the 91 cases sent in as enteric fever only 69 were found to have the disease. The experience of 1907 in the matter of cerebro-spinal fever is instructive. Of 122 cases notified as suffering from that disease 112 were found to be so suffering and of these 88 died, the fatality rate being 78·57 per cent. Of the patients 43 per cent. were under five years of age and 81 per cent. under 20 years of age. 22 of the patients died within 24 hours of admission. Post-mortem examinations were made on 34 of the patients and, even after two or three days it was common to find the brain and spinal cord thickly plastered with purulent matter. The relief afforded by drawing off the purulent fluid from the spinal cord was only temporary and drugs were but of little avail. Hot baths were found to be most efficacious in assuaging pain and the children were found to be crying for their baths, which were given three times daily. None of the serum employed gave very satisfactory results except that of Dr. Simon Flexner of New York, which was moderately successful. Dr. Ker discusses the question of the so-called cross-infections in fever hospitals. In his view such cases are not due, as is sometimes believed, to the carriage of infection from one ward to another by attendants, an event which in his experience is extremely rare. He attributes the phenomenon to the introduction of patients with two diseases running concurrently or by the introduction of cases wrongly diagnosed. Or again, a patient introduced with one disease may be incubating another. Dr. Ker gives illustrations of all these methods and he furnishes a rather formidable list of persons who admitted for one disease contracted another. There are some wards in the hospital for pulmonary tuberculosis and during 1907 130 cases were admitted to them, the cases being mainly those of an advanced type. We cannot close this brief notice of Sir Henry Littlejohn's last report without an expression of deep regret at his retirement from the position which he has held for so many years and of our appreciation of the eminent services which he has rendered to preventive medicine.

County Borough of Blackpool.—Dr. F. J. H. Coutts, in the course of observations on the question of infantile mortality, states that it is astonishing to find the trivial reasons which are sometimes advanced to induce mothers to discontinue suckling and he adds that some monthly nurses and midwives are too ready to assume that the mothers' milk is insufficient and that it is necessary to use some patent food which has been sent to the midwife by an advertising firm. The female inspector who has recently been appointed is, Dr. Coutts observes, frequently encountering the problem of the unwanted, illegitimate child. In one case it was ascertained that the child had been in nine different homes during its life of ten months, while another, three months old, had been in three different homes. The experience of Dr. Coutts is to the effect that supervision over homes where one child is kept is as necessary as over homes where several children are taken.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8396 births and 4139 deaths were registered during the week ending Oct. 3rd. The annual rate of mortality in these towns, which had steadily declined in the six preceding weeks from 15·8 to 13·2 per 1000, was equal to 13·3 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these towns averaged 13·4 per 1000, and in London the mean rate in the same period did not exceed 12·5. The lowest annual death-rates in these towns during the week under notice were 5·6 in Hornsey, 6·1 in Smethwick, 6·6 in Willesden, and 6·7 in West Hartlepool; the rates in the other towns ranged upwards, however, to 18·6 in Preston, 18·9 in Tynemouth, 19·6 in Salford, 21·3 in Rotherham, and 21·4 in Bolton. In London the death-rate during the week did not exceed 12·2 per 1000. The 4139 deaths from all causes in the 76 towns showed an increase of 24 upon the number in the previous week, and included 521 which were referred to the principal epidemic diseases, against numbers declining from 1343 to 527 in the five preceding weeks; of these 521 deaths, 363 resulted man *for drinking or domestic purposes*. In Manchester it is the same, while in Birmingham the distance prescribed is 40 feet, in Dublin 10 feet, and in Belfast 5 feet. On the question of ash-bins there is again a great diversity in the regulations, as also in the case of certain objectionable fittings such as various forms of closets and traps.

The study of these by-laws has been of interest to us, for in the Report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work, which was published on July 4th, 1896, there is scarcely a single thing now prohibited by these by-laws on the one hand, or made imperative to be performed on the other, that was not either condemned or recommended by the Commissioners of THE LANCET 12 years ago.

LIBRARY TABLE.

The Soul of Spain. By HAVELOCK ELLIS. London: Archibald Constable and Co. 1908. Pp. 419. Price 7*s*. 6*d*. *net*.—This is an interesting book and Mr. Havelock Ellis manages to justify his rather romantic title in an unmistakable way. He deals hardly at all with the political, industrial, or commercial aspect of a country which he obviously loves, and does not even allude to Spanish achievement in medicine, for these he considers to have a bearing only on the physical side of Spain; but devotes his time and highly trained powers of attention to the interpretation of certain aspects of the Spanish spirit, as manifested in literature, art, ethics, and behaviour. This spirit he finds characterised by "an attitude of heroic energy, of spiritual exaltation directed, not chiefly towards comfort or towards gain, but towards the more fundamental facts of human existence"—an estimate of Spanish efforts and ideals, which he certainly tells us much to justify, but which is distinctly opposed to the popular notion. The author has, however, journeyed up and down the country on several occasions and during a long extent of time, and throughout the whole period he has been meditating over and revising his impressions, so that with growing familiarity he might remove his prejudices. This is, of course, the best of all ways to get a clear view of essential facts, and the impression left upon the reader by this interesting work is that Mr. Ellis has spared no pains to make his diagnosis of the Spanish character a true one. Much of his thesis is certainly borne out by the literature and art of Spain, though the painters, dramatists, and novelists of other countries have usually introduced the Spaniard, especially the female Spaniard, into the story or on the canvas, merely in order to display the stereotyped qualities of the erotic, brilliant, and cruel. The chapter on the women of Spain is made particularly interesting by the anthropological insight displayed, and medical men on reading this section of the book will probably acquiesce in the author's psychology, though the result is to bring before them a very different person than that heroine of Merimée's novel whom Bizet has helped to immortalise. Of Velasquez and Cervantes Mr. Ellis has many things to say, of the sort that no one can contradict, and some things which have been said many times before, but he will be found here a clear and responsible guide to sound judgments. Whether his implicit belief in the essential nobility of the Spanish character rests upon a sound psychological basis or is the outcome of a fascination which he does not seek to disguise, we are not able to say. But we recommend the book to our readers, suggesting that a volume, when ably written and with honest conviction, often gains in interest by its ability to arouse a little opposition.

The Cathedrals of Norway, Sweden, and Denmark. By T. FRANCIS BUMPUS. London: T. Werner Laurie. 1908. Pp. 295. Price 16*s*. net.—Mr. Francis Bumpus has written four or five books already upon the cathedrals of different countries, several of which have been reviewed in our columns. He has hitherto treated districts that may be assumed to be familiar to all who have travelled—France, Germany, and Italy, for example—so that he was appealing to a large audience who had seen the things which he was describing; he had also another large audience who hoped to see those things soon, for there must be few among us in these days of rapid journeys who have not formed an intention of seeing the cathedrals, say, of Chartres, of Cologne, and of Florence before they die. Now, however, Mr. Bumpus takes us to lands quite familiar to many sportsmen but not much frequented by the artist or archæologist, so that his task of interesting the public is more difficult. The ecclesiology of Norway, Sweden, and Denmark has hitherto been but little regarded and the author has been unable to get the assistance of any published work dealing with it in a general manner. So that he is addressing readers who for the most part have not seen the cathedrals in question, who also have not seen pictures of them, and who, lastly, will find that the most salient characteristics of the buildings are not those which call for admiration at Rouen, say, or Siena. No Danish Romanesque church, for example, is at first sight beautiful; the cathedral at Trondhjem, a mixed Gothic and Renaissance structure, which, as Mr. Bumpus says, is the architectural pride of Norway, has been restored out of recognition, and its grand and lovely interior has to compensate for its external appearance; Upsala Cathedral, which appears to be the most important cathedral in Sweden, is a very unsatisfactory Gothic erection. It is quite certain that some such uncomplimentary reflections as the foregoing will be the first to rise to the lips of those who see the buildings. But Mr. Bumpus is a painstaking and enthusiastic *cicerone*. He shows us how to look at these rather novel structures and balances their internal beauty against their faults of exterior. He has also mapped out in his book a circular tour for travellers wherein the great cathedrals are but episodes. He points to the beauties of many less conspicuous churches and cathedrals and the result of reading his book should certainly be to make us want thoroughly to explore such buildings as the cathedrals at Roeskilde, Lund, and Strengver. The long holiday is becoming more and more of a necessity to medical men, as the stress of modern life compels them to transact their business under ever-increasing pressure. There are many reasons why they should go to Scandinavia, and it appears from Mr. Bumpus's book that one of these, hitherto unsuspected, is the interesting nature of the church architecture.

Rational and Effective Treatment of Hip Disease. By P. BRUCE BENNIE, M.A., M.D., B.S. Melb., Honorary Medical Officer, Melbourne Hospital for Sick Children; President of the Melbourne Medical Association 1896; President of the Melbourne Pediatric Society 1907. Founded on experience of numerous cases in hospital practice during 28 years. Compiled by ALEXANDER B. BENNIE, M.A., M.B., B.S. Melb. London: Baillière, Tindall, and Cox. 1907. Pp. 108. Price 5*s*. net.—The object of this work is to bear witness to the value of the Thomas method of treatment of hip disease. The author holds that the Thomas splint is the only contrivance by which complete rest can be given to the joint and thus the disease can be arrested. He insists, however, that the splint as usually supplied by instrument makers is not that which was invented by Thomas. Full directions are given for measuring a patient for the splint and for making it. The fitting of a Thomas splint is nearly always left to the instrument maker and he employs a routine method. Dr. Bennie may be followed safely by those who wish to get the best results from splint treatment.

a Professor, vice Lieutenant-Colonel A. M. Davies, retired (dated Sept. 17th, 1908).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel William B. Day is placed on temporary half-pay on account of ill-health (dated Sept. 30th, 1908).

Captain E. T. Inkson, V.C., from London, is appointed for duty in India.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Joseph Adams to be Surgeon-Lieutenant-Colonel (dated Sept. 22nd, 1908).

TERRITORIAL FORCE.

Yeomanry.

Buckinghamshire (Royal Bucks Hussars): The undermentioned officers from the Buckinghamshire (Royal Bucks Hussars) Imperial Yeomanry are appointed to the regiment with rank and precedence as in the Imperial Yeomanry (dated April 1st, 1908): Surgeon-Captain Leonard Arthur Barwell and Surgeon-Captain Francis Ernest Marston. Queen's Own Oxfordshire Hussars: Surgeon-Lieutenant Archibald Henry Hogarth, from the Oxfordshire (Queen's Own Oxfordshire Hussars) Imperial Yeomanry, to be Surgeon-Lieutenant, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Field Artillery.

2nd South Midland Brigade: The undermentioned officers from the 1st Worcestershire Royal Garrison Artillery (Volunteers) are appointed to the brigade, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Arthur Charles Oldham, Surgeon-Captain George Herbert Rutter, and Surgeon-Lieutenant George Mackie (to be supernumerary).

Royal Garrison Artillery.

Devonshire: The undermentioned officers, from the 2nd Devonshire Royal Garrison Artillery (Volunteers), are appointed to the unit, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain James Philip Stephens Ward and Surgeon-Lieutenant George Douglas Kettlewell.

Infantry.

4th Battalion, Cheshire Regiment: The undermentioned officers, from the 1st Volunteer Battalion, The Cheshire Regiment, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Conrad Theodore Green, Surgeon-Captain John Brown Yeoman, and Surgeon-Captain Andrew Robertson Wilson (to be supernumerary). The undermentioned officers from the 3rd Glamorgan Volunteer Rifle Corps, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Major Arthur Lloyd Jones, Surgeon-Captain George Arbour Stephens, and Surgeon-Lieutenant Charles Leonard Isaac (to be supernumerary). 7th (Fife) Battalion, The Black Watch: The undermentioned officer, from the 6th (Fifeshire) Volunteer Battalion, The Black Watch (Royal Highlanders) is appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant David Elliot Dickson. 5th Battalion, Loyal North Lancashire Regiment: The undermentioned officer, from the 2nd Volunteer Battalion, The Loyal North Lancashire Regiment, is appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain James Wood. The Herefordshire Battalion, The King's (Shropshire Light Infantry): The undermentioned officers from the 1st Herefordshire Volunteer Rifle Corps, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain James Neil Macmullan and Surgeon-Lieutenant Arthur Llewellyn Baldwin Green. 6th (Banff and Donside) Battalion, Gordon Highlanders: Surgeon-Lieutenant Ellington Reed Turner from the 4th (Donside Highland) Volunteer Battalion, The Gordon Highlanders, is appointed Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). 5th (Renfrewshire) Battalion, Argyll and Sutherland Highlanders: Surgeon-Captain Claude William Marshall, from the 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 6th (Renfrewshire) Battalion, Argyll and Sutherland Highlanders: Surgeon-Captain Wallace Ainsforth Pride, from the 3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 7th Battalion, Argyll and Sutherland Highlanders: Surgeon-Lieutenant Peter McFadyen, from the 4th (Stirlingshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). 9th (The Dumbartonshire) Battalion, Argyll and Sutherland Highlanders: Surgeon-Captain William Buchan Armstrong, from the 1st Dumbartonshire Volunteer Rifle Corps, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Correspondence.

"Audi alteram partem."

THE PREVENTION OF TUBERCULOSIS (IRELAND) BILL.

To the Editor of THE LANCET.

SIR,—It is satisfactory to find that Dr. J. C. McWalter's opposition to the Prevention of Tuberculosis (Ireland) Bill is lessening, for in his letter in your issue of Oct. 3rd, p. 1035, he says: "Everyone could see that compulsory notification may be an excellent thing in a city where a whole population works together in crowded factories and a doubtful experiment for a whole country where the conditions are absolutely different." Now, if Dr. McWalter had shown that phthisis occurred only in such cities and not in other places there would be some weight in his opinion. For instance, Belfast is, practically speaking, the only big city in Ireland where a large number of the population work in large factories, and on Dr. McWalter's reasoning compulsory notification should apply to that city alone in Ireland; but unfortunately in both Cork and in Dublin the death-rate from phthisis is higher than in Belfast; and, further, in every other city in Ireland—nay, more, in every district in Ireland—this fell scourge has its victims. During 1907 of the 8828 deaths from phthisis (tuberculous phthisis and phthisis not otherwise defined) 2596 occurred in Leinster, 2178 in Munster, 3100 in Ulster, and 954 in Connaught—that is, in every part of Ireland, urban and rural. Now of these, 1054 occurred in Belfast; yet that city alone with only 1054 deaths is to be under compulsory notification (according to Dr. McWalter's plan), while the whole of the rest of Ireland with 7774 deaths is not. Such a line of reasoning carries its own reply. Dr. McWalter says the example of an odd city goes for nothing, he wants me to point out an entire country where compulsory notification prevails and causes no hardship. The cities I enumerated were Sheffield, Bolton, Edinburgh, and New York, and their united population is 3,335,314—that is, only about 1,000,000 less than the population of the whole of Ireland. In each of these cities the phthisis death-rate had steadily fallen before they adopted compulsory notification, but not content they are determined it shall fall still more, and yet, sad to say, during all this period the death-rate from tuberculosis has risen in Ireland. If the compulsory notification of the disease is adopted it must apply to every part of Ireland (urban or rural) until the disease is stamped out.

As to a country where notification is adopted: 1. Let me give, if not a country, what is practically the same, a great state of a country. New York State is larger than England, it has a population little less than twice that of Ireland—viz., about 8,000,000—and in it the notification of even incipient cases of tuberculosis is rendered obligatory; the same is true of New Jersey and the District of Columbia. Compulsory notification will soon exist in the whole of the United States. 2. On Sept. 28th, 1908, at the International Congress on Tuberculosis in Washington, Dr. A. Newsholme stated, on behalf of Mr. Burns, that the *Local* Government Board had decided to issue an order compelling all Poor-law medical officers to notify forthwith the medical officers of health of any sanitary authorities making application for such notification, all cases of phthisis occurring amongst parochial patients. This order would also render it obligatory on other Poor-law officials to and modern observations in regard to our knowledge of the marvellous solar system. The book, of course, offers very little material which can usefully be discussed in a medical journal but it is needless to remark that the subject offers most interesting reading to the possessors of the scientific mind. The author has entered into a rather full discussion of recent writings concerning the existence of the canals in Mars. Certain highly imaginative and exceedingly popular ideas in regard to this planet have, he says, obtained such prominence and are supported with such a mass of apparently valid observations that they cannot be dismissed with a word. In 1877 the Italian observer, Schiaparelli, found on the continents of Mars a number of straight dark lines which he called *canali*. For many years the reality of this discovery was doubted but about ten years later the existence of some of these markings was confirmed and astronomers have since observed these channels. The tendency, however, of modern views is in the direction of incredulity.

THE ARMY MEDICAL REPORT FOR 1907.

THE Army Medical Report for 1907 has been issued and certain of its features are noticed in a leading article on p. 1026 of our present issue. It contains other noteworthy details, prominent amongst which is the section dealing with malarial disease, which, it is satisfactory to note, has decreased in India, although its prevalence during the year 1907, as indicated by the admission ratio per 1000 of strength, exceeded that of the year 1905, the numbers being for 1905, 111·9; 1906, 179·5; and for 1907, 153·8. Under the head of enteric fever in India the report states "that the usual seasonal prevalence in the spring and autumn was much less marked, the cases being more evenly distributed throughout the year." The investigations carried on at the Central Research Institute at Kasauli as to the part played by "bacillus carriers" in spreading the disease agree with the results obtained by Koch and others in Europe. As it has been shown that the discharge of bacilli is intermittent, intervals of 80 days occurring, and that in convalescents it persists for several months, sometimes many years, and that in Germany one authority asserts that 1·5 per cent. of the general population are "carriers," the report urges "that where dozens of cases occur daily ...... to detect all slight cases of enteric, to examine and repeatedly examine the excreta of convalescent and suspected carriers, plus persons handling food in kitchens, institutions, bakeries, dairies, sweet manufactories, &c., &c., while an ideal to be aimed at, is at present as impracticable in the prophylaxis of typhoid, as it is in the case of diphtheria, influenza, pneumococcus, *meningococcus*, or cholera 'carriers.'"

The result of rigid sanitary precautions in the garrison of Bermuda was rewarded by the very light list of only 14 cases of enteric fever, including women and children, notwithstanding an exceptionally heavy outbreak of the disease among the civil population. The insanitary conditions in the town of Hamilton and the endemic prevalence of the disease, sometimes in so mild a form as to render accurate diagnosis difficult, if not impossible, and the constant influx of visitors from the American continent, many of whom may well be typhoid carriers, add to the responsibility and difficulty of the sanitary authorities in dealing with this disease. Valuable scientific work is being carried out in the bacteriological laboratory at Pretoria with a view of determining what proportion of enteric fever occurring in South Africa is due to bacillus typhosus. So far it has been found that out of 35 strains of the typhoid bacillus group, isolated from various sources, 20 per cent. of the total were atypical, including one case of bacillus coli communis.

The report shows the actual deaths from pulmonary tuberculosis to be extremely few in the military service as compared with the male civil population. It is, however, justly pointed out that regard must be had to the invaliding figures, and it should be borne in mind that the ratio represents only young male adults living, for the most part, under favourable sanitary conditions, and who but recently, after careful medical examination, showed no trace of the disease, which it seems is not unfrequently latent under apparently [illegible]nditions.

Investigations into an epidemic of sore-throat at the Duke of York's School showed that the disease was non-diphtherial in type among the boys, while in the cases of attendants, washerwomen, and so on, pseudo-diphtheria bacilli were found, and in two instances of persons indirectly associated with the school the throat swabs gave pure cultures of diphtheria bacilli. These facts may explain why in cases diagnosed as diphtheria severe symptoms have been followed by prolonged convalescence and frequent occurrence of paralysis. In some cases recovery has been quick and uninterrupted; in others symptoms of rheumatism have almost invariably succeeded.

It is curious to note that the death-rate from diseases of the digestive organs is above that of civil life, but it must be noted that cases of hepatitis and liver abscess, probably contracted in the tropics, are included. It is suggested that less stress is now laid on dental caries as a reason for invaliding and that the routine dental examination is not being followed up.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 9th, 1830.

AMPUTATION OF THE LEG AT THE KNEE-JOINT.

AT the sitting of the Académie des Sciences on the 13th of September, M. Velpeau, of the Hôpital St. Antoine, read a paper on the above operation, which, according to him, is not so dangerous as is generally believed, and ought even to be preferred to ordinary amputation, where the joint is healthy. He has himself performed it twice with complete success, once in January, 1830, on a young man affected with necrosis of the tibia, part of which it was M. Velpeau's intention to remove, when he found, after having made a transverse incision, that the bone was throughout diseased, so that it was necessary either to perform the amputation of the thigh, or the exarticulation of the leg; he preferred the latter, as, in fact, a part of it was already performed by the transverse incision. The operation did not afford any-thing of interest; the wound speedily healed, and the patient was quite well after eight weeks. The second case was that of a robust man, 29 years of age, with fracture of the left leg: when he was brought into the hospital, twenty-four hours after the accident, considerable hæmorrhage had taken place, and almost the whole of the limb was covered with ecchymosis; the fracture appeared, however, simple, and there was but a small wound at the inner ancle, and scarcely any swelling. The limb was carefully dressed, and a favourable result of the case was anticipated, when, on the following night, the patient was suddenly seized with furious delirium, the cause of which could not be ascertained until the fifth day, when it was discovered that mortification began to take place, and three incisions having been made over the fracture, the tibia was found to be minutely fractured, and its fragments surrounded by a gelatinous mass of very offensive smell. Profuse suppuration of an unhealthy kind ensued, accompanied by excruciating pain and hectic fever, so that the removal of the limb did not admit of any longer delay. The success of the above case determined M. Velpeau to perform the exarticulation of the leg at the knee-joint, as amputation below it was inadmissible. The operation took place on the 4th of June, and the patient was perfectly cured on the sixtieth day. The third case which had come under M. Velpeau's observation, was that of a young man whom he happened to examine at the Bureau Central, and who in his twelfth year had undergone the operation at the Hôpital des Enfans, on account of gangrene. From these instances, and others related by medical writers, M. Velpeau concludes, that exarticulation of the leg ought not to be entirely excluded from the index of surgical operations, as it has hitherto been done by most modern writers on surgery.

QUACKERY.—"In the year 1782, that extraordinary empiric of modern days, Dr. Graham, appeared in London. Among the furniture of Dr. Graham's temple was a celestial bed, which, he pretended, wrought miraculous effects on those who reposed in it; he demanded for its use during one night, one hundred pounds, and such is the folly of wealth that several personages of high rank acceded to his terms."—*Hone's Table Book.*

of establishment and upkeep, will be ten millions a year; and then if a local authority wish to build a sanatorium they are faced with the express declaration of Dr. Cox's College of Physicians—that it is an extravagant and impossible outlay for a country like this.

The only real effect of the Bill will be to drive patients from the physician to the quack. There will be compulsion on the doctor to notify every consumptive who comes before him, but none on the consumptive to go to the doctor; he can roam at large and go where he will, spreading contagion as heretofore, impossible to check as long as he avoids the physician. The latter may indeed be called in at the end, but only when curative or preventive measures are alike futile. If it is granted, then, that compulsory notification can only do practical good when all cases of phthisis are notified, what percentage of people will present themselves for notification in a country where already nearly a quarter of the people die without calling in the doctor?

I am, Sir, yours faithfully,

Dublin, Oct. 4th, 1908. J. C. McWALTER.

THE FEEDING OF ELEMENTARY SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The beginning of the provision of meals for school children has, of course, opened the question of methods to be used in selection. The public and many of its committees, accustomed to hearing evidence given by medical men on the subject of starvation and looking also to the profession to dogmatise on all aspects of dietetics, have erroneously assumed that by inspection and examination of children the medical man is able to say that one child should be fed by the ratepayers whilst another may be left to the care of its parents. Anyone with experience must be aware that this is a mistaken conclusion. Starvation may, of course, be recognised, but what is wanted in the case of the children is the recognition of *underfeeding* which may perhaps have continued only for a week or so. In the majority of cases such a diagnosis is absolutely impossible.

Weighing and measuring, however useful in providing evidence of "tendencies," give practically no certain information as to the individual. The average healthy child seems to have an extraordinary vitality and may be *underfed*, I do not say *starved*, for long periods and yet remain apparently in excellent health, though it is probable that its future growth is being injuriously influenced. If measurements and appearances are not to be relied on, by what is the diagnosis to be made? Even in cases where it is obvious that the tissues of the child are not being sufficiently nourished it is always possible that the absorption from the digestive tract or metabolism is at fault. We have all seen cases of children from good homes who if dirty and dressed in rags would at first sight have been considered as insufficiently fed.

Leaving aside such cases where the appearance makes it obvious that something is wrong either with the child or its feeding there remain the underfed children of whom I first spoke; these, healthy in appearance, cannot be recognised with certainty by anyone as being insufficiently fed. It is possible to point out cases that should be fed but it is not possible for the medical man on inspection and examination to affirm that children are not underfed. The only possible method, if selection is to be exercised and mistakes are to be avoided, is that of visiting the homes and acquiring information there. Of course, I do not suggest that the doctor should do this.

My reason for writing this letter of truisms is that already in places where the medical men are helping in this work—and it is certain they should help—there is a tendency to leave the decision on the question of feeding individual children entirely in the doctor's hands. If he reports that "there is no evidence on examination that the child A. B. is underfed" it is immediately concluded that he means that the child is sufficiently fed at the time of examination, a statement which no medical man would think of making without further information than inspection affords. The fallacy has arisen in the lay mind from the confusion of "starvation," which is recognisable, with "underfeeding," of which it is very difficult to be certain. It seems to me important that we should make it clear that we cannot be sole judges in this matter in all cases.

I am, Sir, yours faithfully,

Blackburn, Sept. 29th, 1908. MILES B. ARNOLD.

CANTHARIDES POISONING.

To the Editor of THE LANCET.

SIR,—Since communicating with you recently re a case of acute cantharides poisoning in an adult,[1] a second case of a very similar nature has come under my notice and I venture therefore to record these few additional facts.

The patient, an Austrian subject, was admitted to one of the private wards of Johannesburg Hospital on July 26th, under the care of Dr. H. B. Currie, giving a history as follows. He was taken ill on Saturday, July 18th, with (1) stabbing pain in the left side just at the costal margin, and (2) pain in the knee-joint (right). On the 24th he developed a cough, which was associated with scanty mucopurulent expectoration of a greenish tint, whilst the pain previously in existence became intensified and shortness of breath on exertion was experienced. Accordingly, he consulted a practitioner in town who advised the application of a blister. At 8 A.M. on the 25th a piece of plaster (emplastrum cantharidis B.P.), measuring 5½ inches by 4½ inches, was applied to the chest wall below and to the outer side of the left nipple. 13 hours afterwards (at 9 P.M.) the first symptoms appeared. The patient states that he felt a desire to pass urine every hour or so and could not keep (i.e., retain) it for a longer period. Pain was experienced at the end of the penis when the act was nearing completion; the urine voided was the colour of beetroot water. Headache developed in conjunction with the other symptoms, but there was neither vomiting nor purging; indeed, it appears that for the first 48 hours the bowels remained inactive.

On admission, on Sunday, July 26th, the physical signs indicative of disease were those of pleurisy with effusion on the left side. There was a raw surface measuring 5½ inches by 4½ inches below and to the outer surface of the nipple. The temperature was 102° F., pulse 106, and respirations 39 per minute. The patient's tongue was heavily coated. His bowels had not been opened since the 24th. The right border of the heart extended a finger's breadth beyond the edge of the sternum; the apex beat was well defined, being visible in the fifth left interspace at a point one inch internal to the nipple line (very little displacement noted). The first and second sounds were clear at the apex and there was no suspicion of a murmur. The belly wall was not rigid and there was a complete absence of abdominal pain and tenderness. The patient apparently did *not* experience pain in the region of the kidneys. There was no undue frequency of micturition though a good deal of pain of a burning nature was present just within the orifice of the urethra towards the end of the act of micturition. The urine was loaded with amorphous urates and red cells and yielded after careful filtration a well-defined cloud of albumin. The specific gravity of the filtered urine was 1028, and it was acid in its reaction to litmus paper. A subsequent analysis made on July 28th yielded results as follows: Specific gravity of filtered urine, 1027; reaction of filtered urine, acid; fairly dense cloud of albumin precipitated on warming the solution; centrifugalised deposit found to consist of amorphous urates, leucocytes, red blood cells, granular casts, and a few kidney cells. A third analysis carried out on the 30th demonstrated the existence of numerous kidney cells. The specimen of urine selected for examination proved turbid from precipitation of mucus and urates but cleared up on gently warming. Its specific gravity was 1022 and reaction was acid as on previous occasions. The centrifugalised sediment yielded one or two red blood corpuscles, a fair sprinkling of leucocytes, several short granular and hyaline casts, a few epithelial cells from the urinary passages, and quite a number of renal epithelial cells with coarsely granular protoplasm, scattered and in groups of from 20 to 30 or more. On August 1st the chief change noted was a diminution in the number of formed elements. Beyond a few truncated granular casts and kidney cells all in an advanced stage of degeneration there physician, he being asked to report on pathological products often without any information being given to him of the clinical details. Dr. SLATER suggested that the clinical pathologist and the physician should consult together by the bedside on equal terms and that the conclusions arrived at should be the joint result of their deliberations. The development of medicine as a science was the theme of the address given by Dr. A. M. KELLAS at the Middlesex Hospital, and he traced the chief theories of disease from early times to the present day. He then dealt with the relation of chemistry to medicine and showed that a full comprehension of the physiology of the body cannot be obtained until we know the composition of proteins and other obscure organic bodies, and he pointed out that with regard to pathology this knowledge is equally important. He mentioned the enormous numbers of atoms entering into these complex molecules, and emphasised the fact that our lack of knowledge of the true chemistry of the body is delaying the progress of medicine. Real progress in these difficult subjects could best be made by the adequate endowment of several professorships, and for this only a moderate sum would be needed whilst the results would fully compensate for the cost incurred. Dr. HARRINGTON SAINSBURY, at the London School of Medicine for Women, spoke of the importance of the individual cell in both medicine and surgery. Surgery is yearly extending its bounds and claiming more and more of the grosser structure of the body, but the cell, its powers, and its potentialities must ever remain the realm of the physician, for the individual cell is beyond the claim of the surgeon. Yet even in surgery the cell plays an essential part. In vain will the fragments of a broken bone be placed together if the osteoplastic cell be not ready to exert its powers; the tying of a cut artery is useless if the plastic properties of the cell are not employed to close the vessel. Further, he urged the importance of not over-valuing the drug treatment of disease, though he claimed for drugs that the powers which they do possess should be recognised. The public look upon a prescription as the essential part of treatment, but the true physician must recognise the importance of other methods of healing, and amongst these the influence of the mind must not be forgotten. Dr. SAINSBURY concluded his address by urging the need of cultivating all the powers of the mind, for in the study of medicine there is no small risk that the student may neglect all that stands outside the medical curriculum. The student should acquire and maintain an interest in poetry, in art, or in music, to consider only the æsthetic side of the mind, but in addition the student must not forget that the ethical and the religious aspects of humanity need also consideration and culture, for they are of even more importance than the æsthetic. All these mental potentialities need culture for their growth, for they will atrophy if they are disused.

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[1] See THE LANCET, Sept. 12th, 1908, p. 800.

From these glances at some of the opening addresses at the medical schools it can be seen that the lecturers all appreciate the dignity and importance of medical studies, they suggest the lines along which progress must go, they urge the need of due attention to the claims of science, and they point to the rich reward to humanity which follows the teaching and practice of medicine. At most of these addresses eminent laymen were present and we hope that they laid to heart the teaching which they there heard and that they are in consequence more alive to the economic importance of medicine. That the new students will remember all the valuable advice poured forth at these addresses is too much to expect, but at least it may be hoped that they were influenced for good and that they will study their profession the better for hearing of the high ideals which have been placed before them.

The Professional Status of Anæsthetists.

RECENT discussions which have arisen have associated the ever-present question of how to prevent deaths occurring during anæsthesia with the present position of those members of our profession who have adopted the specialty of administering anæsthetics. Dr. F. W. HEWITT, physician-anæsthetist to St. George's Hospital, stated at the meeting in Dublin of the British Association for the Advancement of Science views practically identical with those which he advanced some weeks back at the Medico-Legal Society. His paper was published in THE LANCET of Sept. 19th, p. 873, and from this it will be seen that his contention is that deaths from anæsthetics are in some cases due to want of skill or experience on the part of those who give them, and he pleads for a legal enactment which shall limit the practice of giving anæsthetics to those who possess medical diplomas. But it is rightly pointed out that even this safeguard is not sufficient since there are many of the qualifying bodies which grant degrees or diplomas enabling the holders to practise, but which do not insist upon candidates for their qualifications producing evidence of even a modicum of knowledge of the action and uses of anæsthetics. To remedy this serious blot upon our scheme of medical education it would be necessary for the General Medical Council to advise the Privy Council to insist that all qualifying bodies should fall into line with the English Colleges and should require everyone seeking to practise to show his competence, by examination or otherwise, to administer anæsthetics. We concur in hoping that some such step will be taken in the near future.

There is some reason to believe that the medical student of to-day is influenced by the appraisement set by the controlling powers upon the bewildering number of subjects which he is expected to master during his hospital course. Anæsthetics have less allurement than let us say bacteriology, and examinations of the dark passages of the human frame offer more interest to the beginner than acquiring a perfunctory acquaintance with the processes of narcosis. So that when, as is alleged, the hospital authorities belittle the importance of anæsthetics as a part of the curriculum, the students, not slow to avail themselves of the opportunity offered to them to lighten the burden which they perforce must bear, leave anæsthetics severely alone. The writer of a letter in the *Times* who adopts the *sobriquet* of "A Hospital Anæsthetist" tells us that hospitals are sometimes badly equipped in the department of anæsthetics, and that the men who undertake the duties of anæsthetists to hospitals and of teaching students are often juniors who regard think tends to show that Mark was actually the author of the Gospel which bears his name.

Oct. 6th, 1908. I am, Sir, yours faithfully,

A PHYSICIAN.

DEGREES FOR LONDON MEDICAL STUDENTS.

To the Editor of THE LANCET.

SIR,—I have been much struck by the one-sided view you take of the question of an M.D. degree for London students. I think that graduates of the University of London should have something to say on this subject. I may be writing from a purely selfish point of view, but I am certain that I am giving the opinion of many fellow graduates. The M.D. London was looked upon both by the profession and the laity as the hall-mark of medicine. Why strive to lower it? If everyone can obtain it what value will it have and what recompense can be given to the unfortunate men who worked so hard in the old days to obtain it? As it is, the standard has already been lowered quite enough. If everyone obtains the M.D. London will there be left any higher honour for students to strive after? Surely ambition is of some value, and it does not appear likely that everyone will be content to remain on a dead level. Surgeons would not be pleased if the F.R.C.S. was made accessible to everyone. And after all, is the M.R.C.S., L.R.C.P. a qualification to be ashamed of? Surely it is of more value than many a Scotch or Irish degree. To illustrate the grievances which alterations of this kind cause, I may mention a point which does not appear to have been touched upon previously—namely, that formerly one had to pass a separate examination for the B.S. London, whereas now the degree is styled M.B., B.S., so that although formerly M.B., B.S. stood for two separate examinations, the B.S. being for a higher examination in surgery, now the letters only signify the ordinary pass examination. Therefore the time and trouble spent over the old B.S. degree now counts for nothing.

In conclusion, Sir, if everyone wishes to be styled "Doctor" there is no objection, but do not lower the standard of the University of London examinations to allow them to obtain this title.

I am, Sir, yours faithfully,

M.B., B.S. LONDON.

THE SECOND CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY AT BRUSSELS.

(FROM OUR SPECIAL CORRESPONDENTS.)

(*Continued from p. 1037.*)

Acute Angiocholitis.

ON the second day of this Congress Professor QUÉNU and Dr. DUVAL (Paris) made a communication upon Acute Angiocholitis, which they said was always due to microbic infection, the microbes reaching the liver either by the bile ducts or by the hepatic artery and portal vein. Infection along the vascular system was, however, more common in the primary forms due to pneumococci, influenza, and cholera, whilst secondary angiocholitis was associated with gall-stones, the penetration of foreign bodies into the bile ducts, and pregnancy. Angiocholitis also occurred in the course of piles and of appendicitis. Treatment consisted in operation, during the quiet stage if possible, drainage of the bile ducts and gall-bladder following upon cholecystotomy.

Cancer.

The meeting then resumed the discussion on Cancer, and Professor CZERNY, the President, presented his report upon Cancer of the Œsophagus and Stomach, Liver, Biliary Ducts, Pancreas, and Peritoneum. He thought that cancer of the œsophagus should be operated upon whilst it was still localised and he preferred operation to the use of bougies. Carcinoma of the gall-bladder was so often secondary to gall-stones that especial care should be taken to recognise and to treat them early. Cancerous peritonitis was nearly always secondary to cancer of a neighbouring organ, though the primary lesion might be difficult to discover even at the necropsy. The treatment of cancer of the stomach, as was well known, had proved very satisfactory, and Professor Czerny advocated a better selection of cases rather than more extensive operation. Cancer of the pancreas, he thought, was extremely difficult to recognise during life, and although the organ might be removed in part he considered palliative measures to be the more satisfactory,

Mr. D'ARCY POWER (London) brought forward a case of Primary Malignant Disease of the Spleen. He showed the specimen, which weighed 66 ounces. The patient was a woman, aged 47 years, who died six months after the operation. He stated that the case was the twelfth of which a record existed. All the cases were sarcomatous. Splenectom was performed; five cases recovered and seven were cured.

Abscess of the Liver.

Reports on Abscess of the Liver were presented by D LEGRAND (Alexandria) and by Dr. VORONOFF (Cairo) They considered that alcoholism was a factor in producing a tendency to amœbic or pyogenic infection and agreed tha an operation ought to be performed as soon as pus was recognised. Plugging was the only way of arresting hæmorrhage during operation and no reliance should be placed upon the thermocautery or forcipressure when dealing with bleeding from the liver.

Professor PAYR (Greifswald) pointed out that much was still required to complete the diagnosis of tumours of the liver. He thought that the severe pain which often accompanied simple tumours of the liver and the tendency towards their association with malignant disease justified early surgical interference in all cases where they could be recognised.

Anæsthesia.

Reports on anæsthesia were presented by Professor VALLAS (Lyons), Dr. LOTHEISSEN (Vienna), Professor REVERDIN and Dr. BERGALONNE (Geneva), Dr. ROUFFART and Dr. WALRAVENS (Brussels), Professor REHN (Frankfort), Dr. ZAHRADNICKY (Bohemia), Dr. MOTY (Paris), Dr. MACARTHUR, and Dr. ALEXIUS VON HINTZ (Maresvasarhely).

Surgery of the Spinal Cord.

Professor F. DE QUERVAIN (La Chaux-de-Fonds) introduced a discussion on Injuries of the Spine and Spinal Cord. In his paper he pointed out that there were no definite signs of spinal concussion, that was a functional disturbance without any anatomical lesion. When a case of spinal injury could be examined at once it was generally possible to distinguish between a partial and a total lesion of the cord, but later it might not be possible. When the tendon reflexes were present it was practically certain that a total lesion of the cord was not present, but the converse of this proposition was not always true. The nervous symptoms present did not enable a diagnosis to be made between compression and contusion of the spinal cord. From experiments on dogs and rabbits there was no probability of success in suturing the spinal cord. Neither extradural nor intradural hæmorrhage of the spinal cord was an indication for operation, except perhaps when a hæmatoma of the cervical cord was causing interference with respiration, but the diagnosis would be very difficult. When a diagnosis of hæmatomyelia was made an operation should be performed. An operation was also indicated when the diagnosis suggested that the symptoms present were due to fracture of the laminæ of a vertebra or when a skiagram showed that a bullet was in the neural canal. An operation was advisable, though the chances of success were small, when an irreducible fracture-dislocation was present, or when a splinter of bone was compressing the cord. At present an operation in a total transverse section was looked upon as useless, but if the reported successful case was confirmed by the work of others then an operation would be clearly indicated in nearly all such cases. Dr. de Quervain had collected 218 cases of operation for injury of the spine and cord, with the result that recovery followed in 13·8 per cent., and of these in 10·5 per cent. the improvement was certainly influenced by the operation; 22 per cent. were improved; in 37·2 per cent. no obvious change was present, in 1·8 per cent. the operation appeared to do harm, and in 25·2 per cent. the patient died.

Professor BERARD (Leipsic) reported on Tumours of the Spinal Cord and urged that in doubtful cases there should always be a consultation between the physician and the amounted to over 208 per 1000 of the strength of the force employed in the London district. Such an amount of infection reveals a state of affairs not only deplorable in itself but fraught with danger to the public health, unfortunately not only of this but of future generations, a danger for the mitigation or stamping out of which, in the present state of public opinion, it seems hopeless to look to legislation. The death-rate and invaliding rate from diseases of the heart and circulatory system are high and afford abundant material for study and investigation. It is said, and fairly strong evidence is brought forward to support the dictum, that a soldier of 30 is "at least five years older than a civilian of the same age," and this sudden passing of the soldier into middle age is due to circulatory troubles, but the numerous exceptions to such a generalisation and the fact that the officer class are not affected in the same way would seem to indicate that the admittedly unsatisfactory state of things arises from causes which are capable of being brought under control. We are inclined to believe that a series of causes *acting together* are often responsible: syphilis, alcohol, tobacco, malarial infection, with climatic changes and altered conditions of blood pressure. "As regards the relative importance of the different causes of invaliding, diseases of the circulatory system still hold the first place," as they have done, with one exception, for the past 27 years. While disordered action of the heart in immature recruits may be sometimes entirely functional in its nature "as from a dilated stomach," in which case they ought not to be invalided but detected and cured, we must reiterate the conclusion which we have recently on several occasions expressed in these columns, that, as a rule, it is due to different forms and degrees of cardiac dilatation, which, apart from any valvular defects, leads to regurgitation at the auriculo-ventricular orifice. It would be interesting if we could obtain from the medical records of civil life some data as to the prevalence of diseases of the heart and circulatory system amongst those constantly engaged in arduous labour, as in lifting and removing articles of heavy furniture. We are inclined to surmise that in the case of the soldier it is the intermittent nature of the heavy work, at any rate in the case of persons with fairly sound arteries, that does the mischief.

During the past year important changes were introduced in the scale of rations for foreign stations, which were brought into more uniformity as regards grocery and vegetable rations, the scale adopted being per diem: tea, ⅝ ounce, or coffee, 1¼ ounces; sugar, 2 ounces; salt, ½ ounce; pepper, 1-36th ounce; fresh vegetables, ½ pound, or dried vegetables, 2 ounces, and this must be considered together with the purchase value of the messing allowance granted to each soldier. The meals are now served to the mess collectively in rooms and dining halls specially set apart for the purpose, which allows of a greater variety in foods and obviates the dirty and unhealthy practice of using the men's dormitories for meals. Steady, if slow, improvement is reported in the comfort of barrack buildings from year to year. Reconstruction and remodelling of the drainage systems have been widely proposed and in some instances inaugurated, soldiers' married quarters have been improved and extended, the water-supply has been dealt with, lavatory accommodation increased, and plunge- and shower-baths erected, and the gravity of the question of sewage disposal has been recognised. Should the hygiene and sanitation of our army ever attain the standard now indicated the result will more than reward and justify the care and expense. The present state of affairs is a matter of gratification, at least when compared with that revealed half a century ago after the Crimean war. We must briefly notice, however, a section of the report which appears to us both gloomy and unsatisfactory: this deals with the all-important subject of recruiting, touching essentially and, as we have on several recent occasions emphasised in these columns, indicating the grave problem of the health and physique of the young adult male population. Last year, roughly speaking, nearly 300 per 1000 recruits were either rejected on inspection or found unfit within three months of enlistment. Notwithstanding that a fixed standard of weight has been abolished, that the medical examiners have passed all who came up to the physical requirements of infantry of the line, although they were afterwards rejected by the recruiting officer because they were too small for the corps of their choice, that "a more lenient standard of dentition" has been adopted, "that varicocele is viewed with greater leniency now than in past times," and that men are now accepted "with only one-sixth of the normal acuteness of vision in one eye, provided that the other is normal," "the majority of recruits were growing lads ...... 95 per cent. of the total out of work at the time of enlistment ...... in many instances suffering from want of food ...... most of the men will not be capable of doing the work of a mature soldier for at least two years. ...... Immaturity has always been the outstanding defect of our recruits, and in this respect little or no improvement was shown during the year." Both under the head of recruiting and invaliding the unsatisfactory result of employment of inexperienced medical men is alluded to. It is impossible to exaggerate the importance of these points, being, as they are indeed, the finger on the pulse of the national health. Recent investigations have given an uncertain answer to the question whether the national health was improving or deteriorating. We should like to see a small practical committee appointed which would make up its mind and give us a definite opinion on this point. Practical experienced medical men and employers of labour could tell us more real truth on this subject than philanthropists, statesmen, and men of science, with their own axes to grind and their own theories to establish at the expense of facts.

Annotations.

"Ne quid nimis."

RECENT CHANGES IN THE NAVY.

WE are glad to notice that the new medical director-general of the navy has lost no time in strengthening the Haslar course. During the last session the examination of recruits, the administration of anæsthetics, and other subjects coming within the sphere of a naval surgeon's duties have been systematically taught. We observe with pleasure that on the whole the recent changes in the victualling of the navy have been attended anæsthesia, whilst the mid-European nations employ intraspinal and local anæsthesia to a much greater extent than is usual in Great Britain. The discussion on diseases of the spinal cord was not productive of anything new. The discussion on hernia produced a number of interesting reports amongst which not the least interesting was that by Dr. W. Sheen of Cardiff upon hernia in relation to the Employers' Liability Act. He states that true traumatic hernia is of rare occurrence and is usually strangulated. The more usual form occurs with a gradual and painless onset, though the rupture may first be noticed at work during a lifting effort.

The meeting suffered from a wealth of material. There were more members anxious to speak than time would permit and some were disappointed. The international committee has recognised this grievance and at the next meeting there will only be three subjects for discussion instead of five as at the present meeting.

It will be seen that every one of the questions discussed was on a matter of great surgical interest, but the mistake is nearly always made in congresses such as these of having too wide a subject for discussion, for if the question is extensive the remarks of subsequent speakers do not deal with the same points and the utility of the discussion is greatly diminished. This is a danger that should be guarded against, for it leads to fruitless meetings. The Congress at Brussels was very happy in the choice of subjects and some advance in surgical opinion should result.

THE SANITARY DEFENCE OF THE HEDJAZ RAILWAY.

(By the British Delegate on the Constantinople Board of Health.)

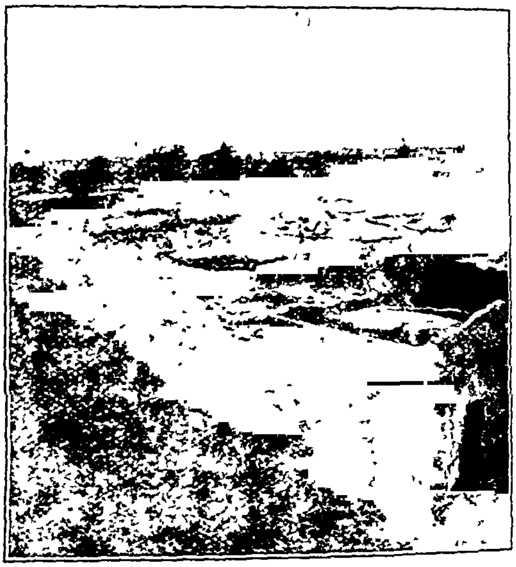
(*Illustrated with Reproductions of Photographs taken by the Author.*)

II.[1]—Tebuk.

From Ma'an the Commission went on to Tebuk, about 11 hours distant by railway. Most of this portion of the journey was done by night, so that I can say little of the country lying between the two, but shortly after leaving Ma'an the line passed through a very remarkable bit of scenery. The flat or undulating desert suddenly comes to an end on the brink of a steep descent and here the line, by a series of curves, passes through a gorge or ravine known to the Arabs as the Batn-el-Ghoul, literally the "Belly of the Fiend." The sandstone rocks are of rather fantastic shapes, though much less so than in the gorge leading to Medaini-Salih, to be mentioned later. But their colour is extraordinary; I should rather say colours, for they are striped and blotched in patches of reds, browns, yellows, purple, even green, and almost white, giving a curiously weird aspect to the landscape, particularly as seen at sunset.

Tebuk is situated at the 692nd kilometre from Damascus and consequently is 610 kilometres north of Medina. It lies at a height of 775·3 metres (say 2500 feet) above sea level. The village is about half a mile away from the station in the midst of a highly picturesque oasis of palm trees, figs, and pomegranates. The station is an important administrative centre on the railway. Moreover, Tebuk has always been a place of some consequence on the Pilgrims' Way, as it was here that the Beni Attiyeh, the largest bedouin tribe in this region, were paid their toll-money to allow the passage of the pilgrims. The Commission, for reasons to be discussed later, decided definitely that Tebuk will be the most suitable place in which to establish the permanent lazaret for pilgrims returning from the Hedjaz, and for this reason I propose to describe in some detail the local conditions, more particularly from the point of view of their suitability (or the reverse) for the establishment of such a lazaret. The village occupies a position slightly raised above the general level, but for many miles round the desert is an almost flat expanse; the sandy and gravelly surface shows only slight irregularities, which would offer no difficulties for building purposes. The site recommended for the future lazaret lies to the south of the village and the west of the line. This site would be limited on the north by the railway hospital and on the east by the line, and in the other directions would be practically unlimited. In the neighbourhood is a large quarry of excellent building stone: it is a coarse-grained sandstone and is looked upon by the railway engineers as incomparably superior to the stone found at Medaini-Salih or El Oula, further down the line.

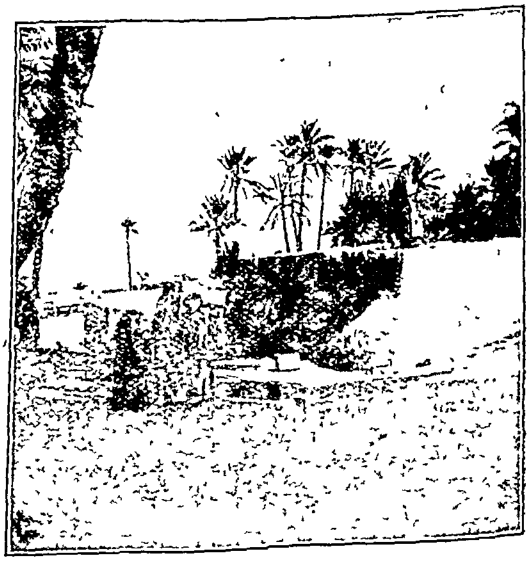
Fig. 4.



The village of Tebuk.

There is an abundant water-supply at Tebuk. It comes from two main sources—a spring in the middle of the village and wells. The spring bubbles up in the middle of a reservoir (or *burket*), of which there are three here, situated, as usual, immediately under the protecting walls of the *kala'at.* The water flows to the other reservoirs and thence by primitive irrigation channels to all parts of the village and appears to be ultimately lost in the sand again. In the main reservoir the water was breast deep; it was full of growing weeds and at the edges there was rather an offensive scum, but in the middle there was a bare patch of white sand and here the water could be seen foaming and bubbling up through the sand. The "head" must be considerable to produce such an effect, and it is not altogether easy to say where it comes from; but presumably it is from the distant hills to be seen on either side of the line. These

Fig. 5.



Reservoirs at Tebuk.

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[1] No. I. was published in The Lancet of Sept. 26th, p. 971.

she is paid by the family employing her, save where a well-wisher bears the expense for a woman unable to do so herself. In all cases of lying-in or of prolonged illness on the mother's part a member of the committee visits to make sure that the work is being properly done. This system is stated to have been very successful in Frankfort and, so far as lying-in mothers are concerned, has been adopted by the Jewish community of the East-end of London. The lying-in woman of the working class in England, even when she is able to pay for what she needs, is often in a precarious position. It is not easy to procure female help of any kind and, of course, it is far more difficult to obtain the assistance of a woman possessing skill and experience. It is well known that the Midwives Act does not meet the situation.

THE AGE OF PARENTS A FACTOR IN THE ETIOLOGY OF RICKETS.

Dr. P. Gelati recently studied the records of the out-patient clinic for children in connexion with the Parma medical school and found (says *La Semaine Médicale* of Sept. 23rd, quoting from the June number of *Pediatria*) that out of 3121 little patients who were taken for advice during a period of about four years 615 were rachitic, that is 19·71 per cent. Contrary to expectation he found that those coming from country districts were more frequently affected than those who lived in towns, the percentage of rachitics being 17·26 for the town-bred children and 24·77 for those from rural districts. Regarding the influence of the parents' age, the statistics showed unmistakably that the older they were at the time of the children's birth the more likely the children were to show signs of rickets. Thus in the case of parents below 20 years of age the percentage of rickety children was only 11·6; in that of parents between 20 and 30 years of age, 19·2; and in that of those over 30 years of age as much as 22·2. Though the age of the parents has such a marked influence on the frequency of rickets this factor is of far less importance than that of breast-feeding and this was fully proved by Dr. Gelati's researches. It is worthy of remark that he found that rural parents were less prolific than those living in towns.

READING IN BED.

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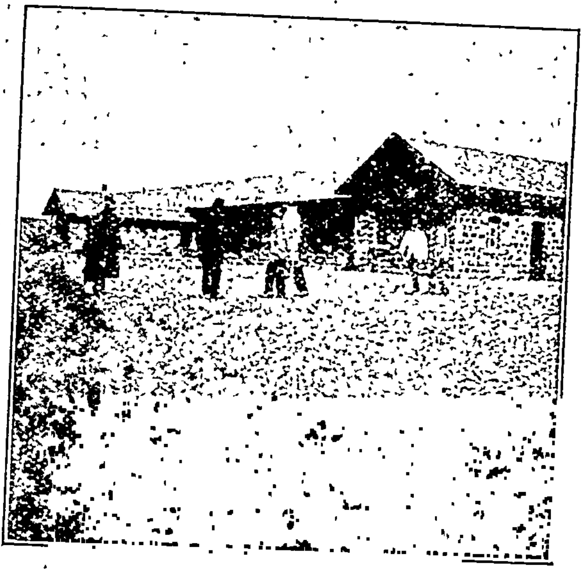
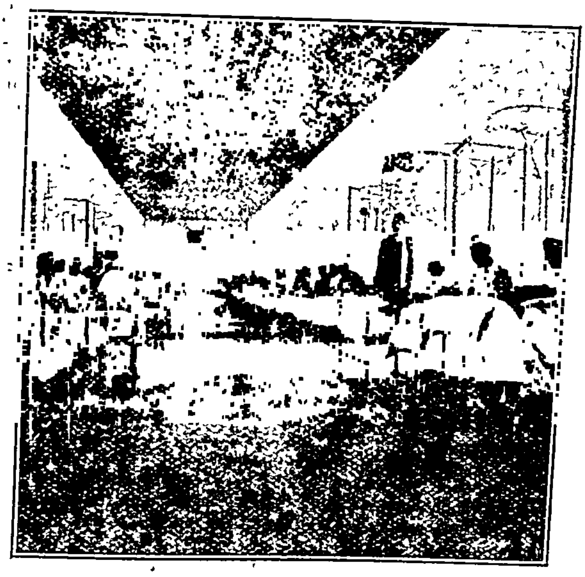
[1] See THE LANCET, Dec. 8th, 1888, p. 1185.

FIG. 6.



The Hedjaz Railway Hospital at Tebuk.

FIG. 7.



Interior of the Tebuk Hospital.

There are practically no meteorological observations available at Tebuk. I have, however, noted that on June 8th, 1908, the thermometer in the shade stood at 30° C. at 10 A.M., at 34° at 1 P.M., and at 36° at 2.30 P.M.; and that on the 10th it rose to 37° C. at 1 P.M. and to 39° at 2.30. Meissner Pasha tells me that the day temperatures at Tebuk are about the same as those at Medaini-Salih but that the nights are incomparably cooler. The nights, it may be added, were always cool during our brief journey on the line, the thermometer sinking to 25° C. (77° F.) and even lower. Sandstorms are commoner at Tebuk than at Ma'an, but much less frequent than at Medaini-Salih; they occur at Tebuk about once every two months.

(*To be continued.*)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE winter session commenced in Birmingham on the first Monday in October and in the Medical Faculty it was inaugurated in the usual way by a conversazione which was, if anything, more than usually successful. The Dean of the Medical Faculty, Professor H. G. Barling, aided by Professor R. Saundby and Mr. John Humphreys, received the numerous guests in the Founders' Room of the University Club, whence they wandered to the various laboratories, lecture rooms, and museums, where a series of attractive exhibitions were displayed. Professor Barling had provided a most excellent concert, and the audience was enthusiastic in its appreciation of Mrs. Ranalow's songs and Messrs. Heath's, Lloyd's and Pickup's instrumental music. Great interest was shown in the radiographs exhibited by Mr. J. Hall-Edwards and Dr. A. Emrys Jones and in the preparations of various types of tubercle and tubercle bacilli, and the photo-micrographs illustrating phases of the life-history of the malarial parasite, the fluid from a plague bubo, and the eggs of various parasites, which were exhibited in the Pathological Laboratory.

The Provident Dispensaries Scheme.

The scheme for the establishment in Birmingham of a series of provident dispensaries, to which I drew attention in my last letter, was carefully and fully expounded to a meeting of the Birmingham and District General Medical Practitioners' Union on Sept. 29th by Mr. Neville Chamberlain. The main objects of the scheme are to relieve the out-patient departments of the hospitals, to supplement the existing provident agencies, and to secure to the medical profession some remuneration from patients who are able to pay something for the work done for them. Mr. Chamberlain pointed out that he and those who had been working with him recognised that hospitals competed with each other for out-patients and in their reports pointed with pride to the number of cases treated. The General Hospital was certainly trying to break through the system which had been established and after giving first aid to certain cases it requested them not to attend again but to go elsewhere for further treatment. One hospital alone, however, could do little, for the people turned away from it could go to some similar institution. Therefore, coöperation between the hospitals was essential if success was to be obtained. To secure such coöperation it was necessary that the staffs of the hospitals should be convinced that the patients turned away could secure satisfactory treatment elsewhere, and the object of the new scheme was to provide the necessary she is paid by the family employing her, save where a well-wisher bears the expense for a woman unable to do so herself. In all cases of lying-in or of prolonged illness on the mother's part a member of the committee visits to make sure that the work is being properly done. This system is stated to have been very successful in Frankfort and, so far as lying-in mothers are concerned, has been adopted by the Jewish community of the East-end of London. The lying-in woman of the working class in England, even when she is able to pay for what she needs, is often in a precarious position. It is not easy to procure female help of any kind and, of course, it is far more difficult to obtain the assistance of a woman possessing skill and experience. It is well known that the Midwives Act does not meet the situation.

THE AGE OF PARENTS A FACTOR IN THE ETIOLOGY OF RICKETS.

Dr. P. Gelati recently studied the records of the out-patient clinic for children in connexion with the Parma medical school and found (says *La Semaine Médicale* of Sept. 23rd, quoting from the June number of *Pediatria*) that out of 3121 little patients who were taken for advice during a period of about four years 615 were rachitic, that is 19·71 per cent. Contrary to expectation he found that those coming from country districts were more frequently affected than those who lived in towns, the percentage of rachitics being 17·26 for the town-bred children and 24·77 for those from rural districts. Regarding the influence of the parents' age, the statistics showed unmistakably that the older they were at the time of the children's birth the more likely the children were to show signs of rickets. Thus in the case of parents below 20 years of age the percentage of rickety children was only 11·6; in that of parents between 20 and 30 years of age, 19·2; and in that of those over 30 years of age as much as 22·2. Though the age of the parents has such a marked influence on the frequency of rickets this factor is of far less importance than that of breast-feeding and this was fully proved by Dr. Gelati's researches. It is worthy of remark that he found that rural parents were less prolific than those living in towns.

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[1] See THE LANCET, Dec. 8th, 1900, p. 1145.

Opening of the Medical Session.

After the presentation of the portraits at the infirmary the winter session of the Faculty of Medicine was informally opened by the distribution of the prizes gained by the students during the past year. The chair was taken by Mr. Teale and there were present Dr. N. Bodington, the Vice-Chancellor of the University; the Right Hon. C. G. Milnes Gaskell; many members of the teaching staff; Professor A. S. F. Grünbaum, the Dean of the Faculty of Medicine; and Sir Clifford Allbutt who distributed the prizes and awards. A short address was then delivered by Sir Clifford Allbutt, which was listened to by the students with marked appreciation. I have heard Sir Clifford Allbutt speak on many and varied occasions during the last 25 years, sometimes on occasions more or less formal, sometimes on discussions at the medical societies and elsewhere, yet I doubt if I have ever heard him use his natural gifts and his absolute mastery of the English language with more grace and wisdom. His peroration was one that will long remain in the minds of all who heard it.

Oct. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Winter Session in Edinburgh: Introduction of Professor Walker and Professor Caird.

THE winter session of the medical classes in Edinburgh was opened on Oct. 1st, about a fortnight earlier than has hitherto been usual. Although the date was in the middle of the week the students turned up in commendable numbers. The new professor of chemistry delivered his introductory address at 10 o'clock in the McEwan Hall to a large audience. Principal Sir William Turner occupied the chair and in a few suitable words introduced Professor James Walker. The lecturer took for his theme the question of the "Transmutation of Metals," a subject which he treated in a very interesting manner. In concluding his lecture he struck a note which it may be hoped may often be struck again. He said that he was not a believer in science in the sense that any ultimate value to mankind by the discoveries of science should be rigorously excluded from the mind of the scientist. No better stimulus could be given to the scientist than to know that his work if successful might be of use in the daily life of his fellow men. A pure scientist was a pure myth. Those of them who did not go out into the world and did not quite sever the leading strings of their *alma mater* were in great danger of mistaking the university for the universe. The greater men of science whose thought actuated and stimulated their own and succeeding generations fell into no such error. They thought of their work not only in relation to the progress of science but also to the betterment of mankind. At noon, in the same hall, the Principal again presiding, Professor F. M. Caird was introduced to a large audience. Professor Caird gave a rapid but artistic survey of the development of surgery in Edinburgh from the year 1505. He showed the place which the first Munro occupied and the great influence exercised by John Bell. He compared hospital treatment then with now, adorning his lecture by excerpts from old case-books.

Resignation of Dr. J. Murdoch Brown.

Many old students of the Edinburgh school will regret to learn that Dr. Murdoch Brown has resigned his post as senior assistant physician to the Royal Infirmary on account of the continued unsatisfactory character of his health. This makes a vacancy at the infirmary, and it is satisfactory to know that there will be several eligible candidates.

The Medical Education of Women in Edinburgh.

Notwithstanding the agitation of the past summer the School of Medicine for Women, which has its headquarters at Surgeons' Hall, has had a gratifying opening of its winter session. Students have more than enough to occupy their minds with their undergraduate studies, for the present curriculum requires earnest thought and steadfast purpose if satisfactory results are to be attained.

The Future of the Glasgow Hospital for Skin Diseases.

The directors of the Glasgow Hospital for Skin Diseases have summoned a meeting of subscribers to consider the present position of the hospital. The history of the hospital is shortly as follows: It was founded in 1871 and in 1878 removed to its present building in Elmbank-street, where the treatment of outdoor patients was carried on. Accommodation for indoor treatment has been provided in the Western Infirmary of Glasgow under an agreement whereby, in return for a sum of £2000 contributed by the hospital towards the infirmary buildings, the hospital has enjoyed the use of two wards of ten beds each, male and female, in the infirmary, with the right of appointing the physician to those wards. Till his death that appointment was held by Sir Thomas McCall Anderson. Up to the end of last year 3208 patients obtained the benefit of treatment in those special wards. In view of the advantages which have resulted from this virtual union of the two institutions as regards the indoor department the directors think that the time has now come when it would be for the public advantage if the dispensary work now carried on at Elmbank-street were also transferred to the Western Infirmary buildings. There is already there a large and well-equipped general dispensary, and the managers of the Western Infirmary are not only prepared but desire to open a dispensary for skin diseases as a part thereof. That this would also be of advantage to the students there is no doubt. If this scheme is carried out the Glasgow Hospital for Skin Diseases will cease to exist as a separate institution. It is to be laid before the subscribers that a lectureship on dermatology should be founded in the University of Glasgow with £2500 of the hospital's funds, the free balance of the assets of the hospital thereafter to be handed over to the Western Infirmary for the endowment of beds in the wards appropriated to the treatment of skin disease. It is also suggested that the names of Sir Thomas McCall Anderson and Dr. A. B. Buchanan, the joint founders of the hospital, should be suitably associated with the scheme and that a record of the endowment of the beds should be placed on a tablet in the Western Infirmary. It is probable that this scheme will be endorsed by a meeting of subscribers shortly to be held. In that case the directors of the hospital will take steps to carry it into effect by means of a Provisional Order under the Private Legislation Procedure (Scotland) Act, 1899, to be promoted by them.

Extension of Aberdeen City Hospital.

A special meeting of the public health committee of the Aberdeen town council was held on Oct. 1st in order to consider the adoption of the plans of the city architect for the extension of the City Hospital. The committee approved of the plans with the exception of the proposed additional new pavilion for phthisical patients, the committee having not nearly forty years, was broken in several parts of England, Wales, and Scotland. As has been already remarked, the heat was accompanied by extreme humidity. During an average fine, hot day in summer the *relative humidity (the* percentage of the possible amount of water vapour in the air) ranges from about 75 per cent. in the early morning to between 40 and 55 by the afternoon, increasing again to about 75 per cent. after sunset. Last week, however, the figures were not far below 100 per cent., except occasionally for a short time during the afternoon, and then not often below 70 per cent. In very dry countries the amount of humidity with such temperatures as are now under consideration ranges from about 20 to 40 per cent. The conditions that brought such great heat about were fairly simple and would have produced warm weather even in midwinter. The United Kingdom was situated between a large high-pressure system or anticyclone, which lay over the central countries of Europe and the Baltic region and extended across the North Sea, and a very extensive low-pressure area which occupied the space on the Atlantic between the Azores and Iceland. Such a distribution of pressure compelled the air from the southern regions of the Atlantic to flow in a steady stream over this country and as it encountered a cloudless sky when passing over the land its already high temperature became greatly accentuated. During the latter part of the period the stream of warm air from the south ceased in the south and east of England, but as it was succeeded by a gentle flow of warm air from the continent the temperature underwent very little modification.

THE EARLY DIAGNOSIS OF ENTERIC FEVER BY BLOOD CULTURE.

IN 1906 Conradi showed that in enteric fever the bacillus could be cultivated from the blood in much larger percentages of cases by using ox bile as a medium than by using the ordinary media. This has been confirmed by several writers. In the *Boston Medical and Surgical Journal* of June 4th Dr. O. R. Mabee and Dr. A. E. Taft have reported a series of 120 consecutive cases in which the patients were admitted to the Boston City Hospital as suffering from enteric fever during an epidemic in that city and cultures were made from the blood. Fresh ox bile was used as a medium in 90 cases and inspissated bile in the other 30, with equally good results. Five cubic centimetres of the fresh bile were placed in tubes and sterilised in an autoclave for 30 minutes at 15 pounds pressure. The blood was obtained from the lobe of the ear. The skin was cleansed with soap and water and then with 70 per cent. of alcohol. This was allowed to evaporate and then a deep puncture was made with the point of a small scalpel. The blood was collected in sterile pipettes. It was at once transferred to the ox bile before clotting could take place. After incubation at 37° C. for six hours platinum loops of the culture were transferred to plain bouillon (as the dark colour of the bile rendered detection of a few microbes difficult). In most of the cases in which the bacillus was present it was found in the first transfer to the bouillon; if not, other transfers were made from the bile culture after longer periods of incubation. If the fourth transfer showed no bacilli the case was regarded as negative. Of the 120 patients 98 developed typical symptoms of enteric fever. The percentage of positive results in the first week was 95, in the second 17·7, and in the third 14·2. Comparing these results with the Widal reaction in the same cases the percentage of positive results in the first week was five, and in the second and third weeks 100. The percentage of positive results from cultures in the first week corresponds with that of other observers, but in the second and third week is much lower than that of some observers who took a much larger quantity of blood (at least two and a half cubic centimetres) from a vein in the arm. This suggests that the number of bacilli in the blood in the second and third weeks is much lower than in the *first*. In the 22 cases admitted under the diagnosis of enteric fever, which proved to be incorrect, blood cultures were negative except in one, in which the staphylococcus pyogenes aureus was found. The value of blood culture in diagnosis in the first week of enteric fever, when the Widal reaction is generally absent, is therefore great. A cubic centimetre of blood is then sufficient for each culture, but in the second and third week a larger quantity gives a higher percentage of positive results.

A SCIENTIFIC PRIEST ON THE DANGERS OF HOLY WATER.

THE sanitary dangers lurking in "holy water" have often been referred to by medical men. They have recently been scientifically studied by a monk, Fr. Augustin Gemelli, who is himself a highly qualified medical man. He publishes his results in the *Scuola Cattolica*. Each cubic centimetre of holy water in the basins in the church of Santa Croce, Turin, taken from the surface contained 150,000 microbes, while a cubic centimetre taken from the bottom contained no less than 6,000,000 microbes. He injected this water into animals and found that it always killed them, the causes of death being tuberculosis, colitis, or diphtheria. He does not think a daily cleansing with corrosive sublimate sufficient, but recommends a new form of holy water receptacle so constructed that persons instead of dipping their fingers into it can obtain three drops of water by pressing a button. A vessel of this nature has been placed in the church of Vergiate, Milan.[1] Fr. Gemelli turned his attention also to the grilles in the confessional boxes. Water which had been used for washing these only contained 25 microbes per cubic centimetre and when injected into animals only proved fatal to 10 per cent. of them.

RESULTS OF X RAY TREATMENT OF RINGWORM.

THE recently issued report of the Metropolitan Asylums Board for 1907 contains some interesting statistics bearing on the results of the x ray method of treatment of cases of ringworm in the Downs Ringworm School provided by that Board. It is stated that the duration of residence of these cases in the above-mentioned school before this new method of treatment was introduced averaged about 18 months, whereas the average period of detention of 100 cases so treated in 1906 did not exceed 5·73 months, or, if calculated from the time this treatment actually began, was only 4·49 months. During 1907 the average period of detention of the last 100 cases treated by x rays and discharged prior to Dec. 31st last was 6·21 months. The report states that owing to the demand made in this ringworm school on the apparatus, which has since been enlarged, many cases had to wait some time before being so treated, and if the period of detention in these 100 cases is calculated from the date of the commencement of the treatment it averaged only 5·33 months. It is pointed out that the slight increase of average detention of cases in 1907, compared with that in 1906, was largely due to delay in discharging cases last year caused by small outbreaks of whooping-cough and chicken-pox in these schools. It is satisfactory to note that the number of cases under treatment in the Downs school, which averaged 554 during the three years 1903–04–05, had declined to 339 on Dec. 31st, 1906, and on Dec. 31st last had further fallen to 329. This decrease was in great measure due to the associated some permanent memorial of two of its most distinguished citizens. The movement was taken up with enthusiasm, and the painting of Sir Clifford Allbutt's portrait was entrusted to Mr. A. S. Cope, A.R.A., and that of Mr. Teale to Mr. W. W. Ouless, R.A. A pleasing ceremony was held at the General Infirmary on Oct. 2nd when, in the presence of a large meeting of the subscribers and happily also in the presence of the recipients of the honour, Dr. J. E. Eddison, speaking on behalf of the subscribers, presented the portraits to the chairman of the board of the infirmary, with a request that they should be hung on the walls of that institution. Though the subscribers to the fund included, not only many medical men, but a large number of the general public, no one could have been found more qualified by long personal friendship with his two colleagues and by the possession of tact and ability to say the right thing in the right way than Dr. Eddison. He reminded his audience that Dr. Allbutt and Mr. Teale were appointed to the infirmary in the same year—namely, in 1864—and that they resigned their positions on the active staff on the same day after 20 years' service. In the building of the infirmary, which was opened in 1869, they took an active part and much of the excellence of the arrangements therein was due to their care and supervision. Speaking with some natural restraint of eulogy in their presence he paid a graceful compliment to the excellence and high character of the professional and public work both of Sir Clifford Allbutt and Mr. Teale. Mr. Charles Lupton, the treasurer of the infirmary, having accepted the portraits on behalf of the institution, Sir Clifford Allbutt and Mr. Teale briefly addressed the meeting. The two portraits are unquestionably excellent and are worthy as works of art to a place of honour on the walls of the infirmary.

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[1] An apparatus of this kind was described in THE LANCET of Jan. 27th, 1900, p. 252.

Opening of the Medical Session.

After the presentation of the portraits at the infirmary the winter session of the Faculty of Medicine was informally opened by the distribution of the prizes gained by the students during the past year. The chair was taken by Mr. Teale and there were present Dr. N. Bodington, the Vice-Chancellor of the University; the Right Hon. C. G. Milnes Gaskell; many members of the teaching staff; Professor A. S. F. Grünbaum, the Dean of the Faculty of Medicine; and Sir Clifford Allbutt who distributed the prizes and awards. A short address was then delivered by Sir Clifford Allbutt, which was listened to by the students with marked appreciation. I have heard Sir Clifford Allbutt speak on many and varied occasions during the last 25 years, sometimes on occasions more or less formal, sometimes on discussions at the medical societies and elsewhere, yet I doubt if I have ever heard him use his natural gifts and his absolute mastery of the English language with more grace and wisdom. His peroration was one that will long remain in the minds of all who heard it.

Oct. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Winter Session in Edinburgh: Introduction of Professor Walker and Professor Caird.

THE winter session of the medical classes in Edinburgh was opened on Oct. 1st, about a fortnight earlier than has hitherto been usual. Although the date was in the middle of the week the students turned up in commendable numbers. The new professor of chemistry delivered his introductory address at 10 o'clock in the McEwan Hall to a large audience. Principal Sir William Turner occupied the chair and in a few suitable words introduced Professor James Walker. The lecturer took for his theme the question of the "Transmutation of Metals," a subject which he treated in a very interesting manner. In concluding his lecture he struck a note which it may be hoped may often be struck again. He said that he was not a believer in science in the sense that any ultimate value to mankind by the discoveries of science should be rigorously excluded from the mind of the scientist. No better stimulus could be given to the scientist than to know that his work if successful might be of use in the daily life of his fellow men. A pure scientist was a pure myth. Those of them who did not go out into the world and did not quite sever the leading strings of their *alma mater* were in great danger of mistaking the university for the universe. The greater men of science whose thought actuated and stimulated their own and succeeding generations fell into no such error. They thought of their work not only in relation to the progress of science but also to the betterment of mankind. At noon, in the same hall, the Principal again presiding, Professor F. M. Caird was introduced to a large audience. Professor Caird gave a rapid but artistic survey of the development of surgery in Edinburgh from the year 1505. He showed the place which the first Munro occupied and the great influence exercised by John Bell. He compared hospital treatment then with now, adorning his lecture by excerpts from old case-books.

Resignation of Dr. J. Murdoch Brown.

Many old students of the Edinburgh school will regret to learn that Dr. Murdoch Brown has resigned his post as senior assistant physician to the Royal Infirmary on account of the continued unsatisfactory character of his health. This makes a vacancy at the infirmary, and it is satisfactory to know that there will be several eligible candidates.

The Medical Education of Women in Edinburgh.

Notwithstanding the agitation of the past summer the School of Medicine for Women, which has its headquarters at Surgeons' Hall, has had a gratifying opening of its winter session. Students have more than enough to occupy their minds with their undergraduate studies, for the present curriculum requires earnest thought and steadfast purpose if satisfactory results are to be attained.

The Future of the Glasgow Hospital for Skin Diseases.

The directors of the Glasgow Hospital for Skin Diseases have summoned a meeting of subscribers to consider the present position of the hospital. The history of the hospital is shortly as follows: It was founded in 1871 and in 1878 removed to its present building in Elmbank-street, where the treatment of outdoor patients was carried on. Accommodation for indoor treatment has been provided in the Western Infirmary of Glasgow under an agreement whereby, in return for a sum of £2000 contributed by the hospital towards the infirmary buildings, the hospital has enjoyed the use of two wards of ten beds each, male and female, in the infirmary, with the right of appointing the physician to those wards. Till his death that appointment was held by Sir Thomas McCall Anderson. Up to the end of last year 3208 patients obtained the benefit of treatment in those special wards. In view of the advantages which have resulted from this virtual union of the two institutions as regards the indoor department the directors think that the time has now come when it would be for the public advantage if the dispensary work now carried on at Elmbank-street were also transferred to the Western Infirmary buildings. There is already there a large and well-equipped general dispensary, and the managers of the Western Infirmary are not only prepared but desire to open a dispensary for skin diseases as a part thereof. That this would also be of advantage to the students there is no doubt. If this scheme is carried out the Glasgow Hospital for Skin Diseases will cease to exist as a separate institution. It is to be laid before the subscribers that a lectureship on dermatology should be founded in the University of Glasgow with £2500 of the hospital's funds, the free balance of the assets of the hospital thereafter to be handed over to the Western Infirmary for the endowment of beds in the wards appropriated to the treatment of skin disease. It is also suggested that the names of Sir Thomas McCall Anderson and Dr. A. B. Buchanan, the joint founders of the hospital, should be suitably associated with the scheme and that a record of the endowment of the beds should be placed on a tablet in the Western Infirmary. It is probable that this scheme will be endorsed by a meeting of subscribers shortly to be held. In that case the directors of the hospital will take steps to carry it into effect by means of a Provisional Order under the Private Legislation Procedure (Scotland) Act, 1899, to be promoted by them.

Extension of Aberdeen City Hospital.

A special meeting of the public health committee of the Aberdeen town council was held on Oct. 1st in order to consider the adoption of the plans of the city architect for the extension of the City Hospital. The committee approved of the plans with the exception of the proposed additional new pavilion for phthisical patients; the committee having not themselves for examination with a view to diagnosis and treatment. In placing patients under hospital treatment the assistance of the police was required in the case of five men and six women. On 44 occasions the aid of the police was requisitioned when the sources of infection were to be sought. In accordance with the law that punishes with imprisonment for not more than three years those who, conscious of or suspicious of venereal disease in themselves, infect or expose to infection others by cohabitation or improper intercourse, eight men and 13 women were prosecuted; of these two men and six women were convicted and sentenced. In acknowledgment of the fact that children suffering from hereditary syphilis are themselves a great source of infection, efforts have been made of late years to educate mothers and foster-mothers as to the true nature of the disease, and to prevent as far as possible such children being adopted by families with healthy offspring. This movement has been largely helped by a recent law which enacts that "he who conscious of or suspicious of infectious syphilitic disease in a child, employs a nurse for such a child, or puts it out to nurse, is liable to fine or imprisonment not exceeding six months." Owing to the difficulty experienced in finding suitable homes, these children have often to spend years in hospital, whereas in Sweden Professor Welander's nursing home provides for just such cases.

ENGLISH URBAN MORTALITY DURING THE PAST SUMMER.

THE annual rate of mortality during the three months ending with September in London and in the 75 other largest English towns dealt with in the Registrar-General's weekly returns, having an aggregate population of more than 16,000,000, did not exceed 13·4 per 1000, notwithstanding a marked increase during August. This rate exceeded the unprecedentedly low rate in the corresponding period of last year by 1·2 per 1000, but was 1·9 below the mean rate in the same towns in the third quarters of the four years 1904–07. The deaths registered in these 76 towns during last quarter exceeded the low number returned in the corresponding quarter of 1907 by 5311, of which excess 4601 were due to increase in the number of deaths resulting from diarrhœa. The exceptionally low death-rate during the summer quarter of 1907, more especially the low rate due to diarrhœa, was the result of the remarkably low temperature that prevailed during those three months. In the third quarter of last year only 510 deaths were referred to diarrhœa in London, equal to an annual rate of but 0·46 per 1000, whereas during the same period of this year the number rose to 1645, equal to a rate of 1·37 per 1000; in the corresponding quarters of the ten years 1897–1906, however, the mean annual rate from this disease was equal to 2·72 per 1000. The rate of mortality in the summer quarter is undoubtedly governed mainly by meteorological conditions, through the varying fatality of diarrhœa, almost entirely infantile. Infant mortality in the 76 large English towns during last quarter was equal to 146 per 1000 registered births, exceeding by 37 per 1000 the mean rate during the cool summer quarter of last year; it was, however, very considerably below the rate that prevailed in these towns in the corresponding quarters of 1905 and 1906, when it was 186 and 209 per 1000 respectively. In London the rate of infant mortality last quarter did not exceed 132 per 1000, while the mean rate during the quarter in the 75 provincial towns was equal to 151 per 1000. Infant mortality last quarter in London was 14·3 per cent. below the mean rate in the three preceding corresponding quarters, whereas in the 75 provincial towns the rate was not more than 12·7 per cent. below the same average. These figures imply more progress in checking the waste of infant life due to ignorant and neglectful treatment in London than in the aggregate of the 75 provincial towns. Due allowance being made for the meteorological conditions of the past summer, the mortality statistics relating to the largest English towns afford evidence, however, of generally improving sanitary conditions, both as regards infant mortality and the preventable fatality of summer diarrhœa.

VARICOSE EPIGASTRIC VEINS FOLLOWING PHLEBITIS.

IN the *Yale Medical Journal* for July Dr. J. E. Lane has reported a case in which phlebitis had an unusual sequel—varicose epigastric veins. An Italian shophand, aged 17 years, complained of a sore on the left leg and severe pain in both legs when standing or walking. Seven or eight years before he suffered from enteric fever and was confined to bed for six months. During most of the time both legs were swollen and painful. For about a month there was auditory and motor aphasia which disappeared gradually. In the past two years there had been at different times sores on the legs which healed under treatment. Examination showed on the front and outer surface of the right leg just above the ankle the scars of two varicose ulcers. On the inner surface of the left leg just above the ankle was a clean ulcer about an inch in diameter. The legs were œdematous up to the knees and the superficial veins of this region were much enlarged. On the left side of the trunk two dilated veins stood out prominently. One, the superficial thoracico-epigastric, started in the groin and ran up the trunk to the axilla connecting the femoral vein with the axillary. The other ran nearer the middle line from the groin to the lower end of the sternum. It began as the superficial epigastric and above the umbilicus anastomosed with the superficial median xiphoid vein which empties into the transverse anastomotic or pre-xiphoid. This last vein connects the two internal mammary veins. The two dilated veins on the trunk were tortuous, especially in their lowest part, and the current of blood in them was from below up. Palpation revealed nothing abnormal in the saphenous or femoral vein. Evidently the attack of enteric fever was complicated with extensive phlebitis, involving the veins of both legs. The thrombosis must have left an obstruction, partial or complete, in the femoral or external iliac vein, compelling the blood to take the circuitous route described. The history of the aphasia is of interest on account of the rarity of cerebral embolism or thrombosis in enteric fever.

THE Hunterian Society's first lecture of the new session will be delivered at the London Institution, Finsbury-circus, on Wednesday, Oct. 14th, at 8.30 P.M., by Dr. James Mackenzie on the Bearing of Hunter's Work on Recent Advances in the Study of Heart Affections. All members of the medical profession are invited.

His Majesty the King has been pleased to grant permission to Dr. T. Vincent Dickinson to accept and to wear the order of Chevalier of the Crown of Italy, conferred on him by the King of Italy in recognition of his services as physician to the Italian Hospital.

ROYAL SOCIETY OF MEDICINE.—The Odontological Section of the Royal Society of Medicine is prepared to receive applications for grants in aid of the furtherance of scientific research in connexion with dentistry. Particulars and forms of application will be supplied by the Honorary Secretary, Scientific Research Committee, Odontological Section, Royal Society of Medicine, 20, Hanover-square, W.

adjacent to Belfast. For many years Mr. Wilson was a member of the Belfast board of guardians and he represented Whitehouse electoral division on the Belfast rural district council. A Licentiate of the Royal College of Physicians of Edinburgh (1865) and a Member of the Royal College of Surgeons of England (1865), Mr. Wilson practised at Whiteabbey, where he enjoyed the respect and confidence of a very large *clientèle* in the surrounding district.

Oct. 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hygiene and Deep-Sea Fishermen.

WITH a view of improving the environment of deep-sea fishers both from a moral and hygienic point of view, the French Society of Hygiene has decided, on the initiative of its honorary president, to open a competition for the year 1909. The competition will be founded upon the results of an inquiry which is to be made into the dwelling places of deep-sea fishermen in a particular district. Candidates for the competition may choose their own district. Various prizes, including a gold medal, will be given. The competition will consist of two parts. The one will deal with statistics of the birth-rate, and with the death-rate and the disease incidence of preventable diseases. The other part of it will deal with the best description of the dwellings of the fishermen and with the expenses which would be incurred for really healthy dwellings, a proper water-supply, and adequate drainage, due notice, of course, being taken of existing conditions. Candidates will also be required to deal with the best way of ameliorating unhealthy conditions and of building new quarters for fishermen in the outskirts of maritime towns, especially in those which are fortified and therefore somewhat overcrowded.

The International Congress on Low Temperatures.

This congress was opened on Oct. 5th in the large theatre of the Sorbonne by M. Ruan, Minister of Agriculture, who delivered an address which was loudly acclaimed. The congress will last for a week.

Oct. 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Practical Value of the Opsonic Index.

Dr. Turban of Davos and Dr. Baer of Reiboldsgrün writing in a recent number of the *Münchener Medicinische Wochenschrift* gave a report on their experiences concerning the opsonic index of tuberculous patients. Since November, 1906, the opsonic index has been determined in 84 tuberculous and in six non-tuberculous patients, more than 1000 examinations being made. It was remarkable that the results were nearly constant during a long time, a fact which, according to the authors, is a proof of the accuracy of the method. In healthy people the index proved to be very near to 1·0, the limits being between 0·9 and 1·1. Of the tuberculous patients in general 16·6 had a normal index—viz., 31 per cent. of the patients in the first stage, 22 per cent. of the patients in the second stage, and 9 per cent. of the patients in the third stage. Of patients with fever 0 per cent. and without fever 30 per cent. had a normal index. The following deviations of the index were observed: 1. The index was constantly above or below the normal; this was especially the case in patients with or without fever showing symptoms of an "active" tuberculous process. An "active" process means not only progressive disease but also cases where clinical observation makes it likely that toxins from the tuberculous focus have been absorbed into the circulation. 2. The index showed wide variations; this was observed in feverish patients with rapidly progressing tuberculosis of the lungs, and in every case of tuberculosis of the bones, joints, and kidneys. 3. The index being in the beginning low rose later to the normal or nearly to the normal. In these cases an amelioration of the local process, an improvement of the general state, and an increase of weight were observed together with the rise of the index. 4. The index having been constant became suddenly very low. This happened when a recent process in the lungs such as pleurisy occurred and also in cases with very acute destruction of the lungs. Not every feverish case showed a deviation; there were cases with high fever and acute destruction where the index was constantly during a fortnight from 0·65 to 0·67. In these cases a mixed infection with staphylococci must be assumed to be present. A low index, 0·62 to 0·71, was observed in a case of syphilis of the lungs; in this case the opsonins proved to disappear by boiling at 60°, whilst in tuberculosis they only diminish by 50 to 75 per cent. From the above observations the importance of the opsonic index for diagnosis and prognosis becomes obvious. A normal index does not exclude the presence of tuberculosis, but that of a progressive process; a low or high index proves the presence of active tuberculosis; wide deviation proves the presence of a progressive process; a constant low index shows that the process has become stationary; a gradual rise of a low or varying index occurs together with an improvement; and a rapid fall with a deterioration. The observers pointed out that a repeated determination of the index within a long space of time is essential and that this fact is prejudicial to the use of the index in practice. The determination of the index is, however, valuable in initial cases, where an abnormal index would prove the presence of an active process and the necessity of treatment. Concerning the influence of tuberculin treatment, first a negative and then a positive phase of the index of 0·2-3·0 was observed. Even after the administration of only one-millionth of T.O.A. a marked negative and positive phase was obtained, and during the treatment wide variations occurred. The authors are of opinion that during the tuberculin treatment observation of the temperature and of the local reaction is more important than the determination of the opsonic index.

Measures against Cholera.

The prevalence of cholera in St. Petersburg has naturally been a subject of careful attention for the Prussian and German Governments. The big traffic between Russia and the neighbouring parts of this country makes it very likely that at least some cases of cholera will be conveyed here. Indeed, some days ago a case was reported of a Russian lady who had come with her husband to Berlin and showed symptoms of cholera. She was immediately conveyed to the cholera pavilion of the Virchow Hospital, whilst the husband and the servants were placed under observation in a pavilion for suspected cases. The case caused some nervousness in Berlin, but on microscopical examination it proved to be not cholera but enteric fever. Meanwhile a conference has taken place of the delegates of the different German and Prussian administrative departments, of the medical, railway, seaport, police, and other authorities. It was decided to abstain at first from quarantine measures but to examine the passengers of the Russian immigrant trains who in great number pass through Germany for Hamburg and Bremen and also passengers of vessels coming from Russia. Arrangements will be made for the conveyance of eventual cases of cholera and to keep special pavilions ready in the hospitals of the greater towns. The water of the rivers coming from Russia will be daily examined by bacteriologists on the frontier as to the presence of cholera bacilli.

Poisoning by Raw Meat.

In the Virchow Hospital of Berlin recently 80 of the nurses suddenly became very ill with symptoms of poisoning. It was stated that the poisoning was due to spoiled meat which had been given to the nurses in a raw state for supper. Bacteriological examination showed the presence of paratyphoid bacilli. Fortunately no death occurred. Most of the nurses were able to return to work after one or two days and only a few had to be kept in bed for a week and to obtain leave because of great debility. The absence of so many nurses has of course caused some trouble in the nursing of the patients and nurses of other municipal hospitals and private nurses had to be fetched in haste to fill the vacant places to allow the service to continue. The event was discussed in the town council and the kitchen department of the hospital was severely criticised. The mayor stated that after an investigation of the matter it had been decided that raw meat would no longer be given either to the nurses or to the patients

Oct. 6th.

University College Hospital.—The annual dinner of the old and present students of this school was held in the library of the Medical School on Oct. 2nd, under the chairmanship of Professor A. H. Carter. The company numbered 122. There were only two toasts after that of "The King." The chairman proposed "University College Hospital Medical School," to which the Dean, Dr. H. Batty Shaw, replied. In his speech Professor Carter traced the history of the school and compared the old buildings with the commodious new medical school; he also spoke in terms of veneration of Sir William Jenner and others of his old teachers. The remaining toast was "The Chairman," which was given by Dr. H. Radcliffe Crocker.

Westminster Hospital.—The winter session was inaugurated by a dinner of past and present students held at the Wharncliffe Rooms, Hotel Great Central, on Oct. 2nd. The chair was taken by Dr. N. W. Bourns, senior anæsthetist to the hospital, who presided over a full attendance. When the loyal toasts had been honoured the chairman proposed "The Westminster Hospital and Medical School." He referred to the honour done to the school as well as to the recipient in the knighthood conferred by the King upon Dr. W. Allchin, a fitting recognition of his services to medicine, to medical education, and to the institution of which he had been so brilliant and tireless a servant. He then alluded to the grievous loss sustained by school and hospital alike by the deaths of Mr. E. P. Paton and Dr. Bertram L. Abrahams, who held the offices of dean and sub-dean respectively. Cut off in the prime of life, in the early flush of successful practice, they left a blank in the ranks, and he might say in the hearts of their colleagues that not even time could fill. Dr. F. de Havilland Hall, who responded, spoke of the benefits accruing from the centralisation of preliminary science teaching. Originally advocated by Sir William Allchin 20 years ago, it had become an accomplished fact so far as Westminster was concerned and the arrangement with King's College was working well. The toast of "The Students, Past and Present," was proposed by Mr. A. H. Tubby who dilated upon the happy relations always existing at Westminster between the staff and the students. Mr. G. L. Parsons, replying for the "Past," spoke at some length on the general practitioner's reflections upon medical education, of the uselessness of set lectures, and the immense value of bedside instruction and demonstration. Some teachers overlooked the fact that tables of data were best acquired from text-books, whilst clinical experience could only be handed on over the beds of actual patients. Mr. G. R. Ward, for the "Present," made a happy little speech appreciating the efforts of the staff to impart not only the facts but also the ethics and spirit of medicine, and the sympathy which they showed for other interests of the students. Mr. Charles Ryall proposed the health of the chairman, and Sir William Allchin that of the secretary, Mr. Carling.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of Manchester.—In dealing with Manchester we are concerned with a population little short of 650,000 living in the midst of other aggregations of population which together with that of Manchester mount up to a very large figure. It does not in all approximate to that of the metropolis, but one day, when the rural lacunæ become filled up, it may do so, and perhaps our children's children may see a Manchester which has on numerous occasions extended its municipal limits, and towns which are now separate have become boroughs of the county of Manchester. There is not so much imagination in this picture as some people may think. Dr. James Niven, who deals with the local statistics in considerable detail, expresses the opinion when discussing the decreasing birth-rate that such diminution is due not merely to the prevention of conception but also in no small measure to the destruction of its fruits. He thinks, too, that the offspring must sometimes be injured by efforts to induce premature labour. Although the death-rate of Manchester is steadily declining, the relative position of the city in the firmament of the 76 great towns remains unaltered; it is still eighth from the bottom. Dr. Niven furnishes a table showing that although there was less pauperism in 1907 than in the previous three years the proportion of deaths occurring in public institutions to total deaths did not diminish. They were 26·5 of the total deaths, the highest proportion yet attained, and Dr. Niven thinks that this increasing tendency for the sick to obtain admission must have a material effect upon the death-rate, presumably diminishing it through careful nursing and the like. The death-rate for pulmonary tuberculosis in 1907, as compared with that in 1906, was stationary, but there was a pause in the ascent of the figures relating to malignant disease. The deaths from diarrhœa, which were 981 in 1906, fell to 291 in 1907, a fact for which the cool summer was no doubt largely responsible. With reference to the natural increase of the population of Manchester it is significant that the artisan and the Jewish populations of Manchester are increasing most rapidly. The increase is greatest in the Cheetham district, which means that the Jewish community is increasing at a greater rate than any other part of the population. Dr. Niven discusses certain aspects of scarlet fever in interesting fashion and he supplies figures showing that the disease is more infectious at its commencement than later, since the majority of cases occur within eight days after the first attack. The disease has, he concludes, a comparatively low degree of infectivity as compared with measles and whooping-cough, and, in his opinion, the modern view that the cutaneous eruption is toxic and non-specific is open to question; he thinks that it is safer to take early precautions to prevent the discharge of infection from the skin. In his view, we know nothing definite of the bacteriology of scarlet fever. Dr. Niven has been reflecting as to the causes which promote the annual rise of this disease. There is, he says, certainly a progressive though not a steady change of type going on. Part of this change of type may, he surmises, be due to notification, but he is more inclined to attribute it to the progressive diminution in filth near dwellings. In the matter of "return" cases of scarlet fever he expresses the opinion that there is no proof that prolonged detention in hospital diminishes the incidence of such cases. We cannot discuss the matter further here, but we may briefly quote Dr. Niven. It would, he thinks, "be a source of great satisfaction if it were possible to dispense with removal to hospital of cases of scarlet fever. There can, however, be little doubt that if this were done we should have a considerable increase of the disease, especially in poor and crowded households, the more so that in many instances the cases would be concealed. There is also little doubt that the type of the disease would be rendered more severe. It does not seem possible to contemplate such action. On the other hand, it is for the same reason not desirable to urge the removal of cases to hospital when isolation is being carried out at home in a suitable manner." Dr. Niven goes thoroughly into the behaviour of diphtheria in Manchester at the pre-school, school, and post-school age groups, and he concludes that aggregation in elementary schools plays a distinct though moderate part in the propagation of this disease. The incidence of the disease on the Manchester township has been within recent years materially less than in other parts of the city, and it is difficult to explain why the schools in the township should have escaped. The medical officer of health suggests that such relative immunity may be due to a process of immunisation from the spread of a bacillus of a comparatively low virulence which is able without causing disease to manufacture sufficient antitoxin to repel infection. There has been a gratifying decrease in the death-rate from enteric fever in Manchester during the last 20 years, the rate from 1901–05 having been 0·13 per 1000. The greatest incidence of the disease is in the fourth quarter of the year. As a general rule, and from a study of individual cases which was made in 1905, the conclusion was come to that a very large number of cases—no fewer than the number notified—are altogether overlooked. There can, we think, be little doubt that this is generally the case and that the remark has also application to certain other diseases. Dr. Niven does not regard it as probable that any material part of the autumnal rise is due to infected water or milk, and apparently, notwithstanding the investigations of Sidney Martin, of Horrocks, Firth, and others, he regards it as doubtful whether the enteric fever bacillus multiplies in the soil; he thinks it unlikely that the desiccation of excrement-polluted soil would suffice to may take place through a thick layer of skin and he recommended the injection of sterile solutions of this fluid by the Schleich method in order to render the deeper tissues accessible to the Finsen rays. Dr. Morvay has lately made a clinical trial of this method. He has treated 25 cases of lupus, scrofuloderma, tuberculous lymph glands, and skin cancer. A solution (0·1 to 1 per cent.) of erythrosin in sterile salt solution was injected as deeply as was necessary for the effect desired. In from two to five hours later the Finsen light was applied for from 15 to 20 minutes, or longer in the case of carcinoma. His experience fully confirms the claims made by Dreyer that in this manner the Finsen rays may be made to penetrate depths never before reached.

The Treatment of Chronic Interstitial Nephritis.

Dr. Révész of Nagyvárad has studied the effect of various measures upon chronic interstitial nephritis by the quantitative estimation of albumin and of the blood pressure. He came to the following conclusions. Warmth and carbonated baths diminish both albumin and blood pressure. The same holds true for rest in bed and inhalations of amyl nitrite. Exercise, especially climbing mountains, seems to have a very favourable influence; in normal individuals the pressure rises greatly, but in those afflicted with Bright's disease there is considerable dilatation of the vessels. The best results were obtained if the patients were allowed to exercise in the forenoon. Since albuminuria and increased arterial tension go hand in hand it is likely that interstitial nephritis is directly due to a narrowing of the afferent vessels of the kidney. Neurasthenia constitutes an important etiological factor and it would be a great mistake to condemn patients to muscular inactivity simply because they have a little serum albumin in their urine.

Sept. 29th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

An Institute Hospital.

THIS unique hospital is to be attached to the Rockefeller Institute for Medical Research in the city of New York. It will be devoted neither to charity nor to profit but solely to the advancement of the medical sciences. The primary object of the hospital is not the cure of the individual patient but to determine accurately the nature of certain features of his disease hitherto unknown. The incurable class and those suffering from new forms of disease will be preferred. It is proposed even to pay certain patients, suffering from diseases not well understood, for their attendance and submission to investigation. There will at times be a class of patients representing every phase of a disease, as cancer, tuberculosis, and pneumonia, in order that the conditions on which its progress depends may be studied with the most minute precision. The treatment, I am informed, will not be orthodox, that is, in accordance with rules now established in hospital practice, but will be governed by new truths disclosed, the object of this research being to discover new and more successful methods of combating disease. While old methods of treatment will necessarily be tested and their value accurately determined the real purpose of the investigators will be that of explorers—viz., to discover new facts on which will be based radical reforms in treatment. The cost of the structure will be $400,000. It will be an eight-storey building, with three floors of wards and a total capacity of 36 beds, and 12 single rooms reserved for individual maladies. Laboratories equipped for every kind of investigation will be provided. Professor Rufus I. Cole, of Johns Hopkins University, will be the head of the new hospital.

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Enteric fever from oysters containing the typhoid germs derived from the polluted waters where they are "fattened" for market has become so frequent that a new section has been added to the Sanitary Code of New York City. This section provides that oysters which have been "fattened" in polluted waters cannot be sold in the city; they must be brought direct from the ocean. The new law requires that every person who sells oysters in New York must have a written permit from the Board of Health. All applicants are required to give the names of the growers from whom they buy their stock and the location of the beds. The permits are revocable on proof that a dealer is selling "drinked oysters," as the dealers call oysters fattened in polluted waters. The adoption of this ordinance was the result of an inspection by officials of the Health Department of all the oyster beds situated between New Haven and New York and along the New Jersey coast. So frequently have outbreaks of enteric fever been traced to oysters that the people of the city had ceased to use them freely.

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At each of the county fairs held during the autumn in the State of New York the State Charities Aid Association placed a tuberculosis exhibition together with a large talking machine to be used in connexion with the exhibition. The people hear a voice telling them that in this country 400 lives are daily sacrificed to the "Great White Plague" and that most of these deaths are entirely unnecessary; it explains in detail how the disease spreads and how it may be prevented; it teaches the value of fresh air and the necessity of ventilation and sunshine in every room in the home; and cleanliness and how to secure it are enforced with ample illustrations. The educational results of this simple method of instructing the common people have amply justified the innovation.

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The bubonic plague has become a well-grounded source of anxiety to the cities of the Pacific coast. San Francisco has for more than two years struggled to exterminate it but in vain. That prevention is safer, easier, and more economical than cure has been abundantly demonstrated in the experience of that city. Impressed by its example the health authority of the city of Tacoma, of the State of Washington, has issued invitations to all the health officers of the Pacific coast cities to attend a conference in Tacoma for a discussion of the plague and of the means of combating it. A number of health officers have signified their approval of the conference and their intention to attend.

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Association of National Food and Dairy Departments.

One of the greatest defects in the operation of the "National Pure Food Law" is the want of coöperation of the national and the State authorities. The national and State standards differ and there is that lack of harmony which tends to neutralise the laws in their practical application, both national and State. The aim and purpose of the association are to secure such uniformity of requirements and interpretation as will furnish to the consuming public of every State alike ample and sufficient protection from fraud from diarrhœa, 38 from whooping-cough, 34 from measles, 34 from diphtheria, 29 from scarlet fever, and 23 from "fever" (principally enteric), but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·7 per 1000, corresponding with the rate that prevailed in the previous week; in London the death-rate from these diseases last week did not exceed 1·3. No death from any of these epidemic diseases was registered last week in Brighton, Plymouth, Wallasey, Northampton, King's Norton, West Hartlepool, or in Smethwick; whereas the annual death-rates therefrom ranged upwards in the other large towns to 3·7 in West Bromwich, 4·3 in Rhondda, 4·4 in Warrington, and 7·4 in Rotherham. The deaths attributed to diarrhœa in the 76 towns, which had steadily declined in the six preceding weeks from 1134 to 353, rose again under the influence of the remarkable increase of temperature to 363 in the week under notice, instead of showing a further decline; the highest annual death-rates from this cause last week were 3·0 in West Bromwich, 3·5 in Rhondda, 3·6 in Grimsby, and 4·9 in Rotherham. The 38 fatal cases of whooping-cough showed a decline of four from the number in the previous week; this disease caused the highest death-rates, 1·4 in Merthyr Tydfil and 1·6 in Walsall. The 34 deaths from measles showed, however, an increase of three, but caused death-rates equal to 1·5 both in Bootle and in Warrington. The fatal cases of diphtheria, which had been 43 and 39 in the two preceding weeks, further declined last week to 34, but included 15 in London and its suburban districts, and two each in Birmingham, Liverpool, Manchester, Hull, and Cardiff. The 29 deaths from scarlet fever exceeded by two the number in the previous week, including 14 in London and its suburban districts, eight in Liverpool and Bootle, and two in Manchester and Salford. Of the 23 deaths from "fever," showing a decline of 12 from the number in the previous week, nine occurred in London, and three both in Liverpool and in Hull. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased from 2855 to 3467 in the four preceding weeks, had further risen to 3643 on Saturday, Oct. 3rd; the number of new cases of this disease admitted to these hospitals during the week under notice were 576, against 472, 625, and 565 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the four preceding weeks from 102 to 138, further rose to 159 in the week under notice, but were six below the corrected average number in the corresponding week of the five years 1903-07. The causes of 18, only 0·4 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 53 other smaller towns during the week under notice; the 18 uncertified causes of death included two in Liverpool and two in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 14·4 and 13·5 per 1000 in the two preceding weeks, further declined to 13·4 in the week ending Oct. 3rd. During the 13 weeks of last quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 3·0 and 9·8 in Perth and Paisley to 14·9 in Dundee and 15·2 in Edinburgh. The 474 deaths in the eight towns showed a further decline of one from the numbers returned in the two preceding weeks, and included 63 which were referred to the principal epidemic diseases, against numbers declining from 107 to 59 in the six preceding weeks; of these 63 deaths, 30 resulted from diarrhœa, 16 from whooping-cough, six from diphtheria, five from "fever," four from scarlet fever, and two from measles, but not one from small-pox. These 63 deaths were equal to an annual rate of 1·8 per 1000, exceeding by 0·1 the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had declined in the four preceding weeks from 64 to 35, further declined to 30 in the week under notice; 13 of these occurred in Glasgow, seven in Dundee, and three both in Edinburgh and in Leith. The fatal cases of whooping-cough, which had fallen in the four previous weeks from 19 to nine, rose again last week to 16, including 11 in Glasgow, three in Aberdeen, and two in Edinburgh. The six deaths from diphtheria were fewer by two than the number in the previous week; three occurred in Paisley and two in Gasgow. All the five deaths referred to "fever" were returned in Glasgow, three being certified as cerebro-spinal meningitis and two as enteric The fatal cases both of scarlet fever and of measles showed a slight increase; the four of scarlet fever included two in Edinburgh and two in Dundee. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 73 and 59 in the two previous weeks, rose again to 61 in the week under notice, but were four below the number returned in these towns in the corresponding week of last year. The causes of 19, or 4·0 per cent., of the deaths registered during the week in the eight towns were not certified or not stated; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·4 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·3 and 20·8 per 1000 in the two preceding weeks, declined again to 18·0 in the week ending Oct. 3rd. During the 13 weeks of last quarter the death-rate in Dublin averaged 19·9 per 1000; the mean rate during the same period did not exceed 12·5 in London and 12·9 in Edinburgh. The 136 deaths of Dublin residents during the week under notice showed a decline of 21 from the number returned in the previous week, and included 17 which were referred to the principal epidemic diseases, against numbers declining from 44 to 18 in the six preceding weeks. These 17 deaths were equal to an annual rate of 2·2 per 1000; the rate during the same week from these diseases did not exceed 1·3 in London and 1·2 in Edinburgh. Of the 17 deaths from these epidemic diseases in Dublin during last week, eight resulted from diarrhœa, four from "fever," four from measles, and one from scarlet fever, but not one from diphtheria, whooping-cough, or small-pox. The deaths attributed to diarrhœa, which had declined in the six preceding weeks from 39 to 12, further fell to eight last week. The four deaths referred to "fever" exceeded the numbers in recent weeks. The four fatal cases of measles corresponded with the number in the previous week; and the death from scarlet fever was the first registered since the beginning of August. The 136 deaths from all causes during the week included 25 of infants under one year of age and 38 of persons aged upwards of 60 years; the deaths of infants showed a marked decline from the numbers in recent weeks. Three inquest cases and two deaths from violence were registered; and 53, or 39·0 per cent., of the deaths occurred in public institutions. The causes of three, or 2·2 per cent., of the deaths registered in Dublin during the week were not certified; in London the causes of all the 1125 deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was 2·9 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881: Fleet-Surgeon Reginald Thomas Alexander Levinge has been placed on the retired list at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated Oct. 3rd, 1908).

The following appointments are notified:—Fleet-Surgeons: T. Austen to the *Britannia* and J. Menary to the *Vengeance*, both on recommissioning. Surgeons: J. H. McDowall to the *Britannia*, on recommissioning; W. N. Horsfall to the *Pembroke*; and M. W. Haydon to the *Essex*.

ROYAL ARMY MEDICAL COLLEGE.

Lieutenant-Colonel Charles H. Melville, R.A.M.C., to be may take place through a thick layer of skin and he recommended the injection of sterile solutions of this fluid by the Schleich method in order to render the deeper tissues accessible to the Finsen rays. Dr. Morvay has lately made a clinical trial of this method. He has treated 25 cases of lupus, scrofuloderma, tuberculous lymph glands, and skin cancer. A solution (0·1 to 1 per cent.) of erythrosin in sterile salt solution was injected as deeply as was necessary for the effect desired. In from two to five hours later the Finsen light was applied for from 15 to 20 minutes, or longer in the case of carcinoma. His experience fully confirms the claims made by Dreyer that in this manner the Finsen rays may be made to penetrate depths never before reached.

The Treatment of Chronic Interstitial Nephritis.

Dr. Révész of Nagyvárad has studied the effect of various measures upon chronic interstitial nephritis by the quantitative estimation of albumin and of the blood pressure. He came to the following conclusions. Warmth and carbonated baths diminish both albumin and blood pressure. The same holds true for rest in bed and inhalations of amyl nitrite. Exercise, especially climbing mountains, seems to have a very favourable influence; in normal individuals the pressure rises greatly, but in those afflicted with Bright's disease there is considerable dilatation of the vessels. The best results were obtained if the patients were allowed to exercise in the forenoon. Since albuminuria and increased arterial tension go hand in hand it is likely that interstitial nephritis is directly due to a narrowing of the afferent vessels of the kidney. Neurasthenia constitutes an important etiological factor and it would be a great mistake to condemn patients to muscular inactivity simply because they have a little serum albumin in their urine.

Sept. 29th.

NEW YORK.

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THIS unique hospital is to be attached to the Rockefeller Institute for Medical Research in the city of New York. It will be devoted neither to charity nor to profit but solely to the advancement of the medical sciences. The primary object of the hospital is not the cure of the individual patient but to determine accurately the nature of certain features of his disease hitherto unknown. The incurable class and those suffering from new forms of disease will be preferred. It is proposed even to pay certain patients, suffering from diseases not well understood, for their attendance and submission to investigation. There will at times be a class of patients representing every phase of a disease, as cancer, tuberculosis, and pneumonia, in order that the conditions on which its progress depends may be studied with the most minute precision. The treatment, I am informed, will not be orthodox, that is, in accordance with rules now established in hospital practice, but will be governed by new truths disclosed, the object of this research being to discover new and more successful methods of combating disease. While old methods of treatment will necessarily be tested and their value accurately determined the real purpose of the investigators will be that of explorers—viz., to discover new facts on which will be based radical reforms in treatment. The cost of the structure will be $400,000. It will be an eight-storey building, with three floors of wards and a total capacity of 36 beds, and 12 single rooms reserved for individual maladies. Laboratories equipped for every kind of investigation will be provided. Professor Rufus I. Cole, of Johns Hopkins University, will be the head of the new hospital.

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Finally, Dr. McWalter says: "The fact that in 1864 the Irish death-rate from tuberculosis was the lowest in the three kingdoms, although no sanitary precautions were heard of, whereas now, after a quarter of a century's sanitary legislation, it is the highest, gives one to think furiously about the net result of these measures in actual practice." He should have also added that during the same period the English and Scotch rates have steadily fallen until now the death-rate from tuberculosis in England is 1·6 (1906), in Scotland 2·1 (1906), and in Ireland 2·7 (in both 1906 and 1907), and further that in all three countries typhus fever has declined, until in Ireland in 1907 there were only 56 deaths, while in 1869 there were 891 from this fever. Why, Sir, it is these very facts which are the cause of the agitation in Ireland which has culminated in Mr. Birrell's Bill.

1. We have not made the same progress in Ireland as in England or in Scotland in the sanitary measures taken to improve the dwellings of the people all over the country. 2. As pointed out in the report of the Belfast Health Commission in reference to the Births and Deaths Registration Act, "The absence of this (one of the provisions in the English and Scotch Bills) provision in Ireland has had the effect that no local authority appears to have the power of obtaining information which is of fundamental importance to them in their primary duty of searching for and coping with causes of ill-health and death among the population committed to their charge." As a result more is known in England and Scotland by the health authorities than in Ireland as to where the disease exists. 3. The difference between Ireland as compared with England and Scotland is that in the former far more patients are relieved medically at their homes under the Poor-law system which favours the treatment of even advanced cases at home. The tendency in England and Scotland is, under their Poor-law system, rather for more of such cases to be treated in institutions, such as union infirmaries, &c. As I have pointed out before,[1] Dr. Newsholme has, I believe, shown that typhus fever has been brought to the point of extinction by its institutional treatment, acting in conjunction with the removal of the motives for vagrancy. Phthisis has been rendered even more prevalent than formerly by increasing for this disease domestic at the expense of institutional treatment and by thus continuing the enormous number of domestic foci of this disease which are implied by the home medical treatment of phthisis among the poor.

In dealing with phthisis in Ireland we want (1) to know where the disease is and not alone where the deaths occur; (2) provision of hospitals, sanatoriums, and dispensaries for its treatment; (3) improvement in sanitary conditions; and (4) education of the people in the hygiene of the prevention of the disease. And it is because these are the main principles of Mr. Birrell's Bill that those (like myself) who have tried to do some work for their country in this anti-tuberculosis campaign hope it will pass.

I am, Sir, yours faithfully,

Oct. 5th, 1908.

JOHN BYERS.

PS.—Since writing this letter I see that the International Congress on Tuberculosis at Washington on Oct. 3rd (last Saturday) passed resolutions advocating the adoption by all Governments of compulsory notification of cases of tuberculosis.

To the Editor of THE LANCET.

SIR,—Let us see where we are. A Bill is before Parliament making the notification of tuberculosis compulsory in Ireland but not in England. I, as a humble member of a sanitary authority, venture to object to this special legislation. If Great Britain decides to adopt compulsory notification of phthisis, I am willing that Ireland be also included, but I object to penal legislation for one country more than another. I insist that no sufficient case has been made for exceptional treatment and that the statistics in Ireland are unreliable, as some 20 to 25 per cent. of deaths registered here are not certified by medical men. I have also hinted that although Lady Aberdeen's campaign seemed to favour compulsory notification, it should not be taken too seriously—that, in fact, it was not controlled by those representing the majority of the people.

My friend Dr. M. F. Cox takes me to task. Let me say that I consider him, with Dr. McWeeney and others, as altogether on the popular side, and as my masters in medical science, but I am unconvinced of their wisdom in this matter. Let us take, as my Lord Bacon would say, a crucial instance. Dr. Cox has probably one of the largest practices amongst consumptive patients in Ireland. He argues strongly that on every medical man should be imposed an obligation, enforceable by fine or imprisonment, to notify every case. Now for many years past the corporation of Dublin has begged practitioners to voluntarily notify cases of phthisis, in order that they might disinfect premises, &c. How many cases has Dr. Cox notified for the past five years? How many cases have all the Court physicians who now clamour to have their humbler brethren made common informers by Act of Parliament notified for the past five years? I venture to say not 2 per cent. of the entire number which they have attended, and I shall be glad to be corrected if I have understated the fact. Dr. Cox chides me for not repressing the discontent which is arising amongst public boards about this Tuberculosis Bill, but seriously I am gravelled for lack of argument, and I beg to be helped. It happens that I am the only medical practitioner on the various city public boards—the Dublin corporation, the Richmond Lunatic Asylum, and the North and South Dublin board of guardians—and I am called on to excuse or explain the action of the medical faculty to my colleagues whenever they find fault with it. What answer can I give as to why the doctors did not think it necessary to notify consumption voluntarily when begged to do so by the corporation, except in a few trivial cases, and why it becomes a matter of the gravest importance for the nation's weal to notify every case, provided a half-crown fee is attached by Parliament? Far be it from me to suggest that any of my medical brethren is influenced in the slightest degree by the fee, but I am only recounting a fact when I state that the public boards who are called on to pay the half-crowns contain many members who think otherwise, and that I find it almost impossible to persuade them to the contrary when they have practical experience that when the fee is paid cases are notified, and that when practitioners are asked to notify without fee in order that sanitary matters may be set right very few are found to do so, although surely the necessity is the same.

Dr. S. Agnew takes rather a broader view of the subject, but probably he will agree that in a country where no doctor attends some 24 per cent. of deathbeds it is futile to expect people to go to a physician and be booked as consumptives for the rest of their lives. Seriously, what are the sanitary authorities to do when you have notified a person as phthisical? If you tell us that a patient has typhus, typhoid, plague, or small-pox we are at least logical; we are prepared to provide for him with proper care in a hospital until he is well—or dead. But what are we to do with the consumptive? Of course, we can send him tracts about his disease, a nurse to advise him to keep open his windows, a sanitary inspector to look after his drains—but what of that? He will be dismissed from his employment; obviously, and as a principle of common law, you can compel no man to work or live with a certified consumptive. Shall we send them all to sanatoriums? If there are 100,000 in Ireland, as Lady Aberdeen's friends say, the cost, based on English experience public, the *Raises*, the Rajahs, and the Nawabs have many such philanthropic works to do for their poor brethren. It would have been better if the missionaries had preached the doctrine of sanitation with Christianity from the very outset. Urdu and Hindu papers ought to take up these subjects at least once or twice a month, either from English books or newspapers, to enlighten the general masses on these important subjects. The ryot and the *rais* ought to know that the labour and health of the poor are the wealth of the ryot.

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[1] THE LANCET, Jan. 25th, 1908, p. 229.

Medical Relief in the Punjab.

In a Government resolution on the triennial report on the working of charitable dispensaries of the Punjab, it is mentioned that the Lieutenant-Governor has expressed the opinion that a large share of the financial resources of the province should in future be devoted to medical relief even, if necessary, at the expense of checking somewhat the rate of the progressive expenditure on higher education. If increased expenditure on any department is feasible the medical department is to have the first claim, but while saying this his honour does not fail to mention the desirability of private subscriptions being forthcoming. The citizens of certain districts have shown admirable public spirit in contributing to their hospitals, and now that arrangements have been made for enabling subscribers to earmark their subscriptions for particular objects and particular dispensaries each subscriber will be able to see for himself the good that he is doing for his fellow men, and it may be that the personal pride in an institution which he has helped to develop will open the purse-strings of many who have hesitated to give what has hitherto been really a mere donation to the funds of the district board, a body to which no particular sentiment can attach. The number of hospitals and dispensaries in the Punjab is steadily increasing, and they now total 425 as compared with 37 at the end of the last triennium, but there are plenty of districts where patients must travel long distances before they can obtain treatment. The number of in-patients is growing but it is thought that if all the dispensaries had beds for their patients and the hospital assistants were always popular with the people, the practice of indoor treatment would increase enormously. There were 3,750,000 of outdoor patients, which means a general increase on the previous three years, and evidently the system of medical relief is growing steadily in the confidence of the people. But though these public institutions can do so much, it is recognised that local bodies will never be able to provide medical assistance at every man's door, and it is hoped that unofficial doctors will step in and fill up the gaps. They will, it is anticipated, at first need protection against the charitable competition of public dispensaries, to which even the well-to-do resort unfairly for gratuitous medical relief, and still more a sympathetic backing from Government officials as a support to their prestige and reputation; but given this assistance there can be little doubt that the future extension of medical practice in rural tracts must be largely in the hands of the private practitioners.

Births and Deaths in Eastern Bengal.

It is difficult to assign any definite cause for a steady and continuous fall in the birth-rate over a large area, such, for example, as is recorded for 10 out of 14 districts in Eastern Bengal during the past year, and which was noticed in 1906, remarks a contemporary. The decrease during the past two years has been most pronounced in the Backergunj, Dinajpur, Tipperah, Mymensingh, and Dacca districts. In Rungpur and Malda alone has the birth-rate been steady, while in only two districts, Chittagong and Jalpaiguri, has there been any marked rise. "It is impossible to say," writes the Sanitary Commissioner, "what the significance of this fall in the birth-rate may be; but it is interesting to note that Chittagong and Jalpaiguri are the two districts which have been least affected by scarcity. There is no evidence that it is due to any widespread defect in reporting." The death-rate in Eastern Bengal last year fell from 31·67 in 1906 to 29·30 per 1000, the past year, on the whole, having been a healthy one.

Surgical Equipment in the United Province Hospitals.

One of the directions in which increased efficiency is especially noticeable in the medical department of the United Provinces is in connexion with the surgical operations.

Colonel R. D. Murray, I.M.S., Inspector-General of Civil Hospitals in the United Provinces, remarks that the advance in the number of operations combined with the increase in the number of patients cured by them is a matter of congratulation. He proceeds: "It is due in large measures not only to the increasing confidence of the people and to the extended scope which medical officers enjoy under modern surgical procedure but also to the stimulus which has been given to operative work by the improvement to operating rooms and surgical equipment during the past few years. My predecessor, Colonel Joubert, commenced a campaign against obsolete instruments and obsolete methods which is now beginning to bear fruit, and I have done my best to continue the good work by building new operating rooms and removing defects from old ones wherever it has been possible. There is hardly an operating room in these provinces which has not been either rebuilt or remodelled during the past three years, or for which structural alterations have not been proposed. My work in this direction has unfortunately been stopped temporarily by the necessities of the existing famine, and all projects are in abeyance. Operations are now possible in our larger hospitals which a few years ago were not undertaken at all or, if so, with the greatest apprehension. The triumphs of modern surgery can only be achieved by attention to that complete asepsis which can alone insure success and which was impossible under the old conditions. Not only civil surgeons but assistant surgeons undertake formidable abdominal and other operations with success which formerly were precluded on account of the dirty surroundings under which they had to be performed."

Sept. 15th.

NEW ZEALAND.

(From our own Correspondent.)

Ambulance Lectures.

Many of the medical men here have felt lately that the giving of lectures on first aid and ambulance work should be paid either by the local authorities or by the Government. Some discussion has taken place in the newspapers on this point. It has not been suggested that lectures to the general public should be paid for, but that whenever police, tramway officials, and so on, have to be instructed some monetary recompense should be made to the medical instructors. There is a considerable measure of justice in the request. Many employers, steamship companies, railways, mines, and the like, require that anyone seeking admission to their services must give evidence of a knowledge of first aid. There would seem to be no just reason that medical men should supply this education free of charge.

Sanitary Corps.

Following the example of our Eastern teachers the Defence Council here, on the suggestion of Surgeon-General Skerman and the Hon. Colonel Collins, set up a sanitary branch of our little army. The chief health officer (Dr. J. M. Mason) at the request of the council delivered a series of lectures on military hygiene, which were well attended, not only by the medical staff, but by the combatant branch of the service. A schedule has been issued with new regulations which have been adopted by the Defence Council with respect to the New Zealand Medical Corps, which deals *inter alia* with the sanitary branch of the service. The chief sanitary officer is attached to the Surgeon-General's staff and his duty will be to see that proper provision is made so that the principal medical officers in their several districts will have at their disposal sanitary experts who will advise them as to the best site for camps, the sanitary condition of our forts, water-supply, &c. Dr. Mason has been appointed chief sanitary officer with the rank of lieutenant-colonel. Attached to the health department are a large number of specially qualified experts, and the idea is to utilise their knowledge in military matters as well as in that which concerns the health of the general community.

Appointment of Mr. J. A. Gilruth.

To the great regret of all who value original research Mr. J. A. Gilruth, M.R.C.V.S., has been induced to leave this country for fresh work in Victoria. For long Mr.

was nothing visible, red and white blood corpuscles being conspicuous by their absence. The final examination was conducted on August 5th when, apart from any marked alteration in the character of the physical signs, the urine was found to be normal, in colour pale amber tint, reaction acid with litmus as indicator, specific gravity 1022, no albumin, no deposit, but just a trace of mucus in suspension, as is commonly observed in the case of healthy individuals.

The points of interest are *these*:—1. *The comparative* length of time that elapsed before symptoms manifested themselves (12 hours). This may be accounted for in part by the character of the preparation used, the proportion of the active ingredient in the plaster being 1 in 3 approximately and in the liquor 1 in 2. The personal factor has likewise to be taken into consideration, patients varying, no doubt, in their susceptibility to the influence of the drug. In this direction it is of interest to recall certain observations made by Christison in dealing with the subject of poisoning by cantharides. He remarks that "it is probable that this is one of the poisons whose operation is liable to be materially affected by idiosyncrasy. The medical dose is from ½ gr. to 2 grs. of the powder, and from 10 drops to 2 drs.[2] of the tincture. But Dr. Beck has quoted an instance where 6 ozs. of the tincture were taken without injury. On the other hand, Werlhoff has mentioned the case of a lad who used to be attacked with erection and involuntary emission on merely smelling the powder." This statement, adds Christison, though extraordinary, is not without support from the parallel effects of other substances. 2. Absence of symptoms due to the manner in which the drug is excreted by the gastro-intestinal mucous membrane; there was neither vomiting nor diarrhœa; indeed, it was necessary to administer purgatives before the bowels could be induced to act. 3. Absence of symptoms referable to the genital organs; no heat, no pain, tenderness, or swelling of the parts having been observed, and no spermatozoa having been detected in the urinary sediment, though looked for on several occasions. Christison remarks that whilst "a great number of cases are on record, but few have been minutely related. Sometimes cantharides have been swallowed for the purpose of self-destruction, sometimes for procuring miscarriage; but most frequently on account of a prevalent notion that it possesses aphrodisiac properties, it has been both voluntarily swallowed and secretly administered to excite the venereal appetite. That it has this effect in many instances cannot be doubted. But the old stories which have been the cause of its being so frequently used for the purpose are many of them fabulous and all exaggerated. Often no venereal appetite is excited, sometimes even no affection of the urinary or genital organs at all, and the kidneys and bladder may be powerfully affected without the genital organs participating. It is established, too, by frequent observation that the excitement of the genital organs can never be induced without other violent constitutional symptoms being also brought on to the great hazard of life."

The patient is convalescent at the present time, a natural cure having been effected by resorption of the pleural exudate. The urine is quite normal. In conclusion, I beg to state my indebtedness to Dr. Currie for permission to publish brief notes on the case.

I am, Sir, yours faithfully,
J. STANLEY AVERY, M.B., B.S. Lond.,
House Physician, Johannesburg Hospital.

THE TREATMENT OF INOPERABLE CANCER.

To the Editor of THE LANCET.

SIR,—In his most interesting paper on this subject in THE LANCET of Oct. 3rd, p. 997, Mr. Henry Morris does not refer to the advisability of the systematic examination of the blood. It is a matter of common knowledge that the white corpuscles are increased in number and altered in relative proportion to each other. At the same time the red cells are as a rule diminished. It would appear that in these facts there is to be found a starting point capable of being used in the investigation of possible remedies and one to which sufficient attention has not yet been given. It is reasonable to suppose that if the definite change in the blood which occurs in all cases of advanced cancer can be rectified a cure may result. A systematic and thorough investigation of the condition of the blood cells, especially of the white, carried out during any form of experimental treatment at any of the institutions specially devoted to the treatment of cancer would probably give most valuable information. By our treatment the red cells quickly increase to normal or over, but it is much more difficult to reduce the number of the white corpuscles to the average of health.

We are, Sir, yours faithfully,
SKENE KEITH,
GEO. E. KEITH.
Upper Berkeley-street, Portman-square, W., Oct. 5th, 1903.

AN OPERATION FOR PARAPHIMOSIS.

To the Editor of THE LANCET.

SIR,—I shall be grateful if you will allow me to bring before your readers the following procedure in cases of paraphimosis. 1. An annular incision is made through the mucous membrane of the foreskin a quarter of an inch from its reflection from the glans penis; this incision reaches down to the submucous plane. 2. A second annular incision is made through the skin of the penis half an inch from the mucocutaneous junction; this incision reaches down to the subcutaneous plane. 3. A sagittal incision is made along the dorsum connecting the two annular incisions and as before reaching down to the submucous-subcutaneous planes. 4. The collar of tissue thus marked out is peeled off in the above plane. 5. All bleeding vessels are secured and tied with catgut. 6. The cut edges of the skin and mucous membrane are approximated by a series of discontinuous catgut sutures.

The following points illustrate the advantages of this method: 1. Reduction in old-standing cases can at the best only be performed (*a*) by the exercise of much force and with considerable pain to the patient; or (*b*) "the narrow constricting band caused by the orifice of the prepuce must be divided on the dorsal aspect. This will free the parts which can be subsequently drawn forwards, and after the œdema has been reduced by applying lotio plumbi for a few days circumcision may be advantageously undertaken" (Rose and Carless). 2. Circumcision at a later date is generally advisable, thus necessitating delay and a second anæsthetic. 3. The operation can be safely undertaken, even in these cases where local destruction of tissue has resulted from pressure.

I am, Sir, yours faithfully,
G. H. DIVE, M.R.C.S. Eng.
St. Bartholomew's Hospital, Sept. 30th, 1903.

THE MEDICAL AUTHORSHIP OF THE THIRD GOSPEL.

To the Editor of THE LANCET.

SIR,—In an annotation in THE LANCET of Sept. 26th you adduce strong evidence to prove that both the Third Gospel and the Acts of the Apostles were written by St. Luke. Incidentally I think this fact affords a proof that the Second Gospel was written by St. Mark. In Paul's first journey with Barnabas they were accompanied by Mark, who left them on the way, and as Paul himself said "went not with them to the work." When they proposed a second journey Paul objected so strongly to Mark accompanying them that he and Barnabas parted and Mark accompanied Barnabas whilst Paul selected Silas as a companion. For some unassigned reason Silas appears to have ceased to be Paul's companion and his place was taken by Luke who accompanied Paul on his last journeys. It would be only natural that Mark should retain some of the ill feeling which arose during the strife between Barnabas and Paul about him and should include also Paul's companion Luke. It is curious to note that while St. Luke simply mentions the case "of a woman having an issue of blood 12 years, which had spent all her living upon physicians and neither could be healed by any," Mark says, "She suffered many things from many physicians but was nothing better but rather grew worse." In this expression there appears a certain amount of bitterness against the profession to which St. Luke belonged, and which, if hardly to be expected from an evangelist, was nevertheless entirely human, and I

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[2] The present official dose of the tincture of cantharides is from 5 to 15 minims, or from 2 to 5 minims if used repeatedly.—ED. L.

Obstetrical Section of the Royal Academy of Medicine in Ireland, the presidency of the British Gynæcological Society, and the presidency of the Obstetrical Section of the International Medical Congress—on the occasion of the triennial meeting at Berlin in 1890. His grasp, mental and moral, as a lecturer and teacher as well as practitioner and administrator, was characterised by the emphatic stamp of his physical vigour.

Sir Arthur Macan's death has left a conspicuous blank in the phalanx of Irish gynæcologists and is universally deplored. His remarkable physique had been showing signs of failure for some months and decline of cardiac vigour hastened the end. His valuable published contributions include papers on his specialty in the *Transactions of the Royal Academy of Medicine in Ireland* and other professional periodicals. He also translated the "Intestinal Parasites" of Professor Heller.

ROBERT NIVEN, M.D., CH.B. GLASG., D.P.H. CAMB.

Dr. Robert Niven, medical superintendent of the West Ham Infirmary, Whipps Cross, Leytonstone, died there on Wednesday, Sept. 23rd, at the early age of 32 years. Dr. Niven had held the position of superintendent for just 12 months. He received his medical education at the University of Glasgow, where he graduated M.B., Ch.B. (commend.) in 1898 and M.D. in 1905. Immediately after graduation he was appointed junior house surgeon to the West Ham and East London Hospital, in due course becoming senior house surgeon there. He next went to Bethnall House Lunatic Asylum, where, in addition to obtaining lunacy experience, he worked at the London Hospital for the D.P.H. Camb., which he took in 1901. His next appointment was that of assistant medical officer at the South-Western Fever Hospital, Stockwell. During the late small-pox epidemic he went to Gore Farm Hospital where his devotion to duty was recognised by the Metropolitan Asylums Board by a special letter of thanks and an honorarium. Afterwards he obtained the appointment of senior assistant medical officer at the Camberwell Infirmary which he held till he went to West Ham a year ago. At West Ham Infirmary, where matters had been in a somewhat unsettled state for some time, his firm discipline and excellent administrative ability soon showed themselves and he displayed great energy in carrying out the duties of his responsible position. Among other things he undertook the reorganisation of the nursing staff and proved a strict disciplinarian, upholding the rules of the institution to the letter. Unfortunately his health broke down soon after he entered on his duties and he had to go first to the King's Sanatorium and afterwards to Switzerland suffering from a tuberculous affection of the right lung. At the end of three months he came back very much improved in health and took up his duties with renewed zest. The lung trouble had become quiescent, but unfortunately about a fortnight ago he developed influenza and an attack of croupous pneumonia supervened which terminated a useful and promising career. Dr. Niven will be greatly missed.

ALFRED CHARLES FESTING SMITH, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.,

MEDICAL OFFICER IN CHARGE OF TROOPS, BULL POINT, DEVONPORT.

Mr. A. C. Festing Smith died suddenly at St. Budeaux (Cornwall) on Sept. 25th, from syncope, whilst visiting a patient. The deceased, who was in his fortieth year, was the younger son of the late Commander G. T. C. Smith, R.N., of Rathmullen, Ireland. He received his medical education at Queen's College, Cork, and qualified L.R.C.P. & S. Edin. and L.F.P.S. Glasg. in 1891. After holding a resident appointment at the Royal Albert Hospital, Devonport, Mr. Smith, about 12 years ago, commenced practice at St. Budeaux when he soon became highly popular. He was surgeon in charge of the troops at Bull Point, Devonport. Mr. Smith was formerly an alderman of the Devonport town council but had recently resigned the office. He had been overworked lately and this year had not been able to have his usual summer holiday. He married the eldest daughter of Lord Kinsale, who, with three children, is left to mourn his death.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Salomon Neumann of Berlin, at the age 88. He was born in Pyritz and studied medicine Halle, where he was one of Professor Peter Kruk berg's most distinguished pupils. He collected medi statistics and wrote numerous papers on sanitary subje which attracted the attention of the civic authorities Berlin where he practised so that he was appointed member of the city council and this post gave him abunda opportunities of continuing his statistical and other r searches. He did not give up his work until some 13 yea ago when advancing age compelled him to retire. F many years he worked in conjunction with Professor Rudol Virchow, the two being great personal friends.—Dr. Juliu Laudenbach, professor of pharmacology in the University o Kieff.—Dr. Edouard Rondot, formerly *agrégé* in the Uni versity of Bordeaux and medical officer to the hospitals o that city.—Dr. B. Florschütz of Wiesbaden, the eminent archæologist, at the age of 70 years.

Medical News.

Examining Board in England by the Royal Colleges of Physicians of London and Surgeons of England.—At the first professional examination of the Conjoint Examining Board, held on Sept. 29th and 30th and Oct. 1st and 2nd, the following gentlemen were approved in the subjects indicated below:—

Chemistry and Physics.—John Vere Orlebar Andrew, Brighton Technical College; Fritz Ernest Bendix, West Ham Municipal Technical Institute; Frank Rex Fletcher, London Hospital; Frank Cane Godding, Guy's Hospital; Ralph Jones, Charing Cross Hospital; Charles Virgil Nunez Lyne, Birkbeck College; Percy Uvedale Mawer and Frederick Meinertzhagen, St. Bartholomew's Hospital; Frank Andrew Miller Nelson, London Hospital; Aly Heidar Taymour, Cairo and Guy's Hospital; and Clement Arthur Webster, Manchester University.

Chemistry.—Stephen Leonard Baker, London Hospital; John Henry Bennett, St. George's Hospital; Cyril Amand Bernard, Liverpool University; Bertram James Brewitt, St. Bartholemew's Hospital; Sydney Hudson Keys, Birkbeck College; Claude Kingston, University College, Bristol; William Arthur Rail, Melbourne University and St. Bartholomew's Hospital; and George Sydney Stathers, Cambridge University and University College Hospital.

Physics.—Robert Graham Brown, London Hospital; Arthur Geoffrey Morris, University College, Bristol; William Morris and Henry Barton Owens, London Hospital; Frederic Simpson, Charing Cross Hospital; and Lindsay Olive Smith, London Hospital.

Biology.—Robert Graham Brown and John Lyon, London Hospital; Horace Mather, Guy's Hospitals; Arthur Wellington Matthew and Henry Felix Mullan, London Hospital; John Hunter Pugh, Guy's Hospital; Philip Pennefather Warren, London Hospital; and Gerald Charles Wright, London Hospital.

Royal College of Surgeons of England.—At the Preliminary Science Examination for the Licence in Dental Surgery of the Royal College of Surgeons of England the following gentlemen were approved in the subjects indicated:—

. eslie Miller, Charing Cross Hospital Birkbeck College; and Richard Reginald College.

Chemistry.—Sidney Roland Bacon, Charing Cross Hospital; Chandulal Manilal Desai, Guy's Hospital; Denis Foster Lewis, Birmingham University; Frederic Winbolt Lewis, Middlesex Hospital; and Whalley Seath Stranack, University College Hospital.

Physics.—John Eric Rhys Evans, Guy's Hospital; Carl Joseph Oldham Jensen, Charing Cross Hospital; Richard Angwin Rail, South African College, Cape Town; and John Fitzgerald Williamson, Charing Cross Hospital.

The London Medical Exhibition.—Proof of the interest taken by the members of the medical profession in this annual exhibition is furnished by the increased attendances shown year by year. The fourth meeting was held under excellent auspices this week at the Royal Horticultural Hall, Vincent-square, Westminster, the opening ceremony taking place on Monday, Oct. 5th, the exhibition remaining open until Friday, the 9th. The organising committee adopted the plan of excluding so far as was possible the lay visitor, and success appears to have attended the scheme, since it was quite obvious that in the main the surgeon and the physician were in attendance. The exhibits were very tastefully arranged and for the most part came well within the purview of medical matters. In a future issue we hope to give an account of certain of the exhibits that some idea may be gained of what may be regarded to be the latest developments concerning drugs, foods, surgical appliances, and so forth.

surgeon in attendance. Early and extensive operation was necessary if the symptoms pointed to the presence of a tumour.

Dr. MacCosh (New York) brought forward a case of Sarcoma of the Spinal Cord removed by operation. The patient was alive and well six years later. The laminæ and spines of three dorsal vertebræ were removed but the patient's back had not been materially weakened.

Hernia.

Dr. William Sheen (Cardiff) contributed a paper on the Etiology of Hernia. He discussed it from the medico-legal standpoint and showed that the sudden development of hernia was clinical and not pathological, for the sac must have been already present since the sudden formation of a sac with its contents is impossible.

A discussion on the Radical Cure of Inguinal Hernia was opened by Dr. R. Alessandri (Rome). In his paper he laid down the essentials of the operation. They were: (1) the excision of the sac as high as possible without leaving any depression in the peritoneal wall; and (2) the formation of a complete and firm wall. After an examination of the various procedures he described in detail Bassini's method, and mentioned the variations for the different forms of inguinal hernia; and lastly, he discussed the question of the material for the sutures, and the length of duration of rest required after the operation.

Dr. Petrovitch (Nisch) had operated on 7000 cases of inguinal hernia during the last ten years in Servia. His patients were militiamen who remained under observation for from one year to eighteen months afterwards. His mortality was 0·13 per cent.; recurrences, 0·6 per cent.; and a good result in 98·85 per cent. Bassini's method was employed 1002 times, Kocher's in 266 cases. One method did not seem better than the other.

Dr. Subbotitch (Belgrade) gave an account of his method of treating the sac in those difficult cases where it could not be readily separated from the spermatic cord.

Dr. Vanverts (Lille) stated that he secured the pedicle of the sac with sutures but did not necessarily remove it.

Dr. Hildebrand (Berlin) described the operative treatment of femoral hernia, which was further discussed by Dr. Lotheissen, Dr. Léon Bérard (Lyons), and Dr. Vanverts.

Professor Fraenkel (Berlin) read a report on Umbilical Hernia, whilst Dr. Lothioir (Brussels), and Dr. Nové-Josserand (Lyons) dealt with Hernia in Children.

Professor Kallionitzis (Athens) and Dr. Verhoef (Bruges) agreed that Bassini's operation was the best method of securing a radical cure of inguinal hernia.

Entertainments.

It appears to be necessary to infuse a certain amount of gaiety into every congress, even when the meeting is taken as seriously as has become the custom at the International Society of Surgery. The executive committee at Brussels made every preparation to enable the members to enjoy themselves, whilst a ladies committee, under the management of Madame Depage and Madame Lothioir, made such excellent arrangements that their guests saw many of the beautiful outskirts of Brussels with the least possible degree of fatigue. The public entertainments consisted of an evening reception by the Belgian Society of Surgery at the Cercle Artistique et Littéraire; a reception by Professor Czerny, President of the Congress, in the beautiful house of Dr. Depage; a gala performance at the Théâtre Royal de la Monnaie; and a reception at the Hôtel de Ville, where the vast suite of rooms was seen to perfection. There were also most charming drives to the Bois de Cambre and to the golf club at Tervueren, two of the prettiest suburbs of Brussels. But these public entertainments were thrown into the shade by the lavish private hospitality extended to every member of the Congress, a hospitality which allowed of the formation of many new friendships and the cementing and renewal of many old ones. By such means the members of the great medical profession throughout the world become truly fraternal; individuality remains owing to the barriers of language and upbringing, but constant association gives such a knowledge of each other's peculiarities as to lead to no greater amount of friction than occurs in every large family. Madame Depage, Madame Lothioir, and Madame Willems may therefore rest assured that their efforts will have a great and lasting effect upon the social aspect of European surgery.

The public banquet was held in the hall of La Grande Harmonie and was attended by more than 220 guests. Professor Czerny was in the chair and at the high table were M. De Met, Burgomaster of Brussels; M. Velghe, representing the Minister of Agriculture; the Prince de Reuss, Secretary of the German Legation; Professor Lucas-Championnière; with Madame Sonnenberg, Mrs. D'Arcy Power, and Madame Hartmann. Professor Czerny proposed in French the toast of "The Organising Committee at Brussels," and after translating his speech into German terminated it with "Vive le Roi des Belges! Vive l'Empereur d'Allemagne." M. Velghe drank to the health of those members of the Congress who had come from abroad; to the Governments who had sent representatives; and to the success of the next Congress. M. Segonel proposed the abstract toast of "The Beautiful Flowers which Decorated the Tables" and coupled with it that of the ladies who had come from all parts to grace the meeting and to add pleasure, beauty, and freshness to the Congress. The toast was received with the greatest cordiality and with the "good fire" characteristic of a French gathering. The banquet was followed by some excellent music and minuet dancing.

The General Meeting.

The general meeting was held on Wednesday afternoon, Sept. 23rd, and was preceded by a meeting of the international committee. It was agreed that the next meeting should be held at Brussels in 1911. Professor Lucas-Championnière of Paris was unanimously elected president; Dr. Lothioir, of Brussels, treasurer; and Dr. Depage and Dr. L. Meyer, also of Brussels, secretaries. Three subjects were chosen for discussion in 1911: (1) The Surgery of the Lung; (2) The Causes and Treatment of Colitis; and (3) The Causes and Treatment of Pancreatitis. At a meeting of the English members present at the Congress Mr. D'Arcy Power, Mr. J. Paul Bush, and Sir William Macewen were chosen to form the national committee for Great Britain and Ireland until the next congress, the senior member to act as a member of the international committee. The national committee was desired to make every effort to enlist the sympathy of English surgeons in the society and to prevent, if possible, such an inadequate representation of British surgery as had occurred on the present occasion.

Conclusions.

The most striking features at the present Congress were the results of the discussion on Cancer and the magnificent exhibition of specimens due to the disease. From all sides, from clinical experience, statistics, maps, from museum specimens, and from the interchange of opinions, it seemed clear that malignant disease was locally infective, certainly to the individual, perhaps in some modified form from one person to another. There appears to be a latent knowledge of its cause which only awaits a keen observer or a fortunate experiment to make clear. The general trend of surgical opinion was against extensive operations and in favour of early treatment with thorough removal whilst the disease was still local. This, however, is only possible when public opinion sets towards early diagnosis. It is hampered at present by the idea that cancer is a painful disease and that because a lump is not painful it cannot be dangerous. In some parts of Austria women and medical practitioners alike have been taught not to disregard the first signs of uterine disturbance at the time of the menopause. The result is shown in the wonderful display of specimens of cancer of the cervix which were exhibited at Brussels, many of the preparations being in a much earlier stage of the disease than is ever seen in this country. It is possible therefore to educate the public until it no longer waits for advanced signs of the disease with implication of lymphatic glands and the neighbouring structures.

It seemed clear that the surgery of the liver was in a less advanced stage than the surgery of cancer. It is evident that comparatively little care is taken in the matter of diagnosis until pain or very obvious signs, often of long standing, compel the patient to seek surgical assistance. The mortality after operations on the liver, therefore, is still unduly high, because exploration of the liver too often shows an extensive inflammation which in the earlier stages might have been remedied with very little danger.

The discussion on anæsthesia brought out the fact that the English-speaking nations are still in advance of their European colleagues in the safe production of general

Food and Cookery Publishing Agency, 329, Vauxhall Bridge-road, London, S.W.

Manual for Diabetic Diet and Cookery. By Ch. Herman Senn, Examiner in Sick-room Cookery to the London Hospital, Guy's Hospital, &c., Author of "Cookery for Invalids and the Convalescent." Price 1*s.* 6*d.* net.

Green, William, and Sons, Edinburgh and London.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the North-Western University Medical School. Chicago; Attending Physician to Mercy, Wesley [illegible] net.

Green's [illegible] ary of Medicine and Surgery. Vol. IX [illegible] Price not stated.

Health Resorts Bureau, Tenison House, 5, Green-street, Leicester-square, London, W.C.

The Health Resorts of Europe. By Thomas Linn, M.D. (of Nice). Edited by A. C. Glynn Grylls, M.A., F.R.G.S. Fifteenth Edition. Price 2*s.* 6*d.* net.

Kimpton, Henry, 13, Furnival-street, Holborn, London, E.C. (**Stenhouse, Alexander**, 40 and 42, University-avenue, Glasgow).

Diseases of the Nose, Throat, and Ear, Medical and Surgical. By William Lincoln Ballenger, M.D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois. Price 28*s.* net.

The Principles and Practice of Gynecology, for Students and Practitioners. By E. C. Dudley, A.M., M.D., Ex-president of the American Gynecological Society, Professor of Gynecology, North-Western University Medical School; Gynecologist to St. Luke's and Wesley Hospitals, Chicago. Fifth edition, revised and enlarged. Price 25*s.* net.

Neurasthenia. By Gilbert Ballet, Professeur agrégé à la Faculté de Médecine de Paris, Médecin de l'Hôtel Dieu, Président de la Société de Neurologie. Translated from the third French edition by P. Campbell Smith, M.D. Price 6*s.* net.

Nervous and Mental Diseases. [illegible] Charles S. Potts, M.D., Prof[illegible] By [illegible] Chirurgical College of Phil[illegible]edico-[illegible] adelphia Hospital; formerly [illegible] Phil-[illegible] the University of Pennsylvania. Second edition, revised and enlarged. Price 12*s.* 6*d.* net.

Lippincott (J. B.) Company, Philadelphia and London.

International Clinics. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A., with collaboration. Volume III. Eighteenth series, 1908. Price not stated.

Longmans, Green, and Co., 39, Paternoster-row, London; and New York, Bombay, and Calcutta.

The Bone-Marrow. A Cytological Study. Forming an Introduction to the Normal and Pathological Histology of the Tissue, more especially with regard to Blood Formation, Blood Destruction, &c. Together with a short Account of the Reactions and Degenerations of the Tissue in Disease. By W. E. Carnegie Dickson, M.D., B.Sc. Edin., F.R.C.P. Edin., Lecturer on Pathological Bacterio-[illegible] t to the Professor of Pathology in the [illegible], Assistant Pathologist to the Edinburgh [illegible] Coloured Plates and Microscopical Photographs by Richard Muir. Price 42*s.* net.

Macmillan and Co., Limited, St. Martin's-street, London, W.C.

Treatment of Consumption. By W. Camac Wilkinson, B.A. Syd., M.D. Lond., F.R.C.P., Lecturer in Medicine, University of Sydney; Hon. Physician, Prince Alfred Hospital, Sydney. Price 10*s.* net.

Mining Journal, The, London.

Who's Who in Mining and Metallurgy. 1908. Founded by George Safford. Price not stated.

Rebman, Limited, 129, Shaftesbury-avenue, London, W C.

The Sexual Life of Our Time in its Relation to Modern Civilisation. By Iwan Bloch, M.D., Physician for Diseases of the Skin and for Diseases of the Sexual System in Charlottenburg, Berlin; Author of "The Origin of Syphilis," &c. Translated from the Sixth German Edition by M. Eden Paul, M.D. Price 21*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Dimock, Horace, M.B., B.C. Cantab., [illegible] been appointed Resident Anæsthetist [illegible]

Fowler, T. Webb, M.D., Ch.B. Birm., [illegible] has been appointed Honorary Medi[illegible] Warwickshire Hospital.

Gleed, Seymour R., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Hospital for Women, Brighton.

Howse, Arthur Edward, M.R.C.S., L.S.A., has been appointed District Medical Officer by the Frome (Somerset) Board of Guardians.

Hulbert, H. L. P., M.B., B.S., D.P.H. Camb., has been appointed School Medical Officer to the Northamptonshire Education Committee.

Jeans, Frank A. G., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Royal Infirmary, Liverpool.

Paterson, Alexander S., M.B., Ch.B. Edin., has been appointed House Physician at the Salford Royal Hospital.

Peek, J. H., M.B., Ch.B. Edin., has been appointed Resident Surgeon at Ramsgate General Hospital and Visiting Surgeon to the St. Lawrence Dispensary.

Roderick, H. B., M.D., B.S. Cantab., has been reappointed Demonstrator of Surgery in the University of Cambridge.

Sachs, Alfred L., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Queen's Hospital for Children, Finchley road, N.W.

Taylor, Stuart Hopcraft [illegible] appointed District Medical [illegible] of Guardians.

Tolputt, Percy Thomas, L.R.C.P., L.R.C.S., L.M. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer by the Pembroke Board of Guardians.

Woodforde, G. A. W., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Junior Resident Medical Officer at Queen Charlotte's Hospital.

Wrigley, Philip Roscoe, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Assistant Surgeon to the Salford Royal Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bath, Royal Mineral Water Hospital.—Resident Medical Officer. Salary £100, with board, lodging, and laundry.

Birmingham General Dispensary.—Resident Surgeons, unmarried. Salary £170 per annum, and rooms, fire, lights, and attendance.

Bolton Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and attendance.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Bridgnorth and South Shropshire Infirmary.—House Surgeon. Salary £100 per annum, with board and lodging.

Brighton, Sussex County Hospital.—House Surgeon, unmarried. Salary £120 per annum, with board and residence. Also Second House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

Bristol General Hospital.—Casualty House Surgeon. Salary £60 per annum, with board, residence, &c.

Bristol [illegible] Salar[illegible]

Buxton, [illegible] geon.

Carlisle [illegible] Westmorland Asylum, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with board and lodging.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Resident Medical Officer. Salary £120 per annum, with board, &c.

Dudley, Guest Hospital.—Assistant House Surgeon. Salary £60 per annum, [illegible]

Dumfries [illegible].—Assistant House Surgeon. S[illegible] and lodging.

General Infirmary at Gloucester and the Gloucestershire Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing. Also [illegible] Physician.

Gillingham (Kent) Education Committee.—School Medical Officer. Salary at rate of £250 per annum, rising to £300.

Grimsby and District Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, attendance, and washing.

Guildford, Royal Surrey County Hospital.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

Halifax Union Poor-law Hospital.—Resident Medical Officer. Salary £110 per annum, with apartments, rations, and washing.

Hampstead General Hospital.—Physician to Out-patients, Surgeon to Out-patients, and Ophthalmic Surgeon to Out-patients.

Homes for Little Boys, Farningham and Swanley, Kent.—Medical Officer, unmarried. Salary £100 per annum, with board, residence, and laundry.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician and House Surgeon for six months. Salaries £30, with board and residence. Also Assistant Casualty Medical Officer for six months. Salary £20, with board and residence.

Hospital for Epilepsy and Paralysis and Other Diseases of the Nervous System, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Hospital for Women, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £60 per annum.

Ipswich, East Suffolk and Ipswich Hospital.—House Surgeon for six months. Salary at rate of £65 per annum.

Kettering and District General Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

Lancaster, Royal Lancaster Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

Leeds, Hospital for Women and Children.—House Surgeon. Salary at rate of £50 per annum, with board.

Leeds Public Dispensary.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging.

Leyton, Walthamstow, and Wanstead Children's and General Hospital.—Resident House Surgeon. Salary £100 per annum, with [illegible]

Liv[illegible].—Assistant Medical Officer. [illegible] per annum,

London Lock Hospital, Dean-street, W.—Anæsthetist to the Male Hospital.

Margate, Royal Sea Bathing Hospital.—Resident Surgeon, as Junior and later as Senior. Salary at rate of £80 and £120 per annum respectively, with board and residence.

hills must be, in any case, some score of miles away. Those on the west of the line form the curiously jagged volcanic range known as the Harra, while on the east is a low range, in which rises a strangely shaped rock, not unlike a gigantic Moslem pulpit in form, and consequently called by the Arabs the *Munbir-er-Rasul*, or Pulpit of the Prophet. The yield of the spring is very abundant; we endeavoured to make a rough estimate of it by the "weir" method and found that it was then producing over 600 tons in the 24 hours. The possible error of calculation in such an observation (which was of necessity carried out in a rather primitive manner) is considerable, but the yield is in any case very great, and Meissner Pasha informs me that, though it had never before been measured, the yield is certainly over 400 tons per day.

Three wells have been sunk close to the station at Tebuk. The principal one is at the station; it has a diameter of about three metres and a depth of 22·80 metres to the surface of the water. The depth of the water was only half a metre at the side and one metre in the middle. As at Ma'an, a steam pump, with windmill in reserve, has been put up by the well, and raises the water to two large reservoirs on a water-tower. This well yields as much as 400 tons of water per day. The two other wells are situated respectively 150 and 250 metres to the west of the station; they are not provided with pumps, and their yield is not known. We were informed by several persons that an abundant supply of water is found in the plain of Tebuk wherever a well is sunk, and that there is probably a continuous and practically inexhaustible underground layer of water here. On the other hand, Meissner Pasha has some doubts as to the accuracy of this statement. The first well sunk by the railway authorities, he tells me, gave relatively unsatisfactory results, and he thinks that the water exists in all probability in the form of separate underground streams rather than as a continuous layer ("*des veines d'eau plutôt qu'une nappe souterraine*"). At all events, all are agreed that the subterranean water here is in movement and that that movement is towards the west (no doubt towards the Gulf of Akaba and the Red Sea). The importance of this fact is obvious, in connexion with the questions of providing the future lazaret with water and the disposal of the sewage matter of the lazaret without contaminating that water. With regard to the latter point, it is clear that the sewage matter will have to be disposed of well to the west of the lazaret site, particularly if the drinking water is to be derived from wells. With regard to the former it may prove necessary to make several soundings, but there is no doubt whatever that water can be found in the neighbourhood of Tebuk by sinking wells in suitable spots in quantity sufficient for almost any number of pilgrims.

The quality of the water derived respectively from the spring near the *kala'at* and from the large well at the station was found to be very different, as shown by the following analysis. The spring water was clear; had no odour; contained 14·1 parts of chlorine as chlorides, 0·074 part of nitrogen, of which 0·063 occurred as nitrates, 0·003 as free ammonia, and 0·007 as organic nitrogen; it consumed 0·0204 part of oxygen in the permanganate process during three hours at 27° C.; its total hardness was 25·42 and its permanent hardness after boiling 15·32; finally, the "total solids" were 47·8. All the preceding figures represent parts per 100,000. The water from the station well, on the other hand, gave the following results. Its appearance was clear; it had no odour; it contained 36·7 parts of chlorine as chlorides, 0·333 of nitrogen, of which 0·328 occurred as nitrates, 0·002 as free ammonia, and 0·003 as organic nitrogen; it consumed 0·0481 part of oxygen in the permanganate process during three hours at 27° C.; its total hardness was 27·98 and its permanent hardness 18·02; and finally its total solids were 153·5. It will be seen that the well water was inferior in every respect to the spring water. It would be possible to employ the spring water for the lazaret, but it would be in every way preferable that this institution should have its own wells, entirely independent of the village. It will, however, be necessary to make multiple analyses of the waters found in the new soundings to be made near the lazaret site. Should these analyses give results as unsatisfactory as the single analysis of the station well just quoted, then it will become necessary to find means for improving the water-supply. Perhaps the best solution will be the putting up of a large distilling apparatus in which the well water would be distilled before distribution to the pilgrims, as is done in the lazarets of Camaran and Abu-Saad (Jeddah) in the Red Sea. The cost would no doubt be considerable, but it seems probable that this additional outlay would be compensated to some extent by economy effected in the length of drain pipes. For this reason: if the underground water is going to be distilled before being drunk there will not be the same necessity to carry the sewage matter far away to the west of the "cordons," as referred to above. The system of "fosses à fond perdu" will in all probability be adopted and (if a distilling apparatus is put up) it will be sufficient to have these fosses some 20 metres away from the barrier round each cordon, whereas if undistilled water were to be provided to the pilgrims it would be necessary to prolong the drains to such "fosses" at a distance of perhaps some hundreds of metres to the west of the cordons. In any event, the question of the water-supply for the Tebuk lazaret still requires some careful consideration and further observations before it can be regarded as satisfactorily solved.

While on the subject of wells, I should like to call attention to the following. Up to the present neither at Ma'an nor at Tebuk has the water derived from wells sunk in the desert shown any tendency to deteriorate or to become salter with time. But at Hedieh, a place situated between Medaini-Salih and Medina, this has been observed; a well gives fairly potable water for a few days, then it gradually gets more and more brackish, and in perhaps a fortnight's time is so salt as to be undrinkable. It may be recalled that precisely the same phenomenon was observed in the wells sunk in the desert outside Jeddah. In THE LANCET of July 6th, 1907 (p. 51), was published a reprint of a photograph showing the curious honeycombed aspect of the country near Jeddah, resulting from the sinking of innumerable wells. Those wells were sunk quite close to one another and in succession (though at what intervals of time I do not know), yet each is said to have presented the same series of phenomena. What is the explanation? I have been in correspondence with Meissner Pasha on the subject and this highly experienced engineer is equally puzzled. He suggests that at Jeddah the explanation may be that the well is a deep one, passing through an impermeable stratum, and that too active pumping may have led to infiltration of sea-water to re-establish the equilibrium in the undergound water. But no pumps existed at these desert wells near Jeddah, and the explanation is not applicable to wells far from the sea, as in the case of those on the Hedjaz railway. Can it be due to evaporation? This can scarcely be the solution, as these wells are often very deep and the surface of water relatively small. Is the phenomenon due to the action of some unknown micro-organism, producing conditions under which the water, when exposed to the air, becomes capable of dissolving more salts than when not so exposed? Perhaps some of the readers of THE LANCET may be able to furnish the explanation of a phenomenon which is of very practical importance when water has to be provided to large numbers of persons in regions where these conditions prevail. The Commission did not visit Hedieh, where, as stated above, this difficulty with the wells has been met with. A sample of the water from there was, however, procured and the analysis gave the following results. It had a yellow colour and an earthy smell; it contained no less than 142 parts of chlorine as chlorides; the nitrates were not estimated, but there were 0·013 part of nitrogen as free ammonia and 0·010 as organic nitrogen; the oxygen consumed in the permanganate process during three hours at 27° C. was 0·6376; the degree of total hardness was 70·3 and of permanent hardness 43·36; the total solids were 396. This water was clearly utterly unpotable; it was the worst of all the waters examined. To this, no doubt, may be ascribed the fact that during last winter's cholera epidemic Hedieh suffered more than any other place to the north of Medina.

To return to Tebuk, the village here contains only about a couple of hundred inhabitants. They are of a mixed race, largely Abyssinian, and many are little, if at all, removed from pure negroes. There is no *kaimakam*, and the only representative of Turkish authority is the *mudir* of the village. We here met Sheikh Harb, the well-known head of the Beni Attiyeh tribe. This tribe is said to number some thirty thousand men and people an extensive region, of which Tebuk glass valve, with no indiarubber attachment, "which requires very little regulating, cannot leak, become clogged, drop out, or be pulled out by the infant, and which yet allows an even supply of air behind the column of milk." The valve is formed by a hole in the neck of the bottle and a longitudinal niche cut in the neck of the stopper, which is kept from dropping out by an easily removed metal collar. When the niche and hole are in register the valve is opened on the principle of a drop bottle, except that the valve gives ingress to air instead of egress to fluid. We find that by turning the valve partly out of register the flow from the teat can be evenly regulated, and we consider that the bottle has the advantages which we have stated and regard it as a useful hygienic appliance for the nursery. The teat is non-collapsible and can be boiled without injury. Messrs. Kirby and Co. ask us to state that a sample bottle will be sent free to any medical man on application.

DYSPEPSIA: A NEW TREATMENT.

THE following postcard was addressed recently to a physician in charge of out-patients at a London general hospital:—

> SIR,—I have read rightly or wrongly that typhoid fever is a specific for dyspepsia, a thing I am a martyr to. I have spent no end of money trying to get cured, visiting about 50 doctors without result, also have attended St. ——'s nine months. Now I am only 23 and ambitious. I am willing to do anything to get rid of my malady and if it is possible to be inoculated with the fever I am willing to make the experiment.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, W. G. Spencer): at 5.30 P.M.

Paper:

Mr. James Berry and Mr. Paul L. Giuseppi: Traumatic Rupture of the Intestine, with a Case of Recovery after Operation and an Analysis of the 125 Cases which have occurred in 10 London Hospitals during the last 15 years.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Cases:

Dr. Dawson: (1) Sclerodermia Diffusa; (2) Acne Agminata.
Dr. Pernet: Granuloma Annulare (Female).
(And other Cases not yet notified.)

FRIDAY.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.

Paper:

Mr. W. Deane Butcher: The Amsterdam Congress of Electrology and Radiology.
(Lantern slides and radiograms will be shown).

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

NOTICE.—A Discussion on the Influence of Heredity on Disease, with special reference to Cancer, Tuberculosis, and Diseases of the Nervous System will be held at a SPECIAL MEETING OF FELLOWS OF THE SOCIETY on Wednesday, Nov. 11th. Fellows who desire to take part in the Discussion are invited to send in their names to the Secretary.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Annual Meeting. 8.30 P.M., Ordinary Meeting. Mr. C. B. Lockwood (the new President): Address. Mr. J. R. Morison (Newcastle-on-Tyne): Notes on a Case in which a Portion of a Lung was excised.

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—4 P.M., Discussion on the Relation of Alcohol to Feeble-mindedness (opened by Dr. W. A. Potts).

HUNTERIAN SOCIETY, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Dr. J. Mackenzie: The Bearing of Hunter's Work on Recent Advances in the Study of Heart Affections.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Major R. J. Blackham, R.A.M.C., D.P.H.: The Micro-organisms of Dysentery.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Cases by Mr. M. Ramsay, Mr. S. Stephenson, Mr. A. Ogilvy, and others. 8.30 P.M., Mr. F. G. Thomas and Mr. J. H. Parsons: A Case of Dipterous Larva in the Anterior Chamber.—Mr. N. B. Harman: Six Generations of Piebalds. (Opening Meeting of the Session.)

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. C. W. Kimmins: Introductory Address on the Relation of the Curriculum to the Development of the Child.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Dr. A. E. Horn: An Investigation of Cerebro-Spinal Meningitis in the Northern Territories of the Gold Coast (with microscopic demonstration).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fieds, W.C.

FRIDAY.—5 P.M., Prof. Keith: On Specimens illustrating Malformations of the Rectum and Anus. (Museum Demonstration)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. McCann: How to Diagnose Cancer of the Womb (with lantern slides).

TUESDAY.—4 P.M., Dr. H. Mackenzie: Clinique (Medical) 5.15 P.M., Lecture:—Dr. G. H. Savage: Borderlands between Badness and Madness.

WEDNESDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M., Lecture: Mr. C. R. B. Keetley: Affections of the Toes, Feet, and Ankles.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Grant: Remarks on Prurient Nasal Discharges.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 4.30 P.M., Lecture:—Sir R. D. Powell, Bart., K.C.V.O.: Opening Address.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of th[illegible] Lecture:—Dr. Pritchar[illegible] and Surgical Clinics. X[illegible] 2.30 P.M., Operations. 5 [illegible]

THURSDAY.—10 A.M., Mr. [illegible] Selected Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. S. Taylor: Treatment of Typhoid Fever.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4 P.M., Special Lecture:—Mr. Lawrence: Nasal Obstruction.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Prof. Hewlett: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carless.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Non-valvular Diseases of the Heart.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. [illegible] tient (Dr. Whipham); Nose, [illegible] Rays. 4.30 P.M., Medical [illegible]

TUE[illegible] Out-patient (Dr. Auld). [illegible] Carson). Clinics:—Surgical [illegible] Giles). 4.30 P.M., Special [illegible]ases (Dr. Chappel).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel). 4.30 P.M., Lecture:—Mr. W. Edmunds: The Treatment of Tuberculous Glands.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks).

treatment under proper conditions. The coöperation of the hospitals and the General Dispensary being gained it was still necessary that the aid of the general members of the medical profession should be secured and if this was obtained the scheme offered great hopes of success. After Mr. Chamberlain's exposition was concluded the scheme was discussed and though a certain amount of opposition was apparent a motion deprecating the revival of any suggestion for the establishment of a public medical service was lost by a large majority, and Mr. M. Hallwright, Dr. J. A. H. White, Mr. J. Neal, Dr. G. Bryce, Mr. J. W. Ensor, Dr. H. W. Pooler, and Mr. F. A. L. Burges were appointed to act upon the committee which is dealing with the new scheme.

The Encouragement of Personal Cleanliness.

The city council seems to have faith in the old saying that cleanliness is next to godliness and with the object of encouraging an agreeable virtue it has decided to establish a number of cottage bathing establishments where a bath may be obtained for the sum of 1*d.* and a piece of soap for ½*d.* The first establishment was opened on Oct. 1st in Digbeth where cleanliness is not usually too obviously intrusive. The experiment will be watched with interest and if the establishments succeed and pay their way perhaps no one will have any cause to complain except the heads of families who may have been induced to squander on a single bath a sum of money which, had it been judiciously expended on coal and soap, would have served not only to provide hot water and lather for the whole family but also heat for cooking purposes and warmth for the house. Apparently the city fathers think much water better than a little thrift.

The Birmingham District Nursing Society.

The new home of our District Nursing Society in Summer Hill-road was opened on Oct. 2nd by Mrs. William Kenrick. It is thoroughly up-to-date in arrangement and equipment and will provide accommodation for a superintendent, an assistant superintendent, and 16 nurses. The building has cost £5000. To meet this the committee has provided £2,500, and it appeals to the public for the remaining half and also for additional subscriptions of £450 per annum to maintain the present staff and to provide extra nurses for the Saltley district, where they are urgently needed. The furnishing of the new house and the laying out of the garden have been more than provided for by the generosity of the Right Hon. William Kenrick and Mrs. Kenrick, who have initiated, stimulated, and helped so many useful projects in Birmingham.

Medical Appointments at Bilston.

Some three months ago Dr. T. R. Bailey, the medical officer of health to the Bilston council, received three months' notice to terminate his appointment at the infectious hospital, on the ground that all the medical appointments in the control of the council should not be in the hands of one man. At a meeting of the council on Sept. 23rd the clerk reported that in accordance with his instructions he had advertised the appointment but no applications had been received, and after some discussion an unfortunate incident was terminated by the reappointment of Dr. Bailey.

The Birmingham Hospital Sunday Fund.

At a recent meeting of the general committee of the Hospital Sunday Fund a subcommittee reported that it had considered applications from the Jaffray Hospital, the Hospital for Skin and Urinary Diseases, the Midland Counties Asylum for Feeble-minded Children, and the Crippled Children's Union. The decision arrived at with regard to the various claims was that they could not be acceded to unless other charities with equal claims were similarly treated, and it was resolved that the usual appeal should be made to the clergy and ministers of the city on behalf of a collection to be made on Oct. 25th next and that the proceeds of the collection should be distributed in the same proportion as last year.

Medical Inspection at King's Norton.

At a recent meeting of the King's Norton education committee Dr. Jones reported that the inspection of 1946 children had revealed that 69 per cent. had defective teeth, 25·7 per cent. had enlarged tonsils and adenoids, about 18 per cent. had dirty heads, 4·4 per cent. had spinal curvature, 3·6 per cent. had heart disease, 2·3 per cent. had lung disease, 1·5 per cent. had bad ears, and of 735 cases tested 7·2 per cent. had defective vision. The school hygienic subcommittee recommended the appointment of a school nurse at a salary not exceeding £50, to assist the school medical officer, and although the council had previously refused to make such an appointment the obvious necessity caused an alteration of opinion and the appointment was sanctioned.

Oct. 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Farewell Dinner to Mr. George Gibson Hamilton, F.R.C.S. Eng.

A FAREWELL dinner was given to Mr. George G. Hamilton, late honorary surgeon to the Royal Infirmary, at the Adelphi Hotel on Oct. 2nd, by friends and colleagues, on the occasion of his leaving Liverpool to reside in Boscombe, Bournemouth. For the past 25 years Mr. Hamilton had been engaged in surgical practice in Liverpool. His first appointment was at the Children's Infirmary, thence he passed on to the David Lewis Northern Hospital as honorary surgeon, whilst for the last 15 years he had been on the staff of the Royal Infirmary, in the first instance as assistant surgeon, and afterwards succeeding the late Sir William Mitchell Banks as honorary surgeon in 1902. The Lord Mayor (Dr. Richard Caton) presided and in felicitous terms spoke of the good work accomplished by Mr. Hamilton in Liverpool, and of the loss that the city, the Royal Infirmary, and the medical school will sustain through his departure. In reply to the toast of his health, proposed by Dr. E. W. Hope and supported by Mr. Charles Lancaster, Mr. Hamilton said he felt flattered that so many colleagues and friends were with him that night, notably the Lord Mayor who with all his numerous engagements had found time to be present. He also remembered that Dr. Hope, now the esteemed medical officer of health, had been a house surgeon with himself, somewhat over a quarter of a century ago. In those days house surgeons were appointed to the Liverpool hospitals from all parts of the country. He hoped to see soon arrangements made by which house surgeons should be regularly interchanged between the large teaching hospitals as had been the custom in Germany for a considerable time. Mr. Edgar A. Browne then proposed the health of Mrs. George Hamilton in a charming and humorous speech. Mrs. Hamilton and a few other ladies were present to hear the speeches. Covers were laid for about 60 gentlemen.

Liverpool Royal Infirmary.

At a meeting of the election committee of the Royal Infirmary held on Sept. 30th Mr. F. A. G. Jeans was appointed honorary assistant surgeon in succession to Mr. William Thelwall Thomas, promoted honorary surgeon on August 10th.

Cost of the Civic Hospitals for Infectious Diseases.

In the recent report of the medical officer of health on the Liverpool city hospital accommodation it is shown that over 40 per cent. of the total accommodation is provided in buildings of a temporary nature, and as recent experience has proved that the present accommodation is only barely sufficient for actual requirements it is of the greatest importance that the existing buildings, whether of a permanent or temporary character, should be *maintained in* a thoroughly satisfactory condition, otherwise the situation might become serious at any time. The cost of maintenance of the city hospitals for 1907 was: north hospital, £9224; south, £5570; east, £8250; Parkhill, £12,183; Fazakerley, £11,244; and Fazakerley annexe, £4080; making a grand total of £50,556.

Oct. 6th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Presentation of Portraits of Sir T. Clifford Allbutt and Mr. T. Pridgin Teale to the General Infirmary.

SOME time ago it was decided by the numerous friends of Sir Clifford Allbutt and Mr. Teale that they should be requested to sit for their portraits in order that there should be preserved in the city with which they had been so long

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond.; Mr. J. Astier, Asnières; Dr. Alvernhe, Canet; A Sixth Medical Man; Association of Women Pharmacists, Lond., Secretary of; Alliance Press Agency, Manchester; Dr. R. W. Allen, Lond.

B.—Mr. G. Sherman Bigg, Lond.; *British and Colonial Druggist*, Lond., Secretary of; Dr. R. Bell, Lond.; Dr. W. Berry, Wigan; Dr. James Buchanan, Watford; Dr. G. Burnside Buchanan, Glasgow; Mrs. Baird, Lond.; Dr. J. L. Bogle, Stresa; Mrs. Behnke, Lond.; British Oxygen Co., Lond., Secretary of; Birmingham General Hospital, House Governor of; Mr. C. Birchall, Liverpool; Messrs. J. Barker and Co., Lond.; Messrs. Beaumont and Bright, Maldon; Messrs. Boyle and Son, Lond.; Dr. R. A. Bennett, Torquay; Mr. P. C. Bose, Midnapur; Bolton Infirmary, Secretary of; Mr. E. Baker, Birmingham; Messrs. Blundell and Rigby, Lond.; Bristol General Hospital, Secretary of; Messrs. Bates, Hendy, and Co., Reading.

C.—Dr. Harry Campbell, Lond.; Child Study Society, Lond.; Mr. F. E. Cane, Lond.; Messrs. J. and A. Churchill, Lond.; Continental Tyre and Rubber Co., Lond.; Messrs. S. Clark and Co., Lond.; Colchester, Borough of, Clerk to the; Messrs. Samson Clark and Co., Lond.

D.—Dr. Lovell Drage, Hatfield; Mr. A. Stayt Dutton, Oxford; Devon County Education Committee, Exeter, Secretary of; Messrs. Davy, Hill, and Hodgkinson, Lond.; Derby Corporation, Secretary to Education Committee; Denver Chemical Manufacturing Co., Lond., Secretary of; Dumfries and Galloway Royal Infirmary, Secretary of; Dr. W. D. Dunwoody, Harrogate.

E.—Ethics.

F.—Dr. F. E. Fremantle, Lond.; Mrs. Francis, Callington.

G.—Dr. Alfred Gradenwitz, Berlin; Gillingham (Kent) Education Committee, Secretary of; Miss F. Gulland, Lond.; Miss A. M. Greg, Lond.; Gloucester General Infirmary, Secretary of; Messrs. W. Green and Sons, Edinburgh; Sir W. R. Gowers, Lond.

H.—Dr. Clements Hailes, Clifton; Professor I. Walker Hall, Bristol; Messrs. Hirschfeld Bros., Lond.; Mr. Bradley Hughes, Bethesda; Mr. G. G. Hamilton, Liverpool; Messrs. R. and J. Hill, Lond.; Mr. N. Hart, Bournemouth; Captain A. H. Hayes, R.A.M.C., Ambala; Mrs. Hilleary, Wanstead; Holborn Surgical Instrument Co., Lond.

I.—Imperial News Agency, Lond.

J.—Dr. Robert Jones, Claybury; Dr. Oscar Jennings, Montreux; Dr. A. H. James, Blaenavon; Messrs. Jones Bros, Bristol; J. P. L.; J. R.

K.—Dr. A. M. Kellas, Lond.; Captain H. C. Keates, I.M.S., Gujranwala; Mr. Skene Keith, Lond.; Messrs. Kilner Bros., Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Leeds Hospital for Women and Children, Secretary of; Dr. J. Lindsay, Bath; *Leslie's Weekly*, New York, Editor of; Captain L. T. Lucas, Bordighera; [illegible] Liverpool.

M.—Mr. Mortimer Menpes, Lond.; Dr. J. C. McWalter, Dublin; Manchester Royal Infirmary, General Superintendent and Secretary of; Maltine Manufacturing Co., Lond.; Messrs. E. Marlborough and Co., Lond.; Messrs. Maple and Co., Lond.; *Midland Counties Herald*, Birmingham, Manager of; Messrs. Macmillan and Co., Lond.; Dr. W. Mansell-MacCulloch, Bournemouth; Messrs. Mather and Crowther, Lond.; Messrs. C. Mitchell and Co., Lond.; Mr. T. S. Matthews, Sporle; Mr. H. E. Matthews, Bristol; Mr. M. Marmourian, Ashton-under-Lyne; Messrs. C. and E. Morton, Lond.

N.—National Hospital for the Paralysed and Epileptic, Lond., Dean of; Newport and Monmouthshire Hospital, Secretary of; Messrs. Newbery and Son, Lond.; National Provident Institution, Lond., Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Professor W. Osler, Oxford.

P.—Mr. John H. Pugh, Hednesford; Dr. Charles E. Paget, Northampton; *The Phono-* [illegible] P. K.; [illegible] *ournal,* [illegible] Messrs. Peacock and Hadley, Lond.; Mr. H. J. Pulling, Brighton.

R.—Mr. W. Ramsay, Melbourne; Messrs. Rays, Lond.; Messrs. Reynolds and Branson, Leeds; Royal Cornwall Infirmary, Truro, Secretary of; Royal Mineral Water Hospital, Bath, Registrar of; Messrs. Rebman, Lond.; Royal Dental Hospital of London, Medical Staff and Lecturers of; Mr. G. H. Rainey, Lond.; Dr. W. Ford Robertson, Edinburgh; Royal Society of Medicine, Lond., Hon. Secretaries of; Messrs. Rösing Bros. and Co., Lond.; Royal College of Physicians, Lond., President and Fellows of; Royal Hampshire County Hospital, Winchester, Secretary of; Radcliffe Infirmary, Oxford, Secretary of.

S.—Mr. J. E. R. Stephens, Lond.; Sanitary Committee, Manchester, Chairman of; Messrs. Slack and Cox, Manchester; Messrs. Selig Sonnenthal and Co., Lond.; Dr. Harrington Sainsbury, Lond.; St. John's Hospital for Diseases of the Skin, Lond., Secretary-Superintendent of; Mr. James Scott, Lond.; School of Physic, Dublin, Secretary of; Smith's Advertising Agency, Lond.; Star Engineering Co., Wolverhampton; Southend-on-Sea Corporation, Clerk to the Education Committee; East Suffolk and Ipswich Hospital, Secretary of; Scholastic, Clerical, &c., Association, Lond.; Mr. W. H. Soady, Lond.; Dr. T. H. Suffern, Lond.

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U.—University College Hospital Medical School, Lond.; Under-Secretary to Government, United Provinces, India, Naini Tal; Union, Ltd., Edinburgh, Managing Director of.

V.—Mr. Dennis Vinrace, Lond.

W.—Mr. J. Williams, Bradford; Rev. A. W. Watson, Churt; Messrs. J. Wright and Sons, Bristol; Fleet-Surgeon W. A. Whitelegge, R.N., Portsmouth; West Herts Hospital, Hemel Hempstead, House Surgeon of; Dr. J. S. Warrack, Gravesend; Dr. Leonard Williams, Lond.; Mr. Sinclair White, Sheffield; Mr. A. A. Welland, Wallington; W. J. M.; Wye House, Buxton, Medical Superintendent of.

Letters, each with enclosure, are also acknowledged from—

A.—Miss Alderson, Bournemouth; Dr. A. Anderson Braemar; Major J. B. Anderson, R.A.M.C., Havre des Pas; A. M. R.; Mr. J. W. Arrowsmith, Bristol; Messrs. Allen and Hanburys, Lond.; Mr. J. V. Arkle, Kalgoorlie; A. C. W.

B.—Mr. W. J. Brown, Maldon; Messrs. Boots, Nottingham; Mr. T. B. Browne, Lond.; Birmingham, City of, Treasurer to the; Messrs. Blake, Son, and Williams, Croydon; Hon. E. T. Born, Port Stanley; Mr. P. C. Bushnell, Bournemouth; Mr. J. W. Banks, Argenteuil; Dr. J. Biernacki, Lond.

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D.—Mr. W. J. H. Dawson, Lond.; Mr. M. B. Dawson, Mexborough.

E.—Mr. R. Edwards, Rhuddlan; Mr. N. Elrington, Wethersfield; Dr. O. R. Elgood, Windsor; E. R.; Mr. G. J. Evans, Taunton; E. C.; E. P.

F.—Mr. A. C. D. Firth, Lond.; Messrs. Ferris and Co., Bristol; F. E. S.; F. H. H.

G.—The Hon. Lord Guthrie, Edinburgh; G. W.; G. A. C.; G. D.; Mr. A. J. Graylen, Fraserburgh; Dr. A. E. Garrod, Lond.; G. B. M.; Mr E. Gooch, Lond.; Dr. N. D. Gunn, Pacific Grove, U.S.A.

H.—Mr. H. Hutchinson, Lond.; H., Sutton; H. S.; Hanley, Stoke, &c., Infectious Diseases Hospital, Secretary of; Mr. W. B. Harris, Buxton; Mr. C. B. Hall, Lond.; H. F. B.; H. G. M.

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N.—Mr. H. Neame, Lond.; N amptonshire County Co Education Committee, Secre of; Messrs. Nicolay and Lond.; Mr. A. Y. Narayar Tinnevelly Bridge.

O.—Mr. F. A. Osborn, Do Odol Chemical Works, Lond.

P.—Papa Westray Parish Cou Clerk to the.

Q.—Queen's College, Galw Bursar of.

R.—Dr. S. Rangachary, Secund abad; R. J.; Royal Society Tasmania, Hobart, Hon. Sec tary of Medical Section; Ro dale Corporation, Clerk to th Royal College of Surgeons Ireland, Dublin, Secretary Mr. A. W. Mayo Robson, Lon R. J. C.; Mrs. Rich, Godalmin

S.—Mr. W. B. Simmons, Lon Messrs. Sharland and Co., Lon Dr. J. Saffley, Liverpool; S John's Wood, &c., Dispensar Lond., Secretary of; S. S. S Southampton Corporation, Cler to the; Southampton Fre Eye Hospital, Secretary of Messrs. Street and Co., Lond. Dr. G. I. T. Stewart, Ipswich.

T.—Dr. J. W. Thomson, Wake field; Miss Taylor, Lond.; T. A. C.

U.—Mr. G. Uffenheimer, Lond.

V.—Messrs. Van Houten, Lond.

W.—Dr. C. E. Walker, Liverpool; Mr. M. M. Warburg, Stockholm; Mr. W. F. A. Walker, Dinas Mawddwy; West Norfolk and Lynn Hospital, Secretary of; West London Hospital, Dean of; Mr. W. White, Banbury; Worksop Dispensary, Hon. Secretary of; Messrs. Williams and Humbert, Lond.; Mr. Vaughan Weale, Builth Wells.

X.—X. Y., Dalkey.

Y.—York Corporation, Treasurer to the.

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yet decided as to whether such patients should be taken into the hospital or not. It was agreed to recommend to the town council that the remaining portion of the work should be proceeded with at once at the estimated approximate cost of £10,400.

Oct. 3rd.

IRELAND.

(From our own Correspondent.)

Personal Cleanliness of Dairy Boys.

An item of discussion which will, I trust, prove productive of good and palatable fruit in the near future has been again before the South Dublin district council. At a previous meeting some critical remarks had fallen from various members regarding the personal cosmetics and sanitation of city dairy boys, the publication of which elicited a resolution from the Dublin Cowkeepers' and Dairymen's Association that was communicated to the last meeting of the council by the secretary. It was as follows: "With reference to the statements of the rural district council of South Dublin, relative to the city dairy boys, we, who are employers of a large number of dairy boys in the city, hereby protest against the statements made as untrue and undeserved and in no way warranted, and we desire to point out that the boys are under the strict and constant supervision of officers of the public health department of the corporation." The opinions expressed by members during the discussion presented some divergence, though hardly so much as usual. Alderman Flanagan said that, notwithstanding the "resolution," "some of the dairy boys were not as clean or as tidy in their dress and persons as they ought to be." Mr. Landy said that "some of the dairy boys were exceptionally dirty. The council *only* objected to the dirty ones." And Mr. Curtis stated that he had been "subjected to abuse and insult from dairymen and boys for having dared to mention the matter at the council." The communication was marked "read." Most readers will probably agree, I believe, that the state of things referred to—and revealed in the speech last quoted—called for some critical scrutiny. And very many consumers of Dublin milk continue to hope and pray that the discussion may be repeated, even to the manifest production of very visible results!

Children's Hospital, Dublin.

What is known as "Pound day" was held recently in aid of St. Mary's Convalescent Home, Cappagh, Finglas, in connexion with the Children's Hospital, Temple-street, Dublin. The charitable having been previously requested to help by presenting a "*pound* of something" that may help to provide for the little patients, those who find the donation of a £1 note beyond their means can send a pound of tea, sugar, rice, biscuits, flour, fruit, soap, starch, candles, matches, or other useful commodity. Children's clothes, furniture, articles for the table, household utensils, &c., are also welcome. All donations are delivered from the principal shops free to the hospital. It was announced at a meeting of the committee that a letter containing 12 stamps had been received from a boy patient who had recently left the hospital after circumcision. Coming from a child it was greatly appreciated. Among the presents was a case of soap from the manager of a city laundry.

Boards of Guardians v. Dispensary Medical Officers.

It is a melancholy fact that the septuagenarian practitioner, Mr. S. McDermott, to the case of whose pension I recently referred in this column as a specimen of the gratitude of boards and councils, died before he had an opportunity of drawing the first instalment of the superannuation allowance which had been accorded to him by the Local Government Board, in spite of the determined opposition of the guardians of the union, to the poor of which he had devoted the best energies of his life during a whole generation. And another case of the characteristic generosity of our Irish boards of guardians has just been reported from Tralee: a motion to rescind the grant of his superannuation allowance to Mr. J. Hanlin was lost by but one vote—at a board meeting which included over 50 members. Still another specimen of the same type of feeling and conduct is reported from the Ballyshannon Union, where Mr. G. R. Corscadden has been medical officer (Ballintra Dispensary District) for nearly 30 years. Having been obliged to give up his residence and not being able to secure one in a convenient part of his district, he suggested the building of one to the guardians, which owing to cheapness of labour and material would not cost more than £500. He received a curt refusal and was told that he might take lodgings at Rossnowlagh, which is situated at a distance of eight miles from the centre of his district, and that such accommodation would serve well enough for his time! Verily, the life of the Irish dispensary medical officer is not a happy one.

Longevity in Donegal.

As might be expected from its very numerous contributions to the annals of longevity, the county of Donegal has taken up a conspicuous position in the relative number of its inhabitants who have presented claims under the Old Age Pensions Act. On Sept. 29th it was announced in the *Freeman's Journal* that 1200 forms of application had already been obtained from the Donegal head office and sub-offices. Some of these had possessed the legal age qualification more than 30 years ago. Charles Kelly of Burbane, in the parish of Inver, bases his claim on an age of 111 years; John McGinty, of the parish of Donegal, gives his age at 106; and Bryan O'Donnell of Tower, parish of Inver, at 103. Of the last-mentioned claimant it has been stated that he has always used the Irish language only, having never uttered a sentence of English during the whole of his long life! All three of the venerable applicants are described as being in good health, both physically and mentally.

Outbreak of Enteric Fever at Clontarf.

The suburban township of Clontarf has recently been visited by a rather widely spread epidemic of enteric fever. In the houses of one "road" no less than 34 cases have been reported. A large proportion of the patients are children and it is stated that the first case occurred in a school. The sanitary authorities are taking all possible precautions to prevent the spread of the fever. Sir Charles Cameron has written to the papers warning the residents in Clontarf to use disinfectants in the drains and to boil all milk before using; and this procedure was supplemented by warnings to the pupils in the various schools of the district to tell their parents of Sir Charles Cameron's advice. The outbreak appears to be so far confined to Clontarf; and the great majority of the cases have occurred in the roads running inland from the sea-shore. Of the explanations hitherto attempted, one is that the infection arose from the "sloblands," a sector of the indenting strand which has been cut off by the railway and is being gradually filled up to land level by the dumping of refuse. Another is that the making of new sewers has thrown up long buried soil of unwholesome properties; while yet another is the suggestion that the use of milk kept under cover during the unwonted temperature of the current heat-wave has led to the genesis of the mischief. In this connexion the following letter has appeared in the *Freeman's Journal* of Oct. 2nd:—

Public Health Committee, Municipal Buildings,
Dublin, 3rd October, 1903.

Sir,—I have received letters and visits of several persons relative to the sloblands at Fairview, now being filled in by street sweepings, &c. The epidemic of typhoid fever at Clontarf is attributed to emanations from these sloblands. May I state that none of the recent cases of typhoid fever have occurred amongst the people residing near the sloblands.—I am, Sir, your obedient servant,

Charles A. Cameron, Medical Officer of Health.

The Belfast Abattoir.

The Belfast Corporation on Oct. 1st, at its monthly meeting, decided to authorise the erection of a new abattoir on the Stewart-street site at an estimated cost of £32,118, in accordance with plans passed by the city surveyor. There was a long and animated discussion and frequent amendments were suggested, but in the end the motion was carried by 31 votes to 12.

The Belfast Natural History and Philosophical Society.

Sir John Byers was on Oct. 2nd unanimously elected President of the Belfast Natural History and Philosophical Society for the session 1903-04.

The late Mr. David Wilson, L.R.C.P. Edin., M.R.C.S. Eng.

Deep regret will be felt by a numerous circle of friends and patients at the announcement of the death (after a lingering illness due to a paralytic seizure) of Mr. David Wilson who for many years practised in Whiteabbey, written by Charles Darwin and Alfred Wallace "On the Tendency of Species to Form Varieties, and on the Perpetuation of Varieties and Species by Natural Means of Selection," which constituted the inception of that theory of evolution which has since dominated scientific thought and which has for its basis the facts of inheritance. But granting the importance of the subject, what has it to do with Harvey? Not much perhaps, if we limit our thoughts to his great and enduring work on the circulation of the blood. But we know that other problems in physiology occupied his mind. It is true that it was late in Harvey's life, when his friend Dr. Ent obtained from him for publication his book "De Generatione Animalium," and almost against his will, for he knew that it was incomplete. Yet it seems that he had been patiently collecting facts for it many years before and one whole section of it, on the generation of insects, had been destroyed by his political enemies as ruthlessly as they might have wrecked a cathedral. One is tempted looking on his two great works to contrast them by saying that the "De Motu Cordis et Sanguinis" arose complete, conclusive, victorious, like Pallas from the head of Jove, while in the "De Generatione" we witness his painful and laborious searchings after truth. But that would be a superficial contrast, for we know that the truth concerning the circulation was incubating in his mind for some ten years before it found final expression, and we have been taught by the Harveian orator of two years ago that the growth of truth is slow. Granted that in the "De Generatione" he did not attain to the full knowledge which he desired (that indeed was impossible with the meagre means of observation at his command), yet we cannot but admire his method in the collection and presentation of facts within his reach. I imagine that no better account of the phenomena of development could have been given at that date than Harvey gives in his chapters "On the Inspection of the Egg" and "Of the Order of the Parts in Generation as it appears from Observation." It is only when facts fail him that we fail to follow his conclusions. To give an example. "It is certain," he says, "that no semen reaches the uterus"—he had no microscope wherewith to identify the spermatozoa—"therefore the woman becomes fecundated without the coöperation of any corporeal agent, in the same way as iron touched by the magnet is endowed with its powers and can attract other iron to itself." A bold analogy indeed, drawn from a branch of science which then was very young; but it shows, like many other passages from his works, that Harvey, with all his zeal and reverence for facts, had his gaze fixed on the great mysteries of life, on the marvel of conception, on the efficient cause (to use his own phrase) of reproduction, and on heredity in its widest sense. For does he not himself say, "In truth there is no proposition more magnificent or more useful to ascertain than this: How are all things formed by an univocal agent? How does like ever generate the like? And this not only in productions of art (for so house builds house, face designs face, and image forms image), but also in things relating to the mind; for mind begets mind, opinion is the source of opinion. Democritus with his atoms, and Eudoxus with his chief good, which he placed in pleasure, impregnated Epicurus; the four elements of Empedocles, Aristotle; the doctrine of the ancient Thebans, Pythagoras and Plato; geometry, Euclid. By this same law the son is born like his parents, and virtues which ennoble and vices which degrade a race are sometimes passed on to descendants through a long series of years. Some diseases propagate their kind, as lepra, gout, syphilis. and others. But why do I speak of disease when the moles, warts, and cicatrices of the progenitor are sometimes repeated in the descendant after many generations? Every fourth birth, says Pliny, the mark of the origin of the Dacian family is repeated on the arm. Why may not the thoughts, opinions, and manners now prevalent return again, after an intermediate period of neglect? For the divine mind of the eternal Creator, which is impressed on all things, creates the image of itself in human conceptions." I quote these words of the great master in the hope of persuading you that some remarks on heredity may not, after all, be alien to a Harveian oration; and if I invite your attention to that subject for the brief time that remains, it is not, believe me, with any vainglorious expectation that I shall add to your knowledge either of facts or of theory, but only that I may perchance—again to quote the words of Harvey—"stir up the intellects of the studious to search more deeply into so obscure a subject."

It would be interesting, doubtless, to consider what answers modern authors make to the question over which Harvey puzzled—namely, how comes it that the embryo is laid down, with definite parts, in a definite order, and so that it eventually resembles its parent? That would mean a consideration of such theories as the pangenesis of Charles Darwin, the determinants of Weismann, and the "mneme" or unconscious memory of Richard Semon, a doctrine set forth, you will remember, by Francis Darwin in his presidential address to the British Association this year. But these things I am not competent to expound, neither would time permit me to try. I will therefore only raise such points as seem to have direct practical bearings for us.

And first comes the old question, "Are acquired characters transmissible?" Have those external forces and events which help to fashion our own life and being any similar effect, through ourselves, upon our unborn children? I think that the plain unlearned man would certainly say "Yes," and so did the learned till a short time ago. Lamarck's views of natural history and the theory of natural selection as first propounded by Darwin assumed the possibility of such transmission, and numerous illustrations of it as regards man and his diseases were collected, perhaps in an uncritical fashion, by Prosper Lucas and others. But it is incompatible with Weismann's theory of heredity which is now so widely held. The central idea of that theory is the "continuity of the germ plasm." By germ plasm is meant the formative tissue out of which, or under the guidance of which, each individual is fashioned. It matters little to the theory whether this germinal plasm is identified with the germinal cells (as formerly) or with the much minuter particles of their nuclei known as "chromosomes." The germ plasm is continuous—that is to say, it is not manufactured afresh within the individuals of each generation for the purpose of procreating the next, but it is handed on from generation to generation, *only* changing in this sense, that as each successive *individual* is made, a portion of the germ plasm is set aside within him whereby he will carry on the work of generation when his elders have perished. So that we are not links in a chain of life but rather flowers or leaves which spring from a common stem, the germ plasm. And in the same way I am not, strictly speaking, my son's father, but his elder brother (to be accurate I should say his half-brother), nor am I my father's son but his younger brother; the real father of us all is the family germ plasm, and my duty to that father is to accommodate him in the house he has built, my body, till he has built himself a new one, my son's body. The reason for the resemblance of successive generations to each other is now obvious: it is because they are all brothers, made out of the same stuff on the designs of the same architect. It is obvious, too, that the effects of external conditions on one generation will not be reproduced in another unless the same external conditions happen to act again. If a caterpillar has gnawed a hole in a leaf upon a tree the other leaves will not have holes in them unless the caterpillar have gnawed them too.

Then do the ills acquired by the parents have no effect on the well-being of their children? Few people, surely, would maintain that. For the germinal plasm is lodged, at any rate, in the parent's body; if he dies, it dies; and if he suffers from any deeply reaching disorder of nutrition the probability is that it must suffer too. And such nutritional possibilities, I need hardly say, are numerous. We need not suppose, then, that exhausting diseases which may affect the whole organism—such as alcoholism, diabetes, syphilis, or phthisis—are without effect upon the health of our children. And is it not also possible that similar far-reaching effects may be produced by other influences not strictly nutritional, say, for example, some nervous shock? May not a violent commotion of the branches of the tree affect its stem?

Still, it is one question whether disease acquired by a parent can produce ill effects on his children of a general kind (a thesis which, to my mind, can hardly be denied); it is another question whether, when a parent has acquired a particular disease, disease of the same or of a similar kind is likely to occur in his children. Those who deny this absolutely say, first, that it never happens. Observation must be the test of that. Secondly, that it cannot happen,

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Welcome and Unwelcome Invaders.

SILY alarmed at the advance of Asiatic cholera Italy is g every precaution to keep it at bay, and what with enic surveillance at the frontier and the seaports, supple- ted by the enforcement of sanitary measures within her household, she is sparing no effort to ward off the fell der and to minimise what has hitherto been its most tive auxiliary—domestic panic. As to the first of these es *of defence*," which may be summed up in the d "quarantine," she is in no danger of lapsing into issness; nay, the contrary is the fact, insomuch that she pt to repeat her mistaken policy of previous visitations in her anxiety to exclude the coming foe, cholera, to e away the coming friend, the English-speaking visitor.

"Incidit in Scyllam cupiens vitare Charybdim";

by vexatious conditions imposed on "arrivals" by rail- train or steamship, she often, quite needlessly, shuts out element, never unwelcome, the free-handed "stranger hin her gates." As if indeed to correct the disposition in ch the excessive zeal and harassing regulations at tier or seaport originate, she is laudably employed in suring an all too emotional and ecstatic public as to the nature of cholera and the best means of antagonising it; so we are witnessing the opportune "Conferenza" and well-timed popular lecture at which the voice of the pro- sion is heard to salutary and inspiriting effect. In Rome other day the medical authority of Dr. Santoliquido—a mber of Parliament who is also officially responsible for "Direzione Generale della Sanità Pubblica"—intervened an assembly of health officers and railway functionaries set before them the best means of preventing the pagation of the disease while sparing the travelling rld every avoidable inconvenience; and to mention provincial school out of many others—at Siena, Dr. lavo, of the University, gave wise counsel to the general blic, first as to the nature of the disease, and next as to readiest *means of diagnosing it, isolating it, and treating* . As to the railway service, there will be started a train pecially for the "*emigrants*" employed in labour abroad o are returning to their homes, a train which, besides ving intercommunicating carriages, will have also a wagon which there will be a completely equipped "stazione di sinfezione," with another wagon attached to it conveying e "personale sanitario," the "armadio farmaceutico," and "sezione d'isolamento." The institution of these trains— be started the moment the hygienic outlook seems to arrant it—is a new departure for Italy; and it will have justification in contributing to exorcise that "spirit of nic" which has hitherto been so disastrous—notably in e terrible "explosion" of cholera just 24 years ago in aples, where more died from sheer fright than from the tual disease. The institution may be taken as a typical ample of the more scientifically inspired policy which imates Italy under the threat of plague, of cholera, or of her pestiferous visitants, reassuring her own public, while lieving the incoming stranger of the vexatious ordeal itherto imposed on him at every arrival platform or landing ay.

Disease-conveying Banknotes.

Once and again the warning has sped throughout Italy as the danger incurred by the handling of her "paper urrency"—that is, of banknotes representing in value 0 francs or even 5 francs respectively. Things are not so ad in this respect as when "biglietti di banca" for 2 francs, franc, and (*horresco referens!*) half a franc (5*d.*) were in ree circulation, and when, especially in the case of the ast named, the viscous dirt with which it was coated ame to be recognised and dreaded as a potent vehicle f infective disease. Copper, nickel, and silver are ow in use for sums below 5 francs (4*s.* 2*d.*); but still he 5-franc note is in universal currency and sometimes so lthy that the public, now awakened to the "septic touch," s increasingly reluctant to handle it. The 10-franc note is erhaps a shade less tainted with the sordes accumulated in ransmission, but still it is accepted with misgiving by all ut the ignorant or those whose necessity countervails con- iderations of health. The English-speaking traveller in Italy is now demanding with growing insistence from bankers and money-changers the metallic equivalents for these risky "*assignats*," and Italians are seconding him in his preference till, it is to be hoped, the Treasury will see its way to replacing its "carta-moneta" by the silver and the gold of a former, if not a better, day.

The Crusade against Malaria.

The Italian Prime Minister, His Excellency Signor Giolitti, has nominated a "commissione technica" to examine and to discuss the numerous data collected by the Minister of the Interior in the "Crusade against Malaria," after the enforcement of the laws enacted to antagonise the causes of the disease and particularly after the sale of State-provided quinine. The president of the commission will be the senator Dr. Guido Baccelli (who presides over the "Consiglio Superiore di Sanità"), assisted by Dr. Rocco Santoliquido, Professor Arnaldo Maggiora, Professor Alfonso di Vestea, and Professor Pietro Canalis. The secretary to the commission, an exceptionally strong one as will be seen, is the "medico provinciale," Dr. Mercanti.

Oct. 3rd.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Infant Mortality in Hungary.

THE vital statistics for last year show that although the general mortality has notably decreased that of infants has been hardly affected. It would seem that all the hygienic advances which have been made during past years, and which have proved so beneficial to the population at large, have hardly touched the fringe of infant mortality. Its magnitude depends upon alimentary disturbances, diarrhœa, too frequent feeding, and feeding with infected milk, &c. Experiments were made in Budapest with cow's milk from different suburbs, and it was found that dirt was invariably present, varying in amount from 1 to 72 milligrammes per litre. The first milkings always contain the most dirt, the amount of which decreases proportionally as the milking proceeds. From a hygienic standpoint it would be wise to discard the first milkings.

Operation for Mastoid Disease.

At the last meeting of the Budapest Royal Society of Physicians and Surgeons Dr. Fleischmann discussed the question of when to operate on the mastoid bone. He said that a review of the literature on this subject teaches us that suppuration of the middle ear, whether acute or chronic, involves danger to life. Further, that properly timed surgical intervention prevents the extension of the disease into the cranial cavity. The gravity of the disease depends solely on its locality. If the suppuration affects the middle ear or the cranial cavity then serious danger arises. In such cases operation is almost inevitable. The operation itself is not a dangerous one. The mortality of simple opening of the mastoid process varies, according to recent authorities, between 1 and 4 per cent. The radical mastoid operation is generally attended by about 8 per cent. mortality. In his (Dr. Fleischmann's) cases 12 simple operations (opening into the mastoid) resulted in one death. A study of the course of an acute mastoiditis without any operative interference affords a good idea of the indications for operation. The chief of these are as follows: 1. Extension of the disease into the cranial cavity characterised by persistent one-sided headache or any cerebral symptoms. 2. If mastoiditis be present, characteristic signs of which are pain and tenderness, over three or four days, immediate operation is to be resorted to. 3. When the discharge of acute otitis with mastoid symptoms does not diminish at all in the course of about two weeks of appropriate treatment chronicity must be expected, even though the mastoid signs diminish. Hence an operation is advisable.

An Adjuvant to the Finsen Light Treatment.

Dr. Morvay reports some interesting experiments in connexion with eosin stains as an adjuvant to the Finsen light. He has found that the addition of a very small amount of erythrosin to the culture media of bacteria caused a very much greater sensitiveness on their part to the yellow and green rays which were otherwise ineffective. The action least three generations; therefore, the facts can rarely be the result of the physician's direct observation. Again, the numbers in human families are at best so small that a single vitiating instance may make a large error in the proportion of normals to abnormals, and it is difficult to know what to do with stillbirths, children who die young, or others of whose condition nothing may be known. This numerical difficulty may be partially met by adding up the totals of many families, but that is certainly a method to be employed with caution. And this, too, has to be remembered: that certain modifications have been introduced into the original Mendelian laws which are, no doubt, necessary and correct, but which tend to mask their simplicity of application. Such, for instance, is the interaction of two sets of characters, whereby the dominance of one member of an allelo-morphic pair over the other is rendered conditional on the presence of a third character. Thus it has been supposed, on the analogy of other facts, that hæmophilia is a character which becomes dominant or recessive according as the sex of the person is male or female and that this accounts for the rarity of female bleeders. Such modifications and complications may make the interpretation of a pedigree as difficult as its construction; and it may be necessary to refer it for its interpretation to someone who knows the business well.

In some diseases where family pedigrees are not easily obtainable all that we can say is that the facts agree with some side deduction from Mendel's theory. It appears that first cousin marriages form one of the causes of alkaptonuria, and it is pointed out that this is just what would happen if alkaptonuria were a rare recessive character in the Mendelian sense. The character being recessive would not appear on the surface until two similar hybrids—hybrids, that is, possessing the character—intermarried. And since the character is rare, two such hybrids are not likely to meet unless they are of the same family. And that is one thing that may be said, on Mendelian principles, about consanguineous marriages in general. They are a means of bringing to light hidden (recessive) characters. Such characters may be good or bad, we cannot tell beforehand. So that the State of Wyoming, which Lord Rosebery tells us has forbidden first cousin marriages, may have prevented evil or may have stifled good.

The study of heredity in disease is likely to be particularly interesting in the sphere of the nervous system. For in the first place heredity is here an agent of great power: it ranks with injuries, infections, and intoxications as one of the principal causes of chronic nervous degeneration. Again, in proportion as our civilisation becomes more and more elaborate, so we depend for progress more and more upon our nervous system, upon its flexibility and capacity for adjusting itself to the complication of our surroundings. This suggests the possibility that the ways in which heredity moulds this plastic material may be varied; that just as a young and growing community has to feel its way towards the establishment of its laws or its political system, so here perhaps those sequences which we call laws of heredity may not yet have attained a rigid uniformity. However this may be, there are at least two ways in which heredity manifests itself in diseases of the nervous system. The first relates to that common group of maladies known as neuroses. This group includes such affections as epilepsy, insanity, hysteria, neurasthenia, tics, alcoholism, &c., which are characterised, so far as we know them at present, by perverted nervous action rather than by coarse structural disease. They are related together in this way: that they seem to be the expressions, varied and interchangeable *inter se*, of some one underlying nervous defect; we may perhaps call them the ill-timed or inappropriate response of a nervous system which adapts itself badly to its surroundings. This deeply seated nervous defect, whatever its precise nature may be, is hereditary in a high degree, so that the "neuropathic family" is now notorious in medicine. One member of it may be epileptic, another insane, another eccentric, and so forth, but the faulty nervous constitution is the same in all. So much we know, but there is much more that we should like to know. How, asks Dr. G. H. Savage (in his presidential address to the Neurological Society) does this instability of nervous system originate? May it have begun through faulty nutrition of some ancestor so profound that his germinal tissues suffered with the rest of his body? That might suggest a hope that in time it might be rectified by reversing the process. Or may it be that his germinal tissues were old and effete when he undertook the process of procreation? Or is it, after all, some deeply ingrained fault originating we know not how and curable only by extinction of the stock or by repeated crossings with others that are more stable? We cannot answer certainly. Nor can we always tell what determines the special form of neurosis in the different individuals, why some should have epilepsy, some insanity, and so forth; nor why, as sometimes happens, some one of these morbid manifestations should repeat itself and not alternate with others. Melancholia, Dr. Savage tells us, is particularly apt to recur in several members of a family, and Dr. W. Aldren Turner says the same thing, I believe, of epilepsy. Nor yet do we know why some members of a neuropathic family should appear perfectly normal and some, perhaps, even better than their fellow-men. Here we think of the old saying that genius is allied to insanity. Mendelian writers sometimes tell us that we should learn the lesson of the blue Andalusian fowl. That farmyard sermon teaches us, *inter alia*, that from crossing two pure breeds which are considered undesirable a mongrel may result of a desirable character. May this happen with neurotic stocks? Can two such families atone for their existence by combining to produce a genius? One would hardly care to advise the experiment, and luckily our advice as to pairing is seldom asked and still less often acted on. The science of eugenics is still in its infancy; let us hope that when it becomes an active force physicians will have acquired such knowledge as will enable them to take their proper share in controlling it. Lastly, there is the important inquiry, what relation have these nervous manifestations, and the diathesis in which they have their root, to other diseases of more tangible nature, to gout, rheumatism, tuberculosis, the febrile state, &c. That there are such relations, and some rather close ones, this we know, but little more.

The second way in which heredity manifests itself as regards nervous disease is different. In this form a certain disease, definite in type, whose identity, as a rule, is easily recognised, appears in several members of a family, it may be in successive generations, it may be only in one generation. This class constitutes the group known as family diseases of the nervous system, which was discussed before the College last summer in a most interesting lecture by Professor Raymond. Such family disease is by no means limited to the nervous system, but in that sphere numerous and remarkable examples of it are to be found. Friedreich's ataxia is one of the best known examples. In this class of disease the precision with which the features of the particular complaint reproduce themselves is generally remarkable, and contrasts strongly with the shifting character of the neuroses which we have just considered. There are, I know, exceptions to this rule, which have been much insisted upon lately, either where the disease is incompletely developed in some individuals, or where different types may appear in different members of the same family; but still I think that, generally speaking, the reproduction is fairly accurate, so that the particular disease can be as easily recognised as can tabes dorsalis, disseminated sclerosis, or other non-family nervous disease. A general neuropathic taint need not necessarily exist in the family, though of course it may. The majority and the best known of these diseases present the clinical picture of a slowly progressive incurable paralysis, which may correspond anatomically to an exceedingly definite degeneration of certain nerve tracts. Thus Friedreich's disease affords us an exquisite example of combined system sclerosis beginning in the posterior columns, then affecting the pyramidal tracts, and involving in advanced cases the afferent tracts to the cerebellum as well. Hereditary spastic paraplegia has been shown by Strümpell to depend on a degeneration of the pyramidal tracts. Yet the patients are not born with these lesions, so that we cannot exactly call them malformations; they are born with a hereditary weakness of these nervous tracts, which break down under the stress of living. The age at which symptoms begin differs largely in the different diseases; the onset may be in early life, in early or late adolescence (instances of all these dates can be given in Friedreich's disease); in middle life or even later, as in Huntington's chorea or the spastic paraplegia just quoted from Strumpell. It is strange to think that a man can develop at that age a in, and adulteration of, food products. To this end the association appointed a committee to prepare a Bill founded upon the determinations of the Joint Standards Committee and which shall be formulated with a view towards uniform requirements throughout the several States. In the dual form of Government in this country laws adopted by the Federal Government can affect only articles of interstate commerce and therefore the real regulation of foodstuffs must eventually rest with the various States. The effort of the association to secure uniform and effective State legislation is on that account of the first importance and highly commendable.

Resignation of Dr. William P. Spratling, Superintendent of the Craig Colony for Epileptics.

The Craig Colony for Epileptics is about to suffer a severe loss by the retirement of its superintendent, Dr. William P. Spratling, who has accepted a position as professor of physiology in a medical college in Baltimore. Dr. Spratling has been the superintendent of the epileptic colony since its organisation and to him is due the credit of the success of this institution. He brought to its management a mind thoroughly equipped for the peculiar service which was required for success and a temperament adapted to meet patiently, but aggressively, the many obstacles which such a new and untried institution has to encounter in its early history. He has the satisfaction of seeing the colony finally established on a permanent basis.

Sept. 24th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Defective Eyesight amongst Parsis.

IN his special investigation into the condition of the eyesight of Parsi students and school children during the past year Dr. K. N. Karanjia, the honorary surgeon of the Ardisir Hormarji Wadia Parsi Ophthalmic Hospital, finds that defective vision is alarmingly prevalent among them. The most unobservant person in taking a walk in Bombay cannot but be struck by the number of young Parsis decorated with spectacles, but Dr. Karanjia says that these represent only a fraction of the defective sight which actually exists. The majority of those who need glasses, he says, cannot obtain them for want of money or go without through neglect, to the further injury of their eyes, resulting in pain and a handicap through life, and he appeals for funds to supply poor Parsis with spectacles free of charge. While this cause deserves a general response it is much more necessary to take steps to prevent the further injury of the eyes of the young. The Germans are a notoriously short-sighted people since they took to education owing chiefly to the illegible character of their language, and it is probable that the bad printing and small type used in Gujarati primers are also responsible for like troubles among the Parsis. More probably, however, the trouble is often caused by the learning of English from types insufficiently large a little later in school life. At whatever age the learning of a language is begun it should be prosecuted at first by means of the big type made for little children, for the strain on even an adult eye of reading unfamiliar characters is many times greater than that of reading characters of the same size which have grown familiar. Intelligently conducted ophthalmic tests should be made of the Gujarati characters, and if found injurious in their present form they should be modified, printed big, or abolished altogether.

Veterinary Work in the Central Provinces.

From the annual report on the veterinary department of the Central Provinces we learn that the conversion of the people in favour of the inoculation of their cattle against rinderpest has been in some places most striking. Pending the introduction of a new scheme in 1909 a small staff of veterinary assistants, paid from provincial funds, has been appointed. These have been generally employed on inoculation and to them are largely due a marked increase in the number of inoculations and the department's growing popularity with the people. Hitherto inadequate recruitment has been one of the main obstacles to advance, and the closing of the Ajmere Veterinary School and of the two years' class at the Bombay College has increased this difficulty. With the provincialisation of the department which the new scheme involves the scale of pay of veterinary assistants will also be raised, and it is hoped that the improvement in prospects will attract more candidates of a suitable class. Of course, the activities of the department are by no means confined to isolation work. Cattle-breeding farms have been established and bulls are distributed to stock-owners with the object of improving local breeds of cattle. This latter measure has not been so successful as anticipated and the question of altering the system is under consideration.

Central Provinces Medical Department.

The scarcity of hospital assistants seems to be one of the principal difficulties in connexion with the carrying on of Government charitable dispensaries of the Central Provinces and Berar. New dispensaries have been opened and continue to be opened, but more hospital assistants are urgently needed. The value of medical scholarships was raised in 1905, but still considerable difficulties are experienced in obtaining a sufficient number of candidates for the hospital assistant service. Possibly the difficulty will be obviated when the Government of India has decided what to do in regard to the improvement of the pay and prospects of hospital assistants, a subject which is at present under its consideration. The number of patients attending the hospitals is increasing, but not in proportion to the large number of new dispensaries opened. This is attributed to the prevalence of plague, which deterred people from resorting freely to dispensaries, though the feeling against attendance at dispensaries during the epidemic of plague is said to be nothing like as strong as it used to be a few years ago. Of the principal diseases treated malarial fevers head the list, but there is an appreciable decrease in the number of these cases. An ominous feature during the last three years has been the growing number of tuberculosis cases for treatment and it is feared that this disease is becoming more prevalent. A pleasing illustration of the warm regard felt by old officers of the provinces for the people among whom they have worked is afforded by Brigade-Surgeon Law and Mr. W. Brittain Jones, a former chief commissioner of the Central Provinces, having sent donations of Rs.10,000 and Rs.5000 respectively for the dispensaries. It is regarded as disappointing, however, that the contributions to dispensaries generally have not increased proportionately to the rapid growth in the material prosperity of the provinces.

Suggestions for Sanitary Reform.

Sir John Hewett has taken up the question of sanitary reform for Allahabad, Cawnpore, and Lucknow, and called attention to the high infantile and fever mortality in the United Provinces. It is high time for the educated classes, zamindars and other rich people, to come forward and assist the Government in its endeavours. A Sanitary Association might, for example, be formed at Allahabad on the lines adopted at Bombay. Before this is done local medical practitioners, Government surgeons, and assistant surgeons will have to begin to give lectures on sanitation and hygiene in English and Hindustani on subjects such as care and management of infants, causes, prevention, and cure for fevers, plague, and so on. Societies for the prevention of infantile mortality might also be formed in connexion with the Sanitary Association, and its accounts kept separate for supplying good milk to the infants of the poorer classes free or at moderate cost. The municipalities of Lucknow, Cawnpore, and Allahabad, with the assistance of the rich public, ought to set up shops for supplying good milk free to poor infants first where mortality is highest, and then for the general public, if they desire it, at the usual rates. Ladies ought to come forward to assist their poor Indian sisters by visiting their houses and teaching them how to take care of infants, and giving them good milk free or at very moderate cost. They could also teach the principles of sanitation in their own language to an assembly of ladies. As regards fever, it is suggested that a fever fund should be started. Arrangements might be made at the village post office, or with the head man of a village, to sell a packet of five grains of quinine at one price (¼ anna) as in done in other presidencies; a machine for making tablets might be ordered and quinine powder and quinine tablets given free to the poor in cities and villages. The rich seigneur struggling for the foundation of a new nation; the priest faithful unto death, labouring for souls; the soldier freely shedding his blood for the honour of his flag; the statesman spending his energies in work for the common weal —these and a hundred more scenes rise before our eyes.

Such thoughts fill the mind with vivid pictures of the past; it is meet that we should dwell upon them. The eyes of the world were turned with warm sympathy to Canada while you recently celebrated the third centenary of the foundation of Quebec by Champlain. Well-nigh four centuries have elapsed since Cartier called the beautiful ridge near which we stand Mount Royal, "and hence the name of the busy city which now holds the site of the vanished Hochelaga." A hundred years passed away before your city was founded—years of conflict with foes without and foes within; of undaunted labours for the creation of a new France; of success and failure in the great schemes of conquest. Amongst the great names which will for all time hold a place on the scroll of fame there will assuredly be none more free from fear or reproach than that of the intrepid and lofty being who planted your fair city. Well has the historian said: "The spirit of Godfrey de Bouillon lived again in Chomedy de Maisonneuve."

To turn from general topics to those which are more nearly allied with the object of to-day, a glance may be cast at the rise and growth of the University. Its far-seeing founder died in 1813, and eight years afterwards a charter was obtained for its erection. A teaching staff was appointed in 1823 and, although many of the posts were nominal, the healing art was from the first represented, Thomas Fargues, a graduate of Edinburgh, being elected in that year as professor of medicine. The "House of Recovery" was opened for the reception of patients in 1818, when T. P. Blackwood was appointed medical officer. Three years later, in the same year which saw the foundation of the University, the Montreal General Hospital was instituted, and the first medical officers were Robertson, Stephenson, Holmes, Caldwell, and Lœdel, who organised themselves as a teaching body under the name of the Montreal Medical Institution, and began to give systematic instruction in 1824. The members of this teaching body entered the McGill University as its medical faculty in 1829, and that no time was lost receives abundant proof from the fact that in 1833 the degree of Doctor of Medicine was conferred upon William Logie, who was the first graduate of McGill University.

It is very pleasant to know that amongst the distinguished group of men who formed the pioneers of medical education in Canada several were graduates of my own university. Stephenson, Holmes, and Robertson studied and graduated in Edinburgh; the origin of McGill University on its medical side is therefore connected with "Modern Athens," and its early teachers brought to Canada the methods of the sagacious Whytt and the philosophic Cullen, as well as the spirit embodied in that wonderful academic succession furnished by the celebrated families of Gregory and Monro.

To one conning the memorials of your early past it is a source of much interest to be able to trace the homes of medicine in this great Dominion. Thus it is that the drawing of the General Hospital, as it was in 1830 in "Hochelaga Depicta," is to me full of interest, whilst the painting by Lamb of Burnside House, showing how it nestled at the foot of the mountain in 1843, furnishes a historic link in the academic chain.

It would be tedious to you, who know the various steps by which the University grew from its picturesque birthplace at Burnside till it finally reached the superb site it now holds near the old home of its founder; to those like myself, pilgrims from the motherland, there is a fascination in tracing out the successive stages of its development and in recognising how similar the mode of growth has been to that which may be seen in the old world. In the course of this development it is a very agreeable fact that the academic ties with the old country are becoming closer instead of weaker. Without dealing with such as unite Montreal to the universities of the rest of the United Kingdom, a word or two may be allowed as to the present links between Canada and Scotland. Your Chancellor holds a like position in the Northern University, situated between the Dee and the Don; there, as here, he has so fostered the growth of learning and inquiry as to merit the title of a modern Mæcenas. That many years may yet be vouchsafed to him in which he may continue his beneficent endeavours for the advancement of education is a prayer as frequently and as fervently offered on the shores of the North Sea as on the slopes of the mountain. And in this connexion let me add that the kinsman and colleague of your Chancellor, who along with him not only founded and endowed your beautiful hospital but aided the development of the McGill University by munificent gifts, must be likewise regarded as a large-hearted benefactor on both sides of the Atlantic.

Some years ago you carried away the head of one of the colleges belonging to the University in the "grey old town" to preside over your labours, while we who are connected with that ancient seat of learning have within the last few weeks spirited away one of the most brilliant of your younger colleagues. Such interchanges are fraught with far-reaching influences for good. We have many other ties between us. The names of Osler, Roddick, and Shepherd, to mention only those connected with the medical faculty, are inscribed on the rolls both of Montreal and Edinburgh. In the other faculties there are also bonds of union with many of the universities of the United Kingdom, and we are therefore not merely united by the ties of sympathy but by those of personal connexion.

The commonwealth of learning throughout the world shared the grief of the University in the loss sustained by the medical faculty through the lamentable fires which destroyed the results of many years of labour, but observed with delight the dauntless energy with which you at once set to work to repair the damage and to replace what had been swept away. The new buildings which are arising like a phœnix, as the late Dean has well put it, from the ashes of their predecessors, are an evidence of the indomitable spirit with which the University is instinct.

It would not become me at this time to dwell upon the achievements of the University in the varied walks of knowledge. The special matter to which it is my wish to direct your attention will afford an opportunity of showing that in those fields best known to me yeoman work has been done by her children. But there is one subject to which in common fairness you will allow me to refer.

About two years ago certain changes in the blood taking rise in affections of the intestines, which had till then only been described by three workers in the Netherlands, were found by Carstairs Douglas and myself to be not merely due to the presence of a bacillus in the bowel, whence toxines were absorbed into the blood, but were found to be produced by the actual entrance of the microbe into the blood, where it multiplied and poisoned the very springs of being. We felt a little glow of pleasure in having, as we thought, added a new chapter to the life-history of bacteria—one which held out, moreover, the promise of practical usefulness; our results, however, had been, unknown to us, forestalled by other observers. About a year before our work was done identical results had been obtained in the wards of the Montreal General Hospital by Blakadder with the assistance of Gillies and Duval. In a group of symptoms similar to those which engaged our attention they discovered the bacillus coli in the blood. It is a bounden duty as well as a sincere pleasure to make it quite clear that this discovery belongs to the banks of the St. Lawrence and not to the shores of the Forth. The reason of our ignorance of the Montreal results lay in the fact that those interesting observations were not placed on record until last year, and we had in consequence no means of learning the valuable facts before we published our own later investigations. In the light of what we now know it is a great satisfaction to be able to award the palm to those who deserve it. Their researches form a fitting termination to the careful investigations carried out, in this university also, by Charlton, working under the supervision of Adami.

The comparison of the past with the present affords us the best means of guiding future advances. From the failures no less than the successes of ourselves, as well as of those who have gone before us, we are enabled to discern the most fruitful paths of inquiry and are led to shun the pitfalls which have hindered effort in the past. In other words, our footsteps in the present require to be guided by the light of the past, so that the future may bring with it fruits meet for progress.

In looking about for some particular subject which might usefully occupy our attention to-day it has seemed to me advisable to take some matter with which my own work has rendered me specially conversant. The now chosen is a tion, and adulteration of food products. To this end the association appointed a committee to prepare a bill founded upon the determinations of the Joint Standards Committee and which shall be formulated with a view towards uniform requirements throughout the several States. In the dual form of Government in this country laws adopted by the Federal Government can affect only matters of interstate commerce and therefore the real regulation of foodstuffs must eventually rest with the various States. The effort of the association to secure uniform and effective State legislation is on this account of the first importance and highly commendable.

Resignation of Dr. William P. Spratling, Superintendent of the Craig Colony for Epileptics.

The Craig Colony for Epileptics is about to suffer a severe loss by the retirement of its superintendent, Dr. William P. Spratling, who has accepted a position as professor of physiology in a medical college in Baltimore. Dr. Spratling has been the superintendent of the epileptic colony since its foundation and to him is due the credit of the success of this institution. He brought to its management a mind thoroughly equipped for the peculiar service which was required for success and a temperament adapted to meet patiently, but aggressively, the many obstacles which such a new and untried institution had to encounter in its early history. He has the satisfaction of seeing the colony finally established on a permanent basis.

Sept. 28th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

Defective Eyesight among the Parsis.

In his recent investigation into the condition of the eyesight of Parsi students and school children during the past year Dr. [illegible], the honorary surgeon of the [illegible] Wadia Parsi Ophthalmic Hospital, finds that defective vision is alarmingly prevalent among them. The most unobservant person in taking a walk in Bombay cannot but be struck by the number of young Parsis decorated with spectacles, but Dr. [illegible] says that these represent only a fraction of the defective sight which actually exists. The majority of those who need glasses, he says, cannot obtain them for want of money or go without through neglect, to the further injury of their eyes resulting in pain and a handicap through life, and he appeals for funds to supply poor Parsis with spectacles free of charge. While this call deserves a general response it is much more necessary to take steps to prevent the further injury of the eyes of the young. The Germans are a notoriously short-sighted people since they took to education owing chiefly to the illegible character of their language and it is probable that the bad printing and small type used in Gujarati primers are also responsible for this trouble among the Parsis. More probably, however, the trouble is often caused by the learning of English from types insufficiently large at a time early in school life. At whatever age the learning of a language is begun it should be prosecuted at first by means of the big type made for little children, for the strain on even an adult eye of reading unfamiliar characters is many times greater than that of reading characters of the same size which have grown familiar. Intelligently conducted optometric tests should be made of the Gujarati characters, and if found injurious in their present form they should be modified, printed big, or abolished altogether.

Veterinary Work in the Central Provinces.

From the annual report of the veterinary department of the Central Provinces we learn that the conversion of the people in favour of the inoculation of their cattle against rinderpest has been in some places most striking. Pending the introduction of a new scheme in 1903 a small staff of veterinary assistants, paid from provincial funds, has been organised. These men were generally employed on inoculation and in their work they had a marked increase in the number of inoculations and the department's growing popularity with the people. Hitherto inadequate recruitment has been one of the main obstacles to advance, and the closing of the Lahore Veterinary School and of the junior class at the Bombay College has increased this difficulty. With the provincialisation of the department which the new scheme involves the scale of pay of veterinary assistants will also be raised, and it is hoped that the improvement in prospects will attract more candidates of a suitable class. Of course, the activities of the department are by no means confined to inoculation work. Cattle-breeding farms have been established and bulls are distributed to stock-owners with the object of improving local breeds of cattle. This latter measure has not been so successful as anticipated and the question of altering the system is under consideration.

Central Provinces Medical Department.

The scarcity of hospital assistants seems to be one of the principal difficulties in connexion with the carrying on of Government charitable dispensaries of the Central Provinces and Berar. New dispensaries have been opened and continue to be opened, but more hospital assistants are urgently needed. The value of medical scholarships was raised in 1905, but still considerable difficulties are experienced in obtaining a sufficient number of candidates for the hospital assistant service. Possibly the difficulty will be obviated when the Government of India has decided what to do in regard to the improvement of the pay and prospects of hospital assistants, a subject which is at present under its consideration. The number of patients attending the hospitals is increasing, but not in proportion to the large number of new dispensaries opened. This is attributed to the prevalence of plague, which deterred people from resorting freely to dispensaries, though the feeling against attendance at dispensaries during the epidemic of plague is said to be nothing like as strong as it used to be a few years ago. Of the principal diseases treated malarial fevers stand the first, but there is an appreciable decrease in the number of these cases. An ominous feature during the last three years has been the growing number of tuberculosis cases for treatment and it is feared that this disease is becoming more prevalent. A pleasing illustration of the warm regard felt by old officers of the provinces for the people among whom they have worked is afforded by Brigade-Surgeon Law and Mr. W. [illegible] Jones, a former chief commissioner of the Central Provinces, having sent donations of Rs.10,000 and Rs.5000 respectively for the dispensaries. It is regarded as disappointing, however, that the contributions to dispensaries generally have not increased proportionately to the rapid growth in the material prosperity of the provinces.

Suggestions for Sanitary Reform.

Sir John Hewett has taken up the question of sanitary reform for Allahabad, Cawnpore, and Lucknow, and called attention to the high infantile and fever mortality in the United Provinces. It is high time for the educated classes, zemindars and other rich people, to come forward and assist the Government in its endeavours. A Sanitary Association might, for example, be formed at Allahabad on the lines adopted in Bombay. Before much is done local medical practitioners, Government surgeons, and assistant surgeons will have to begin to give lectures on sanitation and hygiene in English and Hindustani on subjects such as care and management of infants, causes, prevention and cure for fevers, plague, and so on. Societies for the prevention of infantile mortality might also be formed in connexion with the Sanitary Association, and its accounts kept separate for supplying good milk to the infants of the poorer classes free or at moderate cost. The municipalities of Lucknow, Cawnpore, and Allahabad, with the assistance of the rich public, ought to set up shops for supplying good milk free to poor infants first where mortality is highest, and then for the general public, if they desire it, at the usual rates. Ladies ought to come forward to assist their poor Indian sisters by visiting their homes and teaching them how to take care of infants, and giving them good milk free or at very moderate cost. They could also teach the principles of sanitation in their own language to an assembly of ladies. As regards fever, it is suggested that a fever fund should be started. Arrangements might be made at the village post office, or with the head man of a village, to sell a packet of five grains of quinine at one pice (a farthing), as is done in other presidencies; a machine for making tablets might be ordered and quinine powder and quinine tablets given free to the poor in cities and villages. The man still further advanced the subject and with these investigations the first chapter of the anatomical explanation terminates. Eight years afterwards Ewald returned to the link binding auricle and ventricle in the frog, and shortly afterwards Retzer, Bræunig, and Humblet extended the observations. These workers paved the way for the elaborate investigations of Tawara, who carried out a most valuable research fully demonstrating the origin and ramifications of the structures by which the anatomical gaps separating the different portions of the heart are bridged over. Keith has more recently, in a manner as lucid as it is luminous, further extended these remarkable investigations.

The researches of Tawara have shown that the auriculo-ventricular bundle is only a part of a great system; it descends on the interventricular septum, ramifies throughout every part of the ventricular walls, and is continuous with the system of Purkinje fibres. The papillary muscles are brought into especial relation with the system and this very interesting point throws a vivid light upon the important observations made on the functions of these structures by Roy and Adami, to which the latter has again returned more recently.

Keith has illuminated the subject, as he usually does, by the brilliance of imagination as well as the result of labour. He described the musculature of the sinus as being freely continuous with that of the auricular canal and auricular appendix. In searching for a clearly differentiated system of fibres within the sinus, which might serve as a basis for the inception of the cardiac rhythm, he discovered a peculiar structure surrounding the arterial circle at the junction of the sinus and the auricle. The structure closely resembles that of the auriculo-ventricular bundle, consisting of an intimate network of pale, undifferentiated fibres with well-marked nuclei. This structure contains numerous nerve cells and nerve fibres. Although the mass is undoubtedly muscular in its main structure yet the nerves in the neighbourhood of the vena cava enter into very intimate connexion with it, so that Keith feels justified in stating that a peculiar neuro-muscular junction occurs at this point.

As assisting us in understanding the functions of the heart, the researches of MacCallum on the muscular connexions of the two ventricles, of Keith upon the special anatomy of the heart, of Porter on the relation of blood-supply to cardiac activity, and of Henderson upon ventricular movements, are far-reaching in their results and enable us more fully to apprehend the questions arising in connexion with this subject. The first has shown most distinctly that the ventricles are composed of a simple long band of muscle beginning and ending with a tendon. It has its origin in the connective tissue of the auriculo-ventricular junction on one side of the heart; it passes around the outer wall of that side and reaches the ventricular septum whence it goes on to encircle the outer wall of the other ventricle and finally terminates in the tendinous cords of that side. It is probable that the fibres of the auriculo-ventricular bundle enter into direct relation with the centre of this long scroll.

Some of the results obtained by Keith have already been referred to, but the observations which he has made from the standpoint of comparative anatomy deserve to be recalled. He has shown that the sinus venosus, the auricular canal, the auricle, the ventricle, and the bulbus, are all represented in the mammalian heart, and he has been able not merely to trace these primary divisions but to show how in the evolution of the heart in the higher mammals these various parts have been modified to suit the requirements of development. The results of the investigations of Porter and of Henderson have been of the greatest service to us in our clinical work on disturbances of the heart muscle.

Turning to the results of experimental physiology as directed more particularly to our subject, we have to acknowledge a deep debt of gratitude to certain distinguished observers. First, again, physiologically as well as anatomically, comes the name of Gaskell, in the epoch-marking work to which reference has already been made. He pointed out the existence of natural block at the auriculo-ventricular junction, and further showed that a more or less complete stoppage could be produced either by section of the auricle or by increase in the natural block. In this way he was able at will to interrupt the passage of impulses more or less completely. His, from a number of experimental investigations, showed that interference with the conduction of impulses could be produced by section of the auriculo-ventricular band. It is, however, particularly to Erlanger that we are indebted for a study of this important subject. By his ingenious method of experimentation the auriculo-ventricular bundle could be subjected to varying degrees of pressure, and he has been able in this way, as is now widely known, to produce at will every degree of partial or complete blocking of impulses. From the experiments of Gaskell, His, and Erlanger it is clear that the upper parts of the heart possess the quality of rhythmicity in a higher degree than the lower; that the rate of the heart is determined by the upper and more rhythmical portions, and if the lower and less rhythmical are separated from the upper and more rhythmical portions, the lower part may assume a rhythm of its own. From two very interesting studies by Hering and by Erlanger and Blackman, which have recently made their appearance, the relative rhythmicity, excitability, and conductivity of the different portions of the heart are most clearly brought before us.

Pathological evidence has not been long in following upon the heels of anatomical and physiological investigation. Stengel, Jellick Cooper, and Ophuls in America, and Keith and myself in Europe in the same year, have put on record instances of disease of the auriculo-ventricular band from cases of heart block. In some of these cases the structural alteration was a gumma of the interventricular septum; in others it was a simple fibroid change without any very obvious cause. In one instance which aroused a most widespread interest, seeing that it occurred in the person of one of the most venerable and distinguished physicians of the British Isles, the change has been found to be of the nature of a calcareous infiltration.

Such, then, are the main lines of the explanation of these interesting appearances. When we seek to inquire which of the five distinct functions of cardiac activity are involved, we discover that it is easy to demonstrate the implication of two of them. Rhythmicity in itself is not disturbed, for the auricular pacemaker pursues its even tenor; contractility is in no way lessened, since the work of the heart may be in no way diminished; tonicity, it need hardly be said, is not a function necessarily involved in this group of symptoms, although undoubtedly, seeing we deal with senile heart in many instances, this property may be lessened. The cause of the appearances lies as a rule in diminished conductivity, the auriculo-ventricular bundle being so damaged as to diminish the function or even to abrogate it. Some interesting tracings from a patient long under my care have, however, shown that the function of excitability may be disturbed, and this may therefore be partly responsible for the symptom. Hay has especially devoted attention to this aspect of the subject.

Is it possible to get beyond this point? Can we peer further into the darkness which surrounds the real cause of these varied appearances? In other words, are we able to say how the heart is endowed with such functions and in what way they are disturbed?

We may fearlessly assume that the entire realm of nature is freely open to our inquiries. The Venusian bard, whose verses have ever since the revival of learning been the solace of such a multitude as no man can number, is assuredly astray when he sings, "Nec scire fas est omnia." But while we claim the right to examine every natural phenomenon we are led to acknowledge that some facts are within our reach while others are beyond our ken. In the quest of truth it is wise to bethink ourselves of this distinction between the attainable and the unattainable. Above all it is our duty not to be dogmatic as regards matters which we cannot know. It was Huxley who said that "the assertion which outstrips evidence is not only a blunder but a crime." Some of the appearances which have been brought before you to-day have furnished an example of speculation in the region of the unattainable; of playing with words rather than working with things. Within recent years much time has been wasted in futile assertions that the five great functions of cardiac activity recognised by Gaskell are entirely due to inherent properties of the heart muscle, or, as it is put, are of myogenetic origin. According to this view, or, as it would be better to put it, according to these views—for the opinions of the myogenetic school are often so contradictory as to cancel each other—the heart lives and moves and has its

Gilruth has been recognised here as one of our leading pathologists. He has for several years been head of the veterinary branch of the Agricultural Department, and the high state of efficiency of that service is entirely due to him. In New Zealand we have a system of meat inspection which could not be bettered. Every shoulder of mutton, every frozen kidney, every pound of boned meat is marked with the stamp of a qualified veterinary surgeon. This has been his work and his alone. In addition to this he has made many original observations on cancer, Winton disease in horses, and blackleg in cattle. He has, since the inception of the Health Department, acted as pathologist and has rendered most valuable help with respect to those diseases which are common to man and the lower animals. Without doubt New Zealand is losing one of its most accomplished experts in bacteriology and microscopy. He has been appointed professor of animal pathology at the University of Melbourne at a salary which it has been stated is the highest ever paid to a veterinary surgeon.

Visit of the American Fleet.

The visit of the "Great White Fleet" to the beautiful harbour of Auckland has been of interest to the medical profession as to all classes of the community. Never has there been seen in British waters south of the Line such an array of battleships. With splendid precision stately engines of war steamed into the famed Waitemata ("waters of peace"). Though they had met with storm and stress on their journey from Honolulu, the 16 great battleships steamed to their anchorage and dropped anchor each within ten feet of its allotted space. Here, while we have a "local option" sort of Contagious Diseases Act, syphilis bars a person from oversea from landing, and the chief health officer was instructed to board the flagship and lay this, among other matters, before the fleet surgeon of the American Squadron. New Zealand being the first British point of land that the Fleet touched, naturally wished to further its convenience in every way, and so arrangements were made whereby the hospital statements from the various ships were sent on board the flagship and examined by the chief health officer and Mr. E. W. Sharman, the port health officer of Auckland. There have been singularly little sickness and few accidents during the long cruise. The hospital ship was of especial interest. For the first time in the history of any navy a medical man was captain, and well and worthily did Surgeon Stokes fill that position. You may remember that much disturbance was occasioned in the purely combatant branch when it was suggested that the hospital ship should be commanded by a surgeon. The experiment has been amply justified. Everything has gone smoothly and the work done has been of the highest order. A hospital ship must hereafter be a certain part of a fleet which goes far from home waters. One instance will suffice to show its usefulness. An outbreak of diphtheria took place on the *Nebraska*. Within three days swabs had been taken from the throats of the 1200 occupants of that ship, and as a result of the microscopical examination 82 men were transferred to the hospital ship and the outbreak was stopped right away. The dollar which America handed over to Miss Gould for this splendidly equipped ship was undoubtedly well spent, and in this truly the "Great White Fleet" has taught us a lesson.—One of the most pleasing of the many functions held in honour of our American visitors was the supper given by the Auckland branch of the British Medical Association, under the presidency of Dr. H. M. Inglis. The utmost good-fellowship prevailed and by general consent Dr. W. C. W. McDowell's admirable treatment of the toast of the evening formed without doubt one of the finest speeches of the week. In proposing the health of Fleet-Surgeon [illegible] and the other medical officers of the Fleet, he called special attention to the great preventive work in tropical medicine in which naval surgeons had of late years borne so prominent a part. He paid a full tribute to some of the great names in American surgery and wound up with an eloquent peroration in which he said:—

> Last Sunday morning the Union Jack and the Stars and Stripes floated side by side to welcome the Fleet's arrival, but now, at the close of the week, after such happy intimacy, we realise that the officers and men of the American Navy have drawn the flags nearer together; yes, have, indeed, succeeded in entwining them together into a fast and firm "sailor's knot."
>
> I now call upon you to charge your glasses and drink to the health of the surgeons of the Fleet, the pioneers in this great work, and let us also toast to the dawning of the day when, with a union in reality and a [illegible] the "sailor's knot" will be [illegible] "lover's knot" as the symbol of the relations between the two branches of the Anglo-Saxon race, a mighty dignity in unity, a power making for liberty, equity, and fraternity among the nations of the earth.

Never was the force of the Indian proverb, as Kipling has given it to us, more aptly illustrated than on that evening: "I met an hundred men on the road to Delhi and everyone was a brother."

August 21st.

Obituary.

SIR ARTHUR VERNON MACAN, M.B., M.Ch. Dub., F.R.C.P. Irel.,

KING'S PROFESSOR OF MIDWIFERY, TRINITY COLLEGE, DUBLIN, ETC.

THE death of Sir Arthur Vernon Macan, which took place on Sept. 26th at his residence, 53, Merrion-square, Dublin, has deprived the Irish metropolis of one of its prominent practitioners. The deceased gentleman was the eldest son of the Hon. John Macan, Q.C., who was for many years a judge in the Irish Court of Bankruptcy; and he was born in Dublin in 1843, so that he had reached the age of 65 years. He received his collegiate education at the University of Dublin, in which institution he passed through a distinguished academic career and graduated in 1863. Having chosen medicine as a profession and selected, almost from the outset, the specialty of obstetric surgery and gynæcology in which he came in time to play so active and distinguished a part, he took the diploma of the Rotunda Hospital at an early stage; and after having obtained the University degrees of M.B. and M.Ch. at his alma mater he proceeded to perfect his post-graduate studies at Berlin and Vienna. He was so far favoured by professional fate as to enter the portals of the healing art at the precise period at which the epoch-marking Listerian revolution was beginning to work out its great reformation in surgical practice. He always retained his close association with the great Rotunda maternity, and when he returned to its wards as assistant master, and afterwards as master, it was in the way of conspicuous approach on the crest of the wave of the antiseptic movement. He enjoyed the unique privilege of leading the anti-microbic crusade into the greatest lying-in institution of the British Empire; and it need hardly be added that the triumph of a campaign which was necessarily and inevitably successful secured the name and fame of Dr. Macan for the whole of his subsequent professional career. His great physical activity enabled him to carry out an amount of muscular and mental exertion which would have overtaxed the resources of most. And his emphatic force of character proved an effective mainspring in all his professional and social movements. Thus he was enabled to face and to overcome direct opposition and collateral obstruction to movements of reform with less waste of valuable time (and diplomatic courtesy) than would have been found necessary or thought desirable by organisers of less natural vigour. Dr. Macan was elected a Fellow of the Royal College of Physicians of Ireland in 1877 and became the President of that institution in 1902-04. Dr. Macan's Mastership of the Rotunda Hospital constituted—in its usual septennial course—a genuine triumphal progress of professional practice; by the establishment of the inestimable boons of antiseptic cure and aseptic prevention in his special departments of obstetrics and gynæcology the horrors of puerperal sepsis were once and for all "laid" under his *régime*, in the great maternity of the Irish metropolis; and there are but few items of the history of the profession—or, indeed, of the human race—which better deserve the most grateful recognition of contemporaries and of posterity.

The late Sir Arthur Macan enjoyed not only a prominent career as a practitioner and pioneer of applied science, but also as a hospital and lecture-room teacher. He lectured on midwifery and obstetrics for a number of years at the Carmichael School of Medicine, from which he passed to the corresponding chair in the University of Dublin. This latter position carried with it appointment to the staff of Sir Patrick Dun's Hospital, to which institution he thus became obstetric physician and gynæcologist. The prominence of his professional position and the solid value of his contributions to professional knowledge led to the successive receipts of other testimonials of the recognition of his brethren, such as the presidency of the great deal has been attempted) has been on right lines; and if it has not, to consider how we should rectify our past action, and in what directions, in which we may have hitherto fallen short of our duty, we should now endeavour to extend our efforts. The subject is a vast one; few, if any, of the activities either of the individual or the State are not affected by it; and anything that I can say can but touch the fringe of the problems that you will have to consider, and can only, I fear, be directed towards impressing upon you the magnitude of the task you are called on to undertake without suggesting to you the means of overcoming it.

In the resolution summoning this conference stress was laid on the fact that it is impossible to make any certain comparison between past and present vital statistics. The actual record of the number of births and deaths has become much more accurate during the past quarter of a century, but except in the case of a few well-known diseases the village watchman—the reporting agency in the rural tracts—cannot be trusted to return the cause of death correctly. We can indeed rely on his reports regarding small-pox and cholera being fairly accurate, but he cannot discriminate between diseases the symptoms of which are accompanied by a rise of temperature, and the deaths attributed to fever doubtless include large numbers due to pneumonia, tuberculosis of different kinds, and many other diseases. Again, in the six years between 1902—when plague took hold of the province—and 1907, over a million deaths were reported to have been caused by it. How many really due to it were registered as having been caused by some other disease? Incomplete as the record of the number of deaths attributed to it in the past six years must be, it is equivalent to the normal death-roll within the province for more than six months. This factor of itself precludes close comparison between the figures of the past few years and those of less recent periods, but the former taken by themselves are so appallingly high as to demand the closest scrutiny of all who have the country's welfare at heart.

Speaking generally, the death-rates recorded in the province in recent years, both in urban and in rural tracts, are nearly three times as high as in England and Wales. It is estimated that in India nearly one out of every ten of the population is constantly sick and a person who has escaped the diseases and dangers of childhood and youth and entered on manhood or womanhood has an expectation that his or her life will extend to only 68 per cent. of the time that a person similarly situated may be expected to live in England. Infantile mortality in the province is nearly twice as great as it is in England. I quote these comparisons to show how backward we appear to be in the protection of life as compared with the mother country, but at the same time you will all realise how misleading it would be to judge our vital statistics by results in Europe and understand how vain it is to hope that we can ever attain to the standard that has been achieved in the West. We should never forget that in this province the conditions of life, which depend on the climate and connected matters, are in some respects specially unfavourable to health and longevity. The whole area of the province is 112,000 square miles. Between one-fifth and one-sixth of this is situated in the Himalaya, with a sparse population of a little over one and a half millions. The highest density per square mile—it is only 86—occurs in the Almora district. With a splendid climate and a very sparse population comparatively little remains to be done except to induce the people to pay more attention to the cleanliness of the village sites and their immediate neighbourhood. At the same time the hilly tracts are liable to occasional epidemics of cholera of great virulence which are much assisted by the practice of the hillmen of burying in running streams the victims of epidemic disease instead of following their usual practice of burning the dead. But, speaking generally, the conditions of life in the hills are much more favourable than in the plains. The area of the plains extends to 93,000 square miles and contains a population of 46,000,000. Most of this area is flat and liable to be waterlogged during the rainy season. The mean annual rainfall is between 37 and 38 inches. The monsoon of three months is wedged in between a period of intense heat all over the province and a period of milder weather which at some places merges at night into one of intense cold. The difference between the maximum temperature in the sun and the minimum temperature in the shade within a period of 24 hours sometimes exceeds 120°; that between the maximum and the minimum temperature in the shade is often 40 or more within the same period. These extraordinary variations in climate and temperature call in themselves for special precautions. They are aggravated by the conditions under which the people live, some of them inseparable from the agricultural operations of the different seasons or for other reasons unchangeable, others the direct or indirect result of neglect of recognised sanitary canons and susceptible of improvement. The houses in which the people live, whether in town or country, are seldom set on a high enough plinth. The average population and the number of houses to the square mile are higher than in any other part of India. The urban population, aggregating a little over five millions, number on the average 13,600 to the square mile, and rise in Cawnpore generally to 37,500 and in parts of the city to over 64,000 to the square mile. What this means can be imagined if you will reflect that in London with its buildings of many storeys the density is but 37,000 and that in Cawnpore the number of houses with more than one storey is comparatively small. The average density of the population in the villages is 427 to the square mile. It rises to 791 in the Ballia district, and exceeds 500 in 22 districts. The average number of persons per house (which frequently consists of two rooms or even of only one) is 5·3 in important cities and 5·5 in the rest of the country. It is estimated that the average superficial area per head of the population is something like 10 square feet, and the breathing space—150 cubic feet—just half what is required in common lodging houses in England. In the rainy season high crops are grown right up to the habitations of the villages. When the spring crops are being cultivated the same soil is, wherever possible, irrigated. Little or no care is taken to arrange for the removal of refuse in the rural tracts. The village pond or tank is the receptacle of filth of every kind; its water is regularly consumed by cattle and even by human beings. The offices of nature are performed in the fields just outside the houses, and the water of the wells is often polluted by the subsoil drainage into them. Flies are always prevalent and at certain times of the year become a pest. They have much responsibility for the communication of disease and are assisted by numerous other insects. Even this is not a complete category of the hindrances to the public health in the rural tracts, but it is sufficient to show how great are the difficulties in bringing about a salutary change.

I have already sounded a warning note against attaching too much importance to comparative vital statistics in this country but we must necessarily in approaching the consideration of all questions connected with sanitary improvement keep such statistics before us. The reported mortality per 1000 among the general population works out at the following rates in the last quarter of a century:—

1882–91	32·72
1892–1901...	32·56
1902–07 (including plague)	39·01

In the same three periods the mortality in jails has been 25·5, 27, and 16·6 respectively. The difference is marked particularly in the last period. In jails everything is done to avoid overcrowding, each prisoner being allowed a minimum of 36 square feet of superficial area and 648 cubic feet of breathing space; large sums have of recent years been spent on improved barrack accommodation and ventilation; there is an almost complete freedom from epidemics; the death-rate is not augmented by infantile mortality; food, water, and sanitation are good, and the hours of work regular. We cannot ever hope to get the death-rate among the general population down to the figure that has been attained in jails, but between the death-rates in the jails and among the free population respectively there is a large margin which is undoubtedly capable of considerable reduction. It is towards the most effectual means of effecting this reduction that you are asked to direct your minds during the session of this Conference.

The problem that you have to consider differs very much according as it is directed towards the amelioration of the conditions of life in rural or in urban tracts. The number of villages in the province is 105,068 and the average population of a village is just over 400; 37 per cent. of the rural population inhabit villages with a population of less than

The Emperor of Japan has sent a donation of £500 to the Seamen's Hospital Society in recognition of the assistance rendered to Japanese subjects by the Dreadnought Hospital at Greenwich.

The opening meeting of the Chelsea Clinical Society will be held at the Chelsea Dispensary, Manor-street, King's-road, on Wednesday, Oct. 14th, at 8.30 P.M. The President, Mr. A. F. Penny, will give his opening address on "The Rise of the General Practitioner."

Guild of St. Luke.—The annual festival service of the Birmingham Ward will be held in the Cathedral Church, Birmingham, on Monday, Oct. 19th, at 5.30 P.M., when the sermon will be preached by the Rev. P. N. Waggett, M.A. Medical practitioners are cordially invited to attend.

The Hospital for Sick Children. — The winter session of lectures at the Great Ormond-street Hospital will be opened on Thursday, Oct. 22nd, at 4 P.M., when Mr. T. H. Kellock will give a demonstration on selected cases in the surgical wards. On Oct. 29th, at 4 P.M., Dr. F. E. Batten will give a demonstration on selected cases in the medical wards.

Royal Eye Hospital, Southwark. — The winter session of the post-graduate course of instruction in ophthalmology will commence on Wednesday next, Oct. 14th, at 8 P.M., when Mr. L. Vernon Cargill, F.R.C.S., surgeon to the hospital, will deliver the opening lecture, the subject of which will be "The Importance to a General Practitioner of some Practical Knowledge of Ophthalmology." All medical men interested in the subject are invited to attend the lecture.

Museum Demonstrations at the Royal College of Surgeons of England.—In addition to the usual course of Hunterian and other lectures to be delivered during the present winter session the Council of the Royal College of Surgeons of England has arranged a series of demonstrations in the theatre of the College at which specimens from the museum will be shown and their bearing on general and surgical pathology discussed. The first demonstration of the series is to be given on Friday next, Oct. 16th, at 5 P.M., by Dr. Arthur Keith, "On Specimens Illustrating Malformations of the Rectum and Anus"; and the second on Monday, Oct. 19th, at 12 noon, by Mr. S. G. Shattock, on "Hypertrophy." The subjects and dates of the other demonstrations may be seen in our advertisement columns and from the notices posted at the College and medical schools. These demonstrations are open to all medical men and senior students on presentation of their cards.

School of Pharmacy.—The seventy-seventh session was opened at 17, Bloomsbury-square, on Sept. 30th, Mr. J. Rymer Young, the President of the Pharmaceutical Society of Great Britain, being in the chair, supported by a large attendance. Professor Greenish, the dean, read his report which showed a very high percentage of successes gained by students of the school in both the major and minor examinations in pharmacy. He then enumerated the higher academical distinctions recently gained by past students and announced that 43 students had already entered for the full minor course for this session. He alluded to the recent and prospective improvements in the laboratory accommodation of the school. The President then called upon the lecturer in botany, Mr. H. J. Jeffery, to present his report on the herbarium competition. He announced the award of the silver medal to Mr. H. V. Potter for "a carefully selected collection of plants quite representative of British flora." Mr. E. S. Peck then announced that Miss Gertrude Wren had gained the Pereira medal in pharmacy with 82 per cent. of the total number of marks. She was the first lady pharmacist to attain that honour. The secretary followed by reading the report on the Jacob Bell Memorial Scholarships which were won by Mr. W. R. Pratt and Mr. S. J. Bourn. The Salters' scholar was Mr. C. Gilling, and the Redwood scholar Miss Gertrude Wren. Mr. F. H. Lescher, F.C.S., then delivered his inaugural address upon the subject of "Commerce, Science, and Work." He touched briefly upon the history of the commerce in drugs from the days of Solomon downwards, then passed on to consider a few points of prominent scientific interest, including the liquefaction of helium and the electric fixation of atmospheric nitrogen, and concluded with a dissertation upon the paramount influence of work for success and happiness.

University of London: University College.—Entrance scholarships and exhibitions have been awarded as follows: Bucknill scholarship, 135 guineas, H. W. Davies (University College, Bangor). Epsom scholarship: J. A. Cowan. Two exhibitions, 55 guineas each: R. L. Horton and C. J. A. Griffin (University College, London).

King's College (University of London): Special Lectures in Physiology.—A course of eight lectures on the Bio-chemistry of the Brain will be delivered in the physiological laboratory, King's College, London, by Professor W. D. Halliburton and Dr. Rosenheim on Mondays at 4.30 P.M., commencing on Oct. 19th. The subjects treated will include the proteins, phosphorised constituents, cholesterin, &c., in nervous tissues, and the part played by each in health and disease. The course has been recognised by the University of London as a course of advanced lectures for the B.Sc. degree. The lectures are free to all members of King's College, to all students in any of the London medical schools, and to medical practitioners on presentation of their cards.

Association of Women Pharmacists.—The fourth annual public meeting of this association took place on Oct. 1st in the lecture theatre of the School of Pharmacy at 17, Bloomsbury-square, London, W.C. (by permission of the Pharmaceutical Society), the President, Miss Buchanan, being in the chair. Miss Buchanan opened the meeting with a few remarks on the aims of the association and its work during the year, mentioning that this year the highest honour in pharmacy, the Pereira medal, had for the first time been awarded to a woman, Miss G. Wren. Mr. J. Cantlie then addressed the meeting on Some Tropical Diseases, illustrating his remarks with lantern slides. He concluded by a few remarks on the tendency nowadays to prescribe one drug for one disease, whereas excellent results had been obtained in the past by the scientific combination of a number of drugs. Warburg's tincture, for instance, was said to contain 24 different drugs and was still widely used in India as a remedy for malaria. Mr. Cantlie was accorded a cordial vote of thanks for his lecture.

Presentation to a Medical Practitioner.—Mr. Lewis D. Alexander, M.D., C.M. Aberd., has recently been the recipient of a handsome testimonial on his attaining his semi-jubilee as medical man in Kilcreggan. He received a deposit receipt for £250 and a silver salver with suitable inscription, while Mrs. Alexander was presented with a set of sable furs. At the meeting the provost of the town presided, while Mr. Peter Donaldson, in the absence of the Duke of Argyll, made the presentation.

Tendering for Public Appointments.—The following resolution was passed unanimously at a special council meeting of the Society of Public Analysts and other Analytical Chemists held on Oct. 1st:—

> The Council of the Society of Public Analysts and other Analytical Chemists has had under consideration the practice which has been adopted recently by certain public bodies of inviting applicants for the office of public analyst to state the terms upon which they are prepared to accept such appointments. The Council is of opinion that it is against the interests of the public and degrading to the profession of analytical chemistry for appointments to be offered "on tender," and calls upon the members of the society to resist the practice.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C.

- Mental Deficiency (Amentia). By A. F. Tredgold, L.R.C.P. Lond., M.R.C.S. Eng., Consulting Physician to the National Association for the Feeble-minded, and to the Littleton Home for Defective Children; Medical Expert to the Royal Commission on the Feeble-minded. Price 10s. 6d. net.
- The Bacteriology of the Eye. By Dr. Theodor Axenfeld, Professor of Ophthalmology in the University of Freiburg. Translated by Angus Macnab, B.A., B.Sc., M.B., Ch.B., F.R.C.S., Chief Clinical Assistant, Royal London Ophthalmic Hospital. Price 21s. net.

Bedford Press, 20 and 21, Bedfordbury, London, W.C.

- Transactions of the Society of Tropical Medicine and Hygiene. 1907-1908. Price not stated.

any improvement is to be effected in the health and vigour of the race.

The facts I have just enumerated are depressing enough, even if there is a crumb of comfort to be gained from the success of our efforts in effecting a reduction of the death-rate in cholera, bowel diseases, and small-pox. But hitherto we have only been looking at the death-rates, and if you will turn your attention to the birth-rates you will see reason for thinking that the efforts towards sanitary improvement made during recent years have not been altogether without fruit. Our reported birth-rate is almost the highest in India. During the period 1882-91 it exceeded the reported death-rate by 6·07 per 1000, and in 1892-1901 by 5·97 per 1000; but for the plague it would have during 1902-07 exceeded the death-rate by 8·33, but it actually exceeded it by 4·54 only. It is reasonable to argue that the more than proportionate increase in the birth-rate is to a material extent due to the improvement of the people. If the results of the sanitary measures instituted or undertaken by the Government have not been as remarkable as we could wish them to have been, this is, at all events, not due to any lack of interest in the matter. The question of sanitary reform has, indeed, been constantly before the Government ever since the report of the Royal Commission on the Sanitary State of the Army in India was published 45 years ago. The principle adopted by the Government of India as long ago as 1879 was that it was undesirable to resort to stringent legislative or administrative measures to enforce village sanitary reform, and that until the sanitary condition and healthfulness of towns had been generally brought up to at least a fair standard, and the objects of sanitary reform had become more generally understood, it would be unwise to do more than to endeavour by precept and advice, on every suitable opportunity, to secure improvement of the sources of the water-supply in villages, the systematising and rendering innocuous of the habit of resorting to the fields to obey the calls of nature, and the improvement of the surface drainage of village sites. The experience of the past 30 years has demonstrated over and over again that it is useless to attempt to dragoon the people into taking sanitary precautions. Violent remedies are of no service to sanitary progress: if advance has been slow let us hope it has been sure, since one thing of all others is certain, and that is that it never can be quick. We can never move over the people: we must move by and through them.

A Sanitary Board was created nearly twenty years ago as a consultative body for the province: it was contemplated that, when considering the sanitary requirements of a particular revenue division of the province, it should be strengthened by the addition of members to represent such division. One duty that was expected of it was that it would carry out a sanitary survey in selected parts of the province. Something much more definite than has yet been attempted seems to me necessary in this latter direction. The constitution of the board has been altered from time to time, but its working has not been successful hitherto, and my observation of its proceedings in recent years has convinced me that its system of transacting business has become more and more formal. The Government of India has determined that the time has come when the constitution and functions of the board should be reconsidered, a step which seems to me personally most desirable. In particular it is essential that the non-official community should be adequately represented on it. The Government Sanitary Department consists of a sanitary commissioner, two deputy sanitary commissioners, and a large vaccination staff. It is for consideration whether the department should not be enlarged and its functions extended. In municipalities large sums of money are spent on ill-organised and badly equipped establishments. It is proposed to constitute a sanitary service, the members of which would be utilised for service in the different municipalities. All these matters connected with establishments are among those on which your advice is sought by the Government.

Although laws will not in themselves make people follow sanitary principles, they are necessary to insure the proper fulfilment of rules with which the people have become familiar and generally recognised to be in the interest of the community generally, as well as for raising of funds and to give legal authority to acts undertaken to improve the public health. I have mentioned the Village Sanitation Act and the sanitary provisions of the Municipalities Act. There are also Acts relating to lodging-houses, to water works, and to sewerage and drainage. The Government is about to relieve small towns to which Act XX. of 1856 applies of the charges for police, and their revenues (some three lakhs of rupees = £20,000 a year) levied under that Act will be available for sanitary purposes. This change involves a change in the law and your opinion is invited as to the manner in which this should be carried out. It will also be open to you to consider whether any changes are needed in the Village Sanitation Act or in the provisions of the Municipalities Act regarding sanitary matters, or in any of the other Acts that I have just referred to.

As you are aware, the Government of India made to this Government, beginning with the current financial year, a grant of five lakhs (£33,000) of rupees a year to be devoted to sanitary improvements. I have determined to begin with an endeavour to improve the congested areas of certain of the larger towns by cutting broad roads through them. Schemes are in an advanced stage and will soon be commenced in Allahabad, Lucknow, and Cawnpore. I am also providing the Benares municipality, which has done a great deal in this direction in the past 25 years, with funds to cut a single road in the city. We hope to facilitate traffic and the perflation of air through these cities, to clear out specially insanitary areas, and to erect a few model dwellings on sanitary lines. Some people consider the erection of model dwellings at all to be a work of supererogation. I cannot agree with them, any more than with those who go to the opposite extreme and expect the State to take up the work of house building on an unlimited scale, and to arrange for a general housing of the population of towns in suitable buildings. All that we can try to do is to build a few—a very few—buildings suitable for different classes at a moderate cost, and to look to the public and builders to copy the models. Papers regarding this proposal will be placed before you. So far the great difficulty has not been overcome—viz., that of designing a sanitary house for the poorest classes at a cost which will not make its rent prohibitive. Other methods of improving conditions in towns that suggest themselves for your consideration are regulations to preserve a minimum space for new houses, to provide for building on standard plans, some form of encouragement to people whose houses are specially well kept, the strengthening of the authority of the health department and the more efficient enforcement of municipal by-laws for sanitary purposes, better markets and more supervision of the sale of articles of food and drink, and more complete drainage and paving schemes which are essential before the benefits of a filtered water-supply can be fully enjoyed. In rural areas the provision of pure water, the drainage of the village site, and attention to simple rules of conservancy are the chief requirements. Here, too, it would be well to have some definite area fixed for all new houses, and if possible to prevent excavations from being made except at a considerable distance from the village site.

Above all, throughout the country we want to teach the people to look after themselves; to educate them in the principles of simple hygiene, and to induce them to abandon insanitary habits. We may pour out money like water on sanitary improvements all to no purpose if we do not get the people to realise that they are for their good. Let us not forget that such success as has been attained in England is due to the general readiness of the people to believe that sanitary regulations, irksome though they may appear, are designed for their good and must be obeyed. By what means can we best lead people of this province to understand this first principle of all sanitary progress? Instruction of the young at schools and colleges will not be without its effect, but what is really needed more than anything is that the educated members of the community should bring home to the poorer classes the merits of practical hygiene. That has been well defined to aim at "rendering growth more perfect, decay less rapid, life more vigorous, death more remote." In season and out of season those who have learnt the lesson that without sanitation there can be no moral or material progress should preach to the public on the text that health means happiness. With stronger sinews the daily toil of a generation reared under more favourable conditions than those of the past will become more easy. So shall the earth be led more readily to bring forth her increase; here, we may surely hope, lies the

Margaret-street Hospital for Consumption and Diseases of the Chest, Cavendish-square, W.—Honorary Pathologist.

Middlesex Hospital.—Second Assistant to the Director of the Bacteriological and Clinical Laboratories. Salary £100 per annum. Also Hollins, Emden, and Salters Company's Scholarships. Value £100 per annum each.

Mount Vernon Hospital for Diseases of the Chest, Hampstead and Northwood, Middlesex.—Clinical Pathologist. Salary 100 guineas per annum.

Newport and Monmouthshire Hospital.—Third Resident Medical Officer. Salary £60 per annum, with board, residence, and laundry.

New South Wales, Australia, Queen Victoria Homes for Consumptives.—Resident Medical Officer, unmarried. Salary £250 per annum, with board and residence.

Oxford, Radcliffe Infirmary and County Hospital.—Junior House Surgeon, unmarried. Salary at rate of £40 per annum, with board, &c.

Papa Westray Parish Council, Orkney.—Public Vaccinator. Salary £90 per annum, with fees and house.

Pendlebury, Manchester Children's Hospital.—Visiting Physician. Honorarium £100 per annum.

Plymouth, South Devon and East Cornwall Hospital.—Surgeon.

Portsmouth, Royal Portsmouth Hospital.—Senior and Assistant House Surgeon, both for six months. Salary £100 and £50 per annum respectively, with board, &c.

Prince of Wales' General Hospital, Tottenham, N.—House Surgeon, House Physician, Junior House Surgeon, and Junior House Physician, all for six months. Salary of two former £75 per annum, and of two latter £40 per annum, with residence, board, and laundry. Also Honorary Anæsthetist.

Royal Ear Hospital, Soho.—House Surgeon. Salary £40 per annum.

Royal Navy, Medical Department.—Fifteen Commissions.

St. Bartholomew's Hospital.—Assistant Aural Surgeon.

Southend-on-Sea Education Committee.—School Medical Officer. Salary £250 per annum.

Staffordshire County Asylum, Cheddleton, Leek.—Junior Assistant Medical Officer for six months. Salary £150 per annum, with board, residence, laundry, &c.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Tiverton, Devonshire, Infirmary and Dispensary.—House Surgeon and Dispenser. Salary £80 per annum and all found.

Tottenham Education Committee.—Assistant Medical Officer. Salary £250 per annum.

Truro, Royal Cornwall Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Tunbridge Wells General Hospital.—Senior and Junior House Surgeons, unmarried. Salary, Senior £100, Junior £80 per annum, with board, apartments, &c.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board, lodging, and laundry. Also Honorary Anæsthetist.

Virginia Water, Surrey, Holloway Sanatorium Hospital for the Insane.—Junior Assistant Medical Officer (female). Salary £150 per annum, rising to £200, with board, lodging, laundry, attendance, &c.

Westminster Hospital, Broad Sanctuary, S.W.—Fourth Assistant Physician.

Winchester, Royal Hampshire County Hospital.—House Physician, unmarried. Salary £65 per annum, with board, residence, &c.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Poole, in the county of Dorset.

Births, Marriages, and Deaths.

BIRTHS.

Cook.—On Sept. 27th, at Mengo, Uganda, East Africa, the wife of John Howard Cook, M.S., F.R.C.S., of a son.

Cooke.—On Oct. 4th, at 14, Arden-road, Church End, Finchley, N., the wife of E. Hunt Cooke, M.A., M.B., G.I.P.Ry., Lonavla, Bombay, of a son (Alfred Hunt).

Maingay.—On Oct. 4th, at Queen-street, Scarborough, the wife of H. B. Maingay, F.R.C.S., of a daughter.

Scott Turner.—On Oct. 4th, at Anerley-road, Upper Norwood, the wife of Arthur Scott Turner, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

Fell—Wallace.—On Sept. 30th, at Lindridge Church, Worcestershire Matthew Henry Gregson Fell, Captain R.A.M.C., to Marion Isobel, only child of the late Robert Wallace.

Scoones—Stanley-Adams.—On Sept. 30th, at St. Mary's Church, Spring-grove, Isleworth, Harold Edward Scoones, M.R.C.S. Eng., L.R.C.P. Lond., to Ethel Constance, third daughter of the late William S. Stanley-Adams, M.D., C.M., and Mrs. Stanley-Adams.

DEATHS.

Campbell.—On Oct. 2nd, at Villa Malibran, near Nice, Charles Moss Campbell, M.D. Edin., aged 64. Friends will please accept this the only intimation.

Leahy-Lynch.—At 2, Finsbury Park-road, London, N., on Oct. 5th, Tim Leahy-Lynch, M.D., in his 51st year. Beloved husband of Agnes Murdoch.

Leeson.—On Oct. 4th, at St. Leonards-on-Sea, Arthur Edmund Leeson, M.A., M.D., aged 76 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EXEMPLARY SENTENCES UPON GARBAGE-MONGERS.

We are able to record two more sentences which may serve as salutary deterrents upon persons who make a living by selling diseased or decomposed meat to the public. At Clerkenwell police court on Sept. 30th Alfred Wagner of Finsbury was fined £50, with an alternative of three months' imprisonment, for having a quantity of bad pork on his premises, upon which were appliances for making sausages, saveloys, and other highly flavoured foods in which the taste of bad meat can be disguised. An inspector found 20 pounds of scrap meat which was soft and smelt very offensively. Mouldy meat was in the ice-safe, and stinking pigs' heads were found which the defendant admitted that he had bought at 1s. per stone. Altogether 250 pounds of unsound meat were seized. The other case occurred at Newcastle on the same day, when William Dunn was charged with having in his possession a heifer for the purpose of preparation for sale, which was unfit for the food of man. It was stated that Dunn, in addition to carrying on business in the butcher market, carried on a shipping business, and that he kept two class of beasts, one for the "family trade" and one for the supply of ships. The animal in question, which was badly tuberculous, was intended for the latter purpose. It was alleged that similar small beasts, known as "stirks," were kept, on the premises until a shipping order came in, when they were slaughtered, dressed, and sent straight on board ship, and the inspector never got a chance of inspecting them. The defendant's manager admitted that the better class of beast was insured against tuberculosis but not the "stirk" class. The bench characterised the case as disgraceful and inflicted the maximum fine—£20 and costs, or three months' imprisonment. A second charge of a similar nature was admitted. In the course of the hearing it was given in evidence that three men do all the inspection in the 132 slaughter-houses of Newcastle and carry out the Diseases of Animals Act for the whole city as well, a staff which appears insufficient for adequate supervision.

SURGERY HOURS FOR POOR-LAW PATIENTS.

To the Editor of The Lancet.

Sir,—It has been customary in the six parishes of the union in which I am a district medical officer to have a morning hour for seeing parish patients. The guardians have now passed a resolution asking the medical officers to "set apart half an hour each evening for receiving parish patients." Hitherto a few patients have been seen in the evening, but this has been more or less voluntary. I should be glad to know from your readers if it is the usual custom through England for parish patients to have the choice of coming to the surgery either in the morning or evening.

I am, Sir, yours faithfully,

Sept. 30th, 1908. District Medical Officer.

A DISGUSTING PRACTICE.

At Swansea on Sept. 30th a milkman was fined £5 for not keeping his milk cans clean. It was proved that the man used his milk cans for holding and carrying "pigs' wash." For the defence it was contended that hot water would cleanse the cans and that "the practice had been carried on by hundreds of milkmen."

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of The Lancet.

Sir,—I can assure Dr. Oscar Jennings that I did not think that he meant "work" when he said "book." As to the meaning of the term "book," it seems to me that as the British Museum has an officer entitled Keeper of the Printed Books the existence of a class of books which are not printed is implied, but the point is of very little importance. With regard to medical works of the fourteenth and fifteenth centuries being the earliest works in English, I purposely did not refer to the Leechbook of Bald and the other Anglo-Saxon medical manuscripts which were edited by Cockayne, for although Anglo-Saxon was the language spoken in England in the tenth century it can hardly, I think, be called English. Take, for instance, the following sentence, though I have taken it from the Anglo-Saxon Life of St. Guthlac, which MS. may be of earlier date than the Leechbook, as I have no copy of the latter work at hand: "Ne he caihtlice galnysse næs begangende, ne idele spellunge folcricra manna, ne ungeliclice olæcunge, ne leaslicetunge." By English I mean such a form of that language as an ordinary educated man could read with a fair amount of facility nowadays.

I am, Sir, yours faithfully,

Oct. 6th, 1908. M.D.

THE "IDEAL VALVE" FEEDER.

We have received from Messrs. H. and T. Kirby and Co., Limited, 14, Newman-street, London, W., a feeding-bottle for infants which is of the familiar boat shape. The points claimed in its favour are that it is open at both ends and so can be flushed under a stream of water; that it has no corners, and therefore can be thoroughly cleansed; and that it is graduated, as a guide to the quantity of the food given. It is also fitted with a solid lived 15 hours. *One was born by induction of labour* at eight months. The child was stillborn.

It will be noticed that in three cases labour was artificially induced, and of the children two out of the three were saved and are alive now, April, 1908, whereas in the three cases where labour came on prematurely of itself two out of the three children were lost.

As regards symphysiotomy and Cæsarean section in this case, both operations were performed only after failure to effect delivery of a living child by the forceps. It may be asked why symphysiotomy was not performed on the second occasion instead of Cæsarean section. One reason was that there were grounds for believing that the pubic bones after the symphysiotomy were united partly by bony union. The other chief reason was that I much prefer Cæsarean section to symphysiotomy. I believe the former to be little, if at all, more dangerous, while the convalescence after it is so much more rapid and satisfactory. From the point of view of the child it runs little or no risk in Cæsarean section but a very definite risk in symphysiotomy. The success of the latter as regards the child depends largely on a very accurate estimation of the pelvic measurements and also of the size of the child's head. While the pelvis may generally be measured with approximate accuracy the size of the child's head in relation to it must be more or less an uncertain factor. For my part, I agree with Whitridge Williams in feeling very little inclination to perform symphysiotomy rather than Cæsarean section in future.

Upper Brook-street, W.

SOME POINTS ABOUT PUNCTURE OF THE BRAIN.

BY PROFESSOR H. TILLMANNS, M.D.

PUNCTURE of the brain, like trephining, is a very old operation and was practised at the time of Hippocrates. In recent times particular attention has been paid to this operation by Middeldorpf, Souchon, Schmidt, Kocher, Payr, and more especially by Neisser and Pollack. Neisser and Pollack[1] have written a long treatise on the subject. They cite 36 cases in which puncture of the brain was performed 136 times. We certainly gather from their observations that in suitable cases excellent results may be obtained from puncture of the brain both from the diagnostic and from the therapeutic point of view. It is remarkable that puncture of the brain has not been more universally studied. We find little or no mention of the operation in the handbooks on internal medicine or on neuropathology. As in the case of lumbar puncture, puncture of the brain will certainly come to be more universally practised, both for the purpose of diagnosis and also for treatment of diseases of the brain.

A *diagnostic*, that is an exploratory, puncture is indicated in all cases where the diagnosis is uncertain. Where injury or disease of the cranial cavity or of the brain is evident, the typical trephining operation will of course be performed. A diagnostic puncture is indicated when there are signs of pressure on the brain or when an accumulation of blood, pus, or other fluid is suspected either in the cranial cavity, in the brain itself, or in the ventricles of the brain; also in the cases of cysts, tumours, foreign bodies, &c. In certain cases the diagnostic puncture must be immediately followed by the definite operation—that is, trephining and removing the cause of the disease. Neisser and Pollack in particular have shown that even in advanced cases of pressure on the brain—for instance, in cases of intracranial hæmorrhage, extravasation, cysts, &c.—puncture can give excellent results and bring about cures which could hardly be expected.

Therapeutical puncture has been principally practised in cases of hydrocephalus, dropsy of the ventricles (in some cases with subsequent drainage), and also for the purpose of making injections—for instance, of tetanus antitoxin in cases of tetanus—into the cranial cavity, into the brain itself, or into the lateral ventricles. This intracranial injection of tetanus antitoxin has rightly been abandoned in favour of subcutaneous injections, into the veins, or better into the spinal cord, and of endoneural injections, particularly into the larger nerves which must previously be laid bare. For instance, in the case of wounds to the hand where tetanus is suspected, I recommend, as do Anschütz and others, an immediate prophylactic injection of tetanus antitoxin into the exposed brachial plexus, as tetanus poison, according to the experiments of Hans Meyer and Ransom, only reaches the central nervous organs through the axis cylinders of the motor nerves. This endoneural injection of tetanus antitoxin is particularly efficacious; when made prophylactically, before the appearance of the actual tetanus symptoms.

The technique of aseptic puncture of the brain is as follows. The preliminaries are the same as for trephining: shaving of the particular part of the scalp, in some cases of the whole head, and thorough cleansing of the same with soap, spirits of soap, ether, benzene, or alcohol. We generally employ local anæsthesia with cocaine-adrenalin or novocaine-adrenalin or, if necessary, general anæsthesia. The spot where the operation is to be performed can be fixed, if necessary, with a craniometer. The point is found partly by studying the existing symptoms—for example, of the probable seat of a tumour, of an accumulation of blood or matter, of a cyst, &c. In other cases the spot is arbitrarily fixed when it is decided to puncture the ventricle. Occasionally general circumstances have to serve as a guide to the point where the puncture is to be made. A lesion of the larger blood-vessels and of the cerebral sinuses must, of course, always be avoided. When the spot has been selected either a small incision is made down to the bone and the periosteum is pushed aside, or else section of the pericranium is avoided altogether. In the latter case a hand or electric brace, fitted with a round-headed Doyen or Sudeck drill, is pressed firmly on to the skin, which is pierced at the same time as the bone below. When drilling through the bone it is advisable to press more firmly at first than later in order to avoid injuring the dura mater after piercing the inner table. Injury of the dura mater is best avoided by first using a broad-pointed, oval-shaped Doyen drill to pierce the cranium, and then using a ball-pointed Doyen drill to pierce the inner table. With this drill an injury to the dura mater is impossible. Payr recommends using a drill fitted with a guard against cutting too deep. Hæmorrhage of the bone can be stopped by spreading on aseptic wax. When the cranium has been pierced a fine hollow needle fitted to a Pravaz syringe that closes well is inserted and suction is produced. This suction must be performed as delicately as possible so as to avoid causing hæmorrhage. The fluid matter which is abstracted should, if necessary, be examined at once microscopically and bacteriologically. Should the puncture produce no result, or should it be impossible to elucidate the case sufficiently through the small aperture in the bone, the opening can be enlarged as required either with a larger ball-pointed Doyen drill or with a Dahlgren forceps in order, for instance, to judge the pulsation of the brain, intracranial pressure, &c. When a larger opening has been made the dura mater should be taken hold of with a small-pointed hook and cut crosswise with a very sharp thin knife. The suspected hæmorrhage, abscess, or cyst is then pierced with a fine hollow needle or a thicker one; grooved needles or a very fine sharp knife can also be used. In cases of tumour this simple aseptic piercing of the cranium with the ball-pointed Doyen drill is also devoid of danger, and Neisser and Pollack have shown that with the above-mentioned simple puncture the presence of a tumour can be discovered—for instance, in the frontal lobe of the brain—where it had not been expected and where it would have been impossible to ascertain its existence in any other way. If necessary the puncture can be repeated, as the operation is relatively simple. Neisser once punctured nine times in succession and finally succeeded in locating the suspected tumour. In the cases of newly born children and of hydrocephalus it is usually not necessary to pierce the bone. The cranium is opened at a suitable membranous spot where there is neither a large blood-vessel nor a cerebral centre—for instance, next to the sinus longitudinalis.

Various points of the cranium have been recommended for the puncture of the lateral ventricle. This operation is especially indicated when there is an accumulation of liquid in the same, particularly in cases of hydrocephalus internus. In certain cases the puncture is combined with a subsequent drainage of the ventricle. The motor area, the neighbourhood of the fissure of Sylvius, and the known centres of

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[1] Neisser and Pollack: Mittheilungen aus dem Grenzgebeiten der Medizin und Chirurgie, Band xiii., Hefte 4 and 5.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck-street, W.

THURSDAY.—5 P.M., Dr. H. Campbell: Selected Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Essentials in the Study of Dermatology.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. Batten: Infantile Paralysis.
FRIDAY.—3.30 P.M., Dr. Batten: Family Diseases.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., *Dental*, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 8th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 2	30·17	SSE	...	110	79	57	53	59	Hazy
" 3	30·19	E.	...	105	77	55	56	56	Fine
" 4	30·24	S.W.	...	103	74	55	55	55	Hazy
" 5	30·25	E.	...	71	62	55	53	53	Hazy
" 6	30·25	E.	...	97	66	53	54	57	Fine
" 7	30·16	S.E.	...	84	67	49	50	51	Foggy
" 8	30·15	S.	...	61	61	51	57	57	Overcast

During the week marked copies of the following newspapers have been received:—*Leeds Mercury, Hanley Sentinel, Dundee Advertiser, Bradford Telegraph, Morning Leader, Leeds Post, Leeds Evening Post, Manchester Guardian, Glasgow News, Pall Mall Gazette, Carlisle Express, Sheffield Telegraph, Westminster Gazette, Wolverhampton Express, Downpatrick Recorder, Yorkshire Observer, Scotsman, Manchester News, Birmingham Post, York Herald, Dublin Times, Exeter Gazette, Belfast News Letter, Wolverhampton Evening News, Cardiff News, &c.*

Some patients described the malaise as of the nature of sea-sickness, but there is a total absence of uniformity in the symptomatology and such symptoms as presented themselves occurred separately and in very variable degree. Vomiting was noted in 22 per cent. of the cases. In 7 per cent. of these there was sweating and in 14·7 per cent. nausea. As a general rule the vomiting did not last more than five minutes and but very rarely has it recurred later in the day or on the following day. Since 1905 I have succeeded in reducing the frequency of nausea and vomiting by 50 per cent. by giving the patients their breakfast before making the injection. On several occasions the nausea, &c., subsided on the administration of a liqueur glassful of Chartreuse. Vomiting is admittedly a disagreeable incident but we are equally exposed thereto when we use chloroform and ether. Epileptoid tremor of the lower limbs was noted in three cases but in no instance was it severe enough to prevent my going on with the operation.

Fatal syncope is one of the gravest accidents urged against the method, especially since the cases of Legueu, Broca, and Dumont. I am pleased to report that nothing of the kind has occurred in my practice for I cannot admit as imputable to the method the case recorded in my pupil, Genova's, thesis. The subject was a man, 31 years of age, who was sent to be operated on at once for pyo-pneumonia. As a matter of fact he was almost moribund. The temperature was 41° C., the pulse was 130, with marked and repeated rigors. The injection was made at 10.40 and the pulse soon after was 132. While engaged in sterilising my hands the patient, not being able to breathe lying down, struggled into a sitting position, whereupon he was seized with intense dyspnœa and soon died. Post mortem we found an enormous purulent effusion into the pleural cavity, with a large quantity of fluid in the pericardium and bilateral nephritis. Death followed the injection almost at once so that if it were due to the cocaine the latter would have to be assumed to be capable of instantaneous action which is not in accord with my experience; indeed, I felt so strongly that death was in no wise imputable to the cocaine that I went on employing the method as in the past.

Like chloroform, ether, methyl chloride, &c., cocaine has its contra-indications which must be borne in mind. Advanced cachexia, bilateral nephritis with scanty urinary secretion, myocarditis, pericarditis with effusion, and non-compensated cardiac affections are pathological conditions that absolutely prohibit the use of cocaine. This the surgeon must bear in mind lest he run the risk of grave disaster which would tend to bring a very useful method into disrepute.

Later disturbances.—The only two untoward consequences at a later period have been headache and rachialgia. The headache comes on either on the day of the operation, possibly with slight rise of temperature, or on the day following. It was noted in 9·36 of the cases. In one case, that of a hysterical woman, it lasted three days and resisted all treatment. The incidence of the headache, moreover, is very variable: it was 18 per cent. among the male patients and 19 per cent. among the female patients during the period 1901–02. Between July, 1902, and July, 1903, the proportion was only 6 and 1·8 per cent. respectively, while since 1903 it has been 2 per cent. in men and 0 per cent. in women. These differences may be explained by the fact that in the early times it was my practice to allow the escape of a quantity of cerebro-spinal fluid roughly equal to the amount of fluid to be injected. In view of the relief to the headache in meningitis afforded by the evacuation of 40 or 50 grammes of cerebro-spinal fluid I made up my mind to evacuate more freely and instead of making the injection as soon as the needle was introduced it has been my habit to let the fluid trickle away while I slowly filled the syringe, taking the greatest care to expel every trace of air from the fluid to be injected. At the beginning no note was taken of the amount of cerebro-spinal fluid allowed to escape but later it was measured and we found that when the pressure was small some 10 or 12 grammes came away, whereas if high we obtained from 15 to 20 grammes. I may add that it sometimes happened that the temperature rose in the afternoon to 38° or 39° C. with accompanying headache but this was never severe enough to prevent the patients going to sleep. Patients who are prone to migraine seem to be more subject than others to post-operative headache, and in these subjects the headache follows the injection of stovaine just as frequently as with cocaine. I have remarked that arthritic and alcoholic subjects, especially if suffering from arterio-sclerosis, are especially liable to headache after spinal anæsthesia. Rachialgia is alleged by some observers to be a sign of meningeal irritation but although a few patients complained of pain in the spine it never amounted to positive inconvenience.

Delayed troubles.—A great deal has been said and written about the ultimate effects of cocaine on the nerve centres but these allegations must be judged in the light of practical experience. Now it is some seven years since I began to employ spinal anæsthetisation and among the many hundreds of persons upon whom I have practised the method not a single instance of medullary mischief has been met with in such as have since been seen. As for the others, we may be sure that if anything of the kind had supervened we should infallibly have been informed of the fact either by the relatives or by the medical man.

I therefore feel justified in asserting on the strength of a somewhat extensive experience that spinal anæsthesia by means of cocaine is practically devoid of danger, provided, of course, that asepsis be perfect. The same precautions must be taken as for a laparotomy, for the danger lies not in the introduction of therapeutical doses of cocaine into the spinal canal but in the possibility of affording entrance to pathogenic organisms. In my opinion all accidents that occur are to be ascribed to a defective technique and not to the method *per se.*

I do not pretend that the method is free from drawbacks of any kind. There is the headache, for instance, but although in certain cases it was decidedly troublesome it has never been "awful," and I have shown what can be done to reduce this symptom to a minimum. Admitting the reality of this drawback, can it be allowed to weigh against the unquestionable advantages of the method? One has only to compare the appearance of the patient who has been anæsthetised by spinal cocainisation and that of one who has been rendered insensible by the aid of chloroform or ether. The former is calm, smiling, self-possessed enough to express his surprise at the novel experience and to thank the surgeon for his care and attention; then, too, he is able to take food before and immediately after the operation, while the other is absolutely prostrate, is still sleeping, or is awake and vomiting. In the latter, too, there is more or less pronounced operative shock which is conspicuous by its absence in the former.

The method is invaluable for the country medical man who is so often obliged to act both as anæsthetist and operator, for he has nothing to fear so far as the anæsthesia is concerned, and he is not exposed to the risk of a scare. Then, too, many patients have an invincible objection to being "sent to sleep," and in these spinal anæsthesia is the ideal alternative. On the other hand, I strongly disadvise recourse to this method for persons who object to it. For the indifferents who care not what plan is adopted it is easy to prevent their knowing what is going on. The eyes should be covered with a light bandage and absolute silence should be maintained. The only real drawback that I recognise in respect of this method—and it is a very awkward one for the surgeon—is that in certain nervous and alcoholic subjects the anæsthesia is not complete. This difficulty, after all, can be overcome by giving chloroform or ether, which in this event act much more readily and in much smaller doses.

Conclusions.—1. Spinal cocainisation is absolutely free from danger. 2. Spinal cocainisation, by Tuffier's method, may be employed from 10 or 15 years of age up to extreme old age for all operations on parts below a line running horizontally across two fingers' breadth below the breasts, or we may take the eighth rib as the limit. 3. The drawbacks alleged against the method can be minimised by attention to the points referred to to such an extent as to render them quite negligible in view of the advantages—viz., absolute safety, suppression of operative shock, &c. 4. It is an excellent mode of inducing anæsthesia which has been unjustifiably decried and deserves to be practised under suitable conditions. 5. My experience with stovaine is not sufficient to enable me to formulate a definite opinion, but it is my intention in future to employ stovaine instead of cocaine in order to arrive at a trustworthy conclusion as to their respective merits.

SPINAL STOVAINISATION.

So far I have employed stovaine in 108 cases in patients between 18 and 71 years of age in doses of from 5 to 10

The Harveian Oration

ON

HEREDITY IN RELATION TO DISEASE.

Delivered before the Royal College of Physicians of London on Oct. 19th, 1908,

BY J. A. ORMEROD, M.D. OXON., F.R.C.P. LOND.,

ASSISTANT REGISTRAR TO THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, LONDON.

MR. PRESIDENT, FELLOWS OF THE COLLEGE, AND GENTLEMEN,—My first duty is to thank you, which I do most sincerely, for intrusting to me the very honourable, though very arduous, duty of delivering the Harveian oration this year. Such an honour must bring to the mind of any man—it certainly did to mine—first a feeling of pleasure and of pride, which I hope may be pardoned, and next a feeling of much anxiety and misgiving as to one's qualification for the task. For it is indeed a serious thought that ever since 1656, with but few intervals, this oration has been delivered by a long line of distinguished physicians who have vied with one another in holding up to admiration the life and work of the illustrious man whom we commemorate to-day. Certainly, had it been possible I should have wished to bring before you fresh facts about Harvey or to present some fresh aspect of his genius or his character. But that I cannot hope to do. For have we not already excellent lives of Harvey, two of them, at least, recently written, the work of skilful and sympathetic historians like Dr. Norman Moore and Mr. D'Arcy Power? And have not Harveian orators within our recollection elucidated fully the leading points and bearings of Harvey's work? Dr. George Johnson vindicated the originality of his great discovery; Sir Edward Sieveking brought before the College his rediscovered Lumleian lecture notes; Sir William Church has traced, from Harvey as its source, the rise of physiology in England; Dr. J. F. Payne has shown us the influence of Galen upon Harvey; Dr. Norman Moore and Professor William Osler have drawn for us brilliant word pictures of the man, his times, his friends, and his lectures at this College. Alas, that I cannot compete with them! that I have no fresh offering to lay on Harvey's shrine! and that I can only bow my head, as do we all, in memory of this great and good man, of his noble character, his transcendent genius, and his immortal discoveries.

But there are certain definite wishes expressed by Harvey about this oration. One is that there be "an exhortation to the Fellows and Members to search and study out the secrets of Nature by way of experiment." Now as to experiment in the limited sense of physiological experiment, may we not say that this wish has attained its consummation? No reasonable medical man, certainly no Fellow or Member of our College, would deny the greatness of the debt which medicine owes to experimental science. How far would the science and art of medicine have progressed without a knowledge of the circulation?—a knowledge which was obtained, as Harvey himself tells us, by experiment, by the vivisection of many animals. The interdependence of modern medicine and experimental science was shown by your orator of last year, Dr. Frederick Taylor, so fully that I need not tread that ground again. It is true that we cannot all be experimentalists either in physiology or in other branches of science. But there is no need to place that narrow limit on Harvey's words. Certainly he speaks to each and all of us; but I think he means to emphasise here, as he so often does elsewhere, the importance of independent individual research, whether by experiment or observation, as opposed to a blind or lazy submission to current theory and authority. Knowledge of other men's opinions he certainly did not underrate, for he was himself a most learned man; but he refused to let learning trammel investigation, and would not look at Nature through the distorting medium of a theory. And this frame of mind is as valuable now as then, and necessary, above all things, in the study of medicine; for of many medical theories one is tempted to say—

> "Our little systems have their day:
> They have their day and cease to be."

Another wish of Harvey is that there should be "a commemoration of all the benefactors of the College by name, with an exhortation to others to imitate these benefactors." As a benefactor who has not yet been mentioned in a Harveian oration, I ask you to honour to-day Dr. Charles Coates, a senior Fellow of our College, who has given a sum of £1000 towards providing some hospitable entertainment for our Members and Licentiates. This idea, suggested as I believe, Sir, by yourself, took a tangible form in the successful conversazione of last summer. Such hospitality is entirely consonant with Harvey's spirit, and that entertainment of the Members and Licentiates was the proper complement of the "general feast" which he instituted for the Fellows to-day.

Now the names of those benefactors who have founded lectures, scholarships, and prizes are recorded with all due particulars in the Annual List of the College, and are so well known to you that I need not recapitulate them. But besides these, and others than these, who have given money, lands, books, or other good things to the College, there are those who have devoted their time and talents to its service, or who have shed a lustre upon it by their learning, their discoveries, or their distinguished career. They also, in the truest sense, are benefactors of the College. I look in that invaluable book, Dr. Munk's "Roll of the College of Physicians," and I see first a long list of Presidents under whose care and devotion the College has thriven, reaching back from yourself, Sir, to our revered founder Linacre; next, men famous in science, physicists like Gilbert, Wollaston, Thomas Young, Arnott; chemists such as Prout and Alexander Marcet; naturalists and botanists such as Fothergill, William Pitcairn, Sir Hans Sloane; anatomists and physiologists, at whose head stands Harvey himself, Richard Lower, and such great names as those of Glisson, Havers, William Hunter, Wharton, Willis. There have been famous authors and men of letters—Sir Thomas Browne, the anniversary of whose birth and death is to day, Akenside, Arbuthnot, Garth, and (strange constrast) Stukeley the antiquarian, and many others well known for scholarship, learning, and literary talent. There are the great masters and discoverers in medicine, such as Sydenham, Matthew Baillie, Bright, Addison. And some have been also known for their simplicity of character, their high ideals, and their life of transparent goodness. Such, I think, must have been David Pitcairn, of whom Dr. Munk says that he was simple, gentle, dignified, and very kind of heart; and such William Babington, of whom the same authority says: "History does not supply us with a physician more loved or more respected"; and such an one was Peter Mere Latham—scholar, physician, inspiring teacher, eloquent writer, high-toned gentleman, devout Christian. I know that one of our Fellows, whose untimely death we all deplore, took Dr. Latham, though he never saw him, for his model and example.

These are but a few of the many noble figures which fill the great pageant of our past. But need I, Sir, say more? for I am sure that Fellows of the College know so well the lives and works of our illustrious predecessors that for an "exhortation to imitate them" it will suffice to have recalled their names.

Many of my predecessors in this office have varied the theme of their Harveian oration by introducing into it some subject of general medical interest, and I ask your leave, Mr. President, to follow their example. I desire to direct attention to the great subject of heredity, and in particular heredity in relation to disease. A distinguished German physician has said "There are no inherited diseases." We need not argue that, for we should all admit that heredity has much to do with the production of disease. Now of that mysterious thing inheritance I need only say that it lies at the very root of our being both as individuals and as a race, as indeed is recognised in the proverbs and the religions of all nations. "Fortes creantur fortibus," said Horace. "The fathers have eaten sour grapes and the children's teeth are set on edge." The Chinese worship their ancestors, and there are words familiar to ourselves concerning a visitation "unto the third and fourth generation."

This year, too (1908), is the fiftieth anniversary of the paper instruments for tracheotomy and several large catheters. Upon arrival I found the patient propped up in a sitting posture in bed. Her face was dusky and there were greatly increased stridor and dyspnœa with intercostal recession during inspiration and she was losing consciousness. I injected five minims of solution of strychnine, opened the mouth and separated the teeth with a gag, and guiding with a finger passed a No. 10 catheter (with the eye cut off) down the trachea several inches. This was immediately followed by respiratory relief and return of consciousness and loss of duskiness. The temperature was subnormal and the pulse very slow and was hardly felt. I again injected five minims of solution of strychnine, applied hot fomentations and mustard poultice to the præcordia, and sent for my partner. After a short time the catheter became blocked with mucus and respiration became embarrassed; it was necessary to remove the catheter and to replace it with a larger one, a No. 12; in the short time taken the patient became unconscious and the respiration ceased. The lungs were inflated by blowing down the catheter, when the respiration recommenced as well as partial return of consciousness. By this time my partner had arrived and we decided that tracheotomy should be performed at once, the high operation, and a tube passed down beyond the obstruction, as owing to the turgid state of the vessels of the neck it would be very risky to attempt the division of the isthmus until after respiration was restored. The father and relatives, however, could not possibly be persuaded to allow anything in the way of an operation, notwithstanding the desperate urgency of the case, although several attempts were made to induce them. The patient was again showing signs of increased difficulty in breathing on account of the accumulation of mucus in the catheter, and becoming much worse strychnine was again injected and artificial respiration was resorted to. The father was once more appealed to and after some delay his consent was given to operate.

The patient was now quite unconscious. I immediately performed tracheotomy, quickly removed the catheter from the mouth, and inserted a tracheotomy tube in the trachea, passing through it a No. 14 catheter. The patient had now ceased to breathe and the lungs were inflated several times by blowing down the catheter and artificial respiration was continued for some time, but unfortunately without any response; the heart now ceased beating. After some little time the tube was removed and the wound and trachea were carefully examined; the obstruction was situated opposite and below the isthmus. There was no sign of diphtheritic membrane.

In this sad case two things might well be considered. First, did the iodide of potassium and the syrup of iodide of iron cause contraction of the gland so as to increase the pressure upon the trachea and increase the irritation of the recurrent laryngeal nerve? I hardly think so as I have successfully treated several other cases of simple goitre in the same manner, as it is very common in this part of Sussex. Secondly, the fact that the heart was still to be heard beating, although very slowly (the pulse at the wrist was imperceptible), led me to hope that there might have been some response after the tube was inserted and the lungs inflated and artificial respiration resorted to for some time. But the gradually progressing slowness of the pulse noted from the first appears to point to cardio-inhibitory action being the real cause of death, which might have been relieved by division of the isthmus in time, and perhaps should have been done at once, after the tube had been introduced. Most unfortunately, the patient was practically moribund before permission to operate was obtained.

As these cases are rare and there is very little literature on the subject it would be instructive to hear the experience of others.

Cowfold, Sussex.

HOSPITAL SUNDAY AT EXETER.—Oct. 18th, St. Luke's Day, was celebrated as Hospital Sunday at Exeter Cathedral, when collections were made for the Royal Devon and Exeter Hospital. The committee, staff, and governors of that institution met the mayor and other representatives of civic bodies at the Guildhall and walked in procession to the cathedral to attend the afternoon service.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Malformation of the Urethra in the Fœtus as a Cause of Dystocia.—Uterine Fibroid showing Peritheliomatous Changes.

A MEETING of this section was held on Oct. 8th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. JOHN EVAN SPICER read a paper on Malformation of the Urethra in the Fœtus as a Cause of Dystocia, with some considerations on secretion of urine in the fœtus. Photographs and drawings of a six months' fœtus delivered by Dr. Spicer were shown and the clinical history was given. This fœtus was found to have imperforate urethra and enormous dilatation and hypertrophy of the bladder. Diagnosis and treatment of such cases were reviewed in the light of about 70 other cases collected from the literature of the last 100 years. After a short summary of an exhaustive dissection of the fœtus Dr. Spicer proceeded to discuss the results of imperforate urethra in the fœtus and said that in itself the atresia in no way interfered with the general growth in utero, nor did it of necessity create other complications in utero which rendered the life of the newly born infant impossible. It became dangerous in utero only in the presence of a large secretion of fluid by the fœtal kidney, and such secretion he believed to be pathological. The fœtal kidney normally allowed the filtration of a small quantity of watery fluid but the amount was insignificant. The kidney was not employed as an excretory organ in utero unless a breakdown occurred—partial or complete—in the normal mechanism, by which the mother performed the whole of the excretory function of her child. That mechanism depended on the integrity of the combined circulation and was amply provided for through the placenta. A physiological breakdown might be said to occur with the onset of labour, beginning perhaps some little time previously, so that children were often born with urine in the bladder. The kidney, like the other major organs, though capable of carrying on post-natal functions of a sort at an earlier date than the tenth lunar month if necessity demanded, remained in abeyance during fœtal life. The effect of accumulation of fluid in the fœtal bladder depended on the amount, the rate, and the date of secretion, and especially on the possibility of evacuation. Hypertrophy and dilatation of the bladder wall could only arise where there was an actual or virtual means of exit for the contained fluid.—The PRESIDENT said that without further consideration he did not feel inclined to give up the view which he had long held, that the fœtus normally secreted urine and passed it into the liquor amnii during pregnancy. He had met with at least half-a-dozen cases of stenosis of the ureters in stillborn children in which the ureters were distended with urine above the obstruction; in one case the distended ureter gave rise to dystocia. When the kidneys were absent the liquor amnii had been observed to be very scanty. With regard to the statement that the fœtal secretions remained in abeyance till birth, it was certainly not true of the vaginal or uterine secretions, for he had found the vagina and body of the uterus greatly distended when the outflow of mucus was obstructed by stenosis or by tumours.—Mr. ALBAN H. G. DORAN observed that quite recently a case of oligohydramnion had been reported where both kidneys were absent in the fœtus and the bladder was empty. The suprarenal bodies were hypertrophied. The absence of the kidneys was held to support the theory that the liquor amnii was mainly supplied by the fœtus but Mr. Doran doubted if Dr. Spicer or any other competent obstetrician would be convinced on the evidence of a single case.—Dr. W. S. A. GRIFFITH said that the records of these cases showed that imperforate urethra was not necessarily followed by distension of the fœtal bladder and he was prepared to accept Dr. Spicer's view that interference with the normal secretory apparatus of the fœtus through the placenta was the cause of renal activity before birth and that this activity during intra-uterine life was therefore pathological. The class of cases which he believed Dr. Spicer had not referred to in his paper was that of

The Harveian Oration

ON

HEREDITY IN RELATION TO DISEASE.

Delivered before the Royal College of Physicians of London on Oct. 19th, 1908,

By J. A. ORMEROD, M.D. Oxon., F.R.C.P. Lond.,

ASSISTANT REGISTRAR TO THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, LONDON.

Mr. President, Fellows of the College, and Gentlemen,—My first duty is to thank you, which I do most sincerely, for intrusting to me the very honourable, though very arduous, duty of delivering the Harveian oration this year. Such an honour must bring to the mind of any man—it certainly did to mine—first a feeling of pleasure and of pride, which I hope may be pardoned, and next a feeling of much anxiety and misgiving as to one's qualification for the task. For it is indeed a serious thought that ever since 1656, with but few intervals, this oration has been delivered by a long line of distinguished physicians who have vied with one another in holding up to admiration the life and work of the illustrious man whom we commemorate to-day. Certainly, had it been possible I should have wished to bring before you fresh facts about Harvey or to present some fresh aspect of his genius or his character. But that I cannot hope to do. For have we not already excellent lives of Harvey, two of them, at least, recently written, the work of skilful and sympathetic historians like Dr. Norman Moore and Mr. D'Arcy Power? And have not Harveian orators within our recollection elucidated fully the leading points and bearings of Harvey's work? Dr. George Johnson vindicated the originality of his great discovery; Sir Edward Sieveking brought before the College his rediscovered Lumleian lecture notes; Sir William Church has traced, from Harvey as its source, the rise of physiology in England; Dr. J. F. Payne has shown us the influence of Galen upon Harvey; Dr. Norman Moore and Professor William Osler have drawn for us brilliant word pictures of the man, his times, his friends, and his lectures at this College. Alas, that I cannot compete with them! that I have no fresh offering to lay on Harvey's shrine! and that I can only bow my head, as do we all, in memory of this great and good man, of his noble character, his transcendent genius, and his immortal discoveries.

But there are certain definite wishes expressed by Harvey about this oration. One is that there be "an exhortation to the Fellows and Members to search and study out the secrets of Nature by way of experiment." Now as to experiment in the limited sense of physiological experiment, may we not say that this wish has attained its consummation? No reasonable medical man, certainly no Fellow or Member of our College, would deny the greatness of the debt which medicine owes to experimental science. How far would the science and art of medicine have progressed without a knowledge of the circulation?—a knowledge which was obtained, as Harvey himself tells us, by experiment, by the vivisection of many animals. The interdependence of modern medicine and experimental science was shown by your orator of last year, Dr. Frederick Taylor, so fully that I need not tread that ground again. It is true that we cannot all be experimentalists either in physiology or in other branches of science. But there is no need to place that narrow limit on Harvey's words. Certainly he speaks to each and all of us; but I think he means to emphasise here, as he so often does elsewhere, the importance of independent individual research, whether by experiment or observation, as opposed to a blind or lazy submission to current theory and authority. Knowledge of other men's opinions he certainly did not underrate, for he was himself a most learned man; but he refused to let learning trammel investigation, and would not look at Nature through the distorting medium of a theory. And this frame of mind is as valuable now as then, and necessary, above all things, in the study of medicine; for of many medical theories one is tempted to say—

> "Our little systems have their day;
> They have their day and cease to be."

Another wish of Harvey is that there should be "a commemoration of all the benefactors of the College by name, with an exhortation to others to imitate these benefactors." As a benefactor who has not yet been mentioned in a Harveian oration, I ask you to honour to-day Dr. Charles Coates, a senior Fellow of our College, who has given a sum of £1000 towards providing some hospitable entertainment for our Members and Licentiates. This idea, suggested as I believe, Sir, by yourself, took a tangible form in the successful conversazione of last summer. Such hospitality is entirely consonant with Harvey's spirit, and that entertainment of the Members and Licentiates was the proper complement of the "general feast" which he instituted for the Fellows to-day.

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Many of my predecessors in this office have varied the theme of their Harveian oration by introducing into it some subject of general medical interest, and I ask your leave, Mr. President, to follow their example. I desire to direct attention to the great subject of heredity, and in particular heredity in relation to disease. A distinguished German physician has said "There are no inherited diseases." We need not argue that, for we should all admit that heredity has much to do with the production of disease. Now of that mysterious thing inheritance I need only say that it lies at the very root of our being both as individuals and as a race, as indeed is recognised in the proverbs and the religions of all nations. "Fortes creantur fortibus," said Horace. "The fathers have eaten sour grapes and the children's teeth are set on edge." The Chinese worship their ancestors, and there are words familiar to ourselves concerning a visitation "unto the third and fourth generation."

This year, too (1908), is the fiftieth anniversary of the paper practically normal. One section showed the head very beautifully and this, with others, was submitted to Mr. A. E. Shipley who thought that the parasite was the larva of either the blow-fly or of sarcophaga carnaria or sarcophaga magnifica. The ova of the blow-fly, or the larvæ of sarcophagidæ, were sometimes deposited in the nasal passages and other channels leading outward in man, and also on the conjunctiva in purulent cases. It was suggested that the larva might work its way from the conjunctival sac directly through the thin sclerotic of a child into the interior of the eye, or if deposited in the nostril might find its way by the nasal duct to the lacrymal artery and thence into the eye by way of the central retinal artery, or of one of the ciliary arteries. The possibility of this larva being that of hypoderma boris, of which there were two recorded cases in man and one in the horse, must not be overlooked, since the larva of this fly was of necessity parasitic in mammalia.—A discussion followed.

Mr. N. BISHOP HARMAN read a paper entitled "Six Generations of Piebalds." He showed a chart of the pedigree of a family in which there was a striking and continuous inheritance of certain skin and hair markings. Some of the members of the family were shown at the meeting. The features were: a white forelock, a white patch of skin spreading from beneath this lock of white hair down the centre of the forehead, and in some cases patches of white skin about the trunk or legs. The white tissues were appreciably more delicate than the normal skin and hair. The colour of the ordinary hair ranged from a light brown to a deep brown, almost black. There were no other abnormalities. The connexions of this family had been ascertained for six generations: of these, four were living. The generations comprised 34 childships and 138 individuals. Of the childships, nine showed the inheritance in direct descent. Mr. Harman considered the anomaly to be in the nature of a partial albinism. He discussed the nature of this family history in relation to the inheritance of disease by one or other sex and to the law of inheritance as propounded by Mendel.

Cases and specimens were shown by Dr. A. MAITLAND RAMSAY, Mr. SYDNEY STEPHENSON, Mr. J. B. LAWFORD, Dr. A. OGILVY, Mr. A. C. HUDSON, and Mr. C. WRAY.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Cerebro-spinal Meningitis in the Northern Territories of the Gold Coast.

A MEETING of this society was held on Oct. 16th, Sir PATRICK MANSON, *the President, being in the chair.*

Dr. A. E. HORN read a paper on an Investigation of Cerebro-spinal Meningitis in the Northern Territories of the Gold Coast. He said that serious outbreaks of cerebro-spinal meningitis had occurred in West Africa at intervals during the last 50 years. After giving the history of the present epidemic, which started about the end of October, 1907, Dr. Horn pointed out that the bacteriological characteristics agreed almost entirely with the main characteristics of Weichselbaum's diplococcus intracellularis meningitidis, otherwise known as micrococcus meningitidis cerebro-spinalis, or more shortly as the meningococcus, which had been shown to be the cause of the recent epidemics in Ireland, Scotland, and the continent, and to be the cause of epidemic cerebro-spinal meningitis in West Africa. There were other properties of the meningococcus of Weichselbaum which were of minor importance to the bacteriologist but of great importance in dealing with the disease which it produced; for instance, its vitality, its power of resisting desiccation, its pathogenicity on animals, its power of agglutinating with the serum of persons suffering from cerebro-spinal meningitis, its resistance to disinfectants, its methods of transference from one person to another, its power of producing immunity—all of which had been, and were still being, investigated but about which there was still considerable doubt. Experiments tended to show that the vitality of the meningococcus was not great; that it was easily destroyed by a comparatively low temperature and by desiccation, as cultures spread on cloth and dried at the ordinary temperature in daylight (not in direct sunlight) for 24 hours failed to survive. It had been practically proved by investigators in the epidemics of Europe that the meningococcus lived and was transported in the mucus of the naso-pharynx of "contacts," or persons who had been in close association with the disease, and the germ had occasionally been recovered from such sites. In regard to treatment, Dr. Horn said that the use of drugs was practically confined to the alleviation of symptoms, and he could not discover that any drug had any effect on the course of the disease. An early calomel purge and a counter-irritation in the form of liquor iodi or liquor epispasticus over the cervical spine gave some relief to the headache; cardiac tonics and stimulants were advisable early, and phenacetin and caffeine were of some temporary use if the temperature was unduly high. Alteratives, such as mercury and potassium iodide, were perfectly useless and the only drug which gave any considerable relief was opium in the form of liquor morphinæ or chlorodyne. Spinal puncture in the lumbar region and the removal of as much spinal fluid as would flow away of itself without aspiration probably relieved cerebral pressure and certainly relieved symptoms for a time in some cases. The steps of this small operation need not be described, he thought, but the needle used should be about 3½ inches long for comfortable use on an adult and about 2½ inches for a small child, and they should be of good calibre. He had usually found that the needle penetrated the spinal canal at a depth of about 2½ inches in the adult and about 1–1½ inches in the infant, but that naturally depended on the muscular development; fluid generally flowed freely as soon as the needle entered the canal but should it not do so a stylet might be passed down the needle to clear it of any possible clot; it was frequently clear and limpid in severe cases of the disease. Anti-meningitis serums had not been tried on any cases in West Africa; their preparation and use required the utmost care and skill and conditions of surgical cleanliness which were at present unattainable so far from the coast as the infected districts of the Northern Territories. In Europe at least three separate kinds of such serum had been tried and discarded as of no avail, but recently a serum had been prepared by Flexner and Jobling of the Rockefeller Institute for Medical Research, New York, which had been tried in the Belfast epidemic apparently with good results, the mortality being reduced from 72 per cent. to about 25 per cent. Judgment as to its proper value must be withheld until further results were known, but it was possible that a serum of this nature might be of considerable value in West Africa in any future epidemic if it could possibly withstand the journey and climate. The diagnosis was usually clear but might be doubtful in subacute or chronic forms and in atypical cases. Constant headache, usually occipital, some stiffness of the neck with possibly very slight retraction of the head and tendency to orthotonos, and pain or hyperæsthesia over the spine were usually found. Kernig's sign was of great importance and pathognomonic of meningitis, but he had seen undoubted cases in which it had been very slightly marked or absent. The knee-jerk was frequently difficult to obtain in natives, but if exaggerated in one or both legs was worthy of consideration in conjunction with other symptoms as confirmative evidence. Ocular symptoms, such as ptosis or momentary spasmodic squint, should be looked for. Spinal puncture and the recognition of the meningococcus would settle the diagnosis. The history of the case and the presence of others with more marked symptoms would probably help, especially in such cases as infantile pneumonias. The symptoms of the malignant form were very like those of siriasis or sunstroke, but apart from the fact that these cases occurred mostly before the hottest part of the year (March to April), the dry climate of the dry season, the comparatively open country about 500 miles from the coast line, and the altitude (about 1000 feet above sea level) rendered it unlikely that sunstroke was the cause, while the presence of cerebro-spinal meningitis in other forms left little doubt that the symptoms were due to the latter. The steps taken to limit so far as possible the spread of the epidemic were:—1. Notification by the chiefs of the villages to the nearest medical officer of all cases of sudden death and of increase in the rate of mortality among their people. 2. Isolation hospitals, temporary or permanent, were erected in stations in suitable places, roughly in the infected districts, because it is contrary to theory and because we know of no mechanism whereby the body cells could communicate their modifications to the germ plasm. But ought the door to be slammed in the face of further inquiry? Is there not still here a legitimate field for observation?

At first sight there appears to be a glaring instance of such transmission—that is, syphilis—but this is dealt with as follows. Either the child imbibes the virus in utero by the placenta from an infected mother—this is evidently an antenatal infection rather than inheritance—or else the virus is introduced by the sperm cells of the father at the very moment of conception; this, again, whatever it may appear to us, is to the biologist not inheritance but an infection of still earlier date than the last. Similarly, it is denied that there can be a true inheritance of any microbic disease whatever. Suppose we assent to that, yet susceptibility to such diseases, in either a plus or minus direction—that is, proclivity to them, or power of resistance to them—may be inherited. And may not such susceptibility be first acquired and then transmitted? When measles appeared in Fiji for the first time its ravages were far more severe there than among ourselves with whom it has long been endemic. The simplest explanation of this (I know there are others) seems to me to be that we have acquired and then perpetuated some degree of resistance to the disease. Suppose that a man of healthy stock acquires phthisis, will his children be more prone to phthisis or no? Our treasurer in his "Treatise on Gout" says "the fact of acquired gout must be accepted." Suppose, then, a man of healthy stock acquires gout, are his children likely to be gouty? Suppose, again, that a man in consequence of a blow on the head becomes, like Brown-Séquard's guinea-pigs, epileptic, is there any risk that his children will be epileptic? Suppose that a man has syphilis in early life and later becomes a general paralytic, ought we to feel more anxious about the mental future of children begotten during his last illness than about that of his earlier ones?

I confess for myself that I do not know the answer to these questions, but I think that there are those among my audience whose experience could supply it and who are well qualified to "search and study out this secret of nature," whether acquired diseases are in any degree transmissible to our children or no?

I must now refer, though in the briefest possible way, to the work of Mr. Francis Galton, Professor Karl Pearson, and those others who have enriched the study of heredity by the method of statistics, if only to express my admiration for their arduous labours. It may be that statistics do not appeal so forcibly as they ought to do to the medical man, because he has principally to deal with individuals. Neither have statistical methods, so far as I know, been largely applied as yet to the subject of heredity in disease. But nevertheless the general principles evolved from them must have their application for us. Thus the "law of ancestral inheritance" reminds us that we are hybrids—mongrels in an extreme degree—or to put it more pleasantly, that our inheritance is very composite, a patchwork or mosaic pieced together from the characters first of our two parents, next of our four grandparents, and then in a diminishing ratio from an almost infinite number of ancestors, who probably included all sorts and conditions of men. Secondly, the "law of filial regression or correlation" declares that although children resemble their parents in the main, nevertheless unless constant attention be given to breeding, there is a tendency among the descendants of any individual parent to smooth out any striking peculiarities he may have possessed, and to bring them, whether it be upwards or downwards, to the average level of his multitudinous ancestry. So that the average man cannot hope to escape mediocrity, unless, as the saying goes, he has been very careful in the choice of his ancestors.

But the mention of the word hybrid naturally leads our thoughts to the discoveries of Mendel. Now were romance permissible in a Harveian oration it might well be evoked by the story of Gregor Johann Mendel, peasant-born, priest by vocation, yet a student of science, and a man of rare scientific insight, whose life was spent as priest and as abbot at the monastery of Brünn, and whose leisure was spent in the study of hybridisation of plants. He died in 1884, unknown to scientific fame, and his work, buried in the proceedings of a local scientific society, was like to have died with him; but it has been disinterred in this century by those who recognise in it the hand of genius and compare it in importance to the work of a Newton or a Dalton.

It is to Professor Bateson that we in this country are chiefly indebted for the exposition and elaboration of Mendel's work. The principles of Mendelism, as it is now called, are admirably summarised in a little book by Mr. R. C. Punnett; I shall borrow from him and not tax your patience long.

Mendel showed that in the study of inheritance it was possible to select certain simple characters whose nature was more or less opposed, such as tallness and dwarfism, roughness and smoothness, colour differences and the like. These could be studied apart from other characters, and were found by him to behave in a definite way, as follows. Suppose a plant which is of a pure tall breed is fertilised from a similar breed, the resultant offspring is of course the same—viz., pure tall; and from a pure dwarf breed treated in the same way the results are pure dwarfs. If a pure tall, however, be fertilised from a pure dwarf, the result must be a generation of hybrids; and one might expect them to be of medium height. But this is not the case, they are all tall. It looks as if the tallness had swamped the dwarfism, so that we may call the tallness a dominant character and the dwarfism a recessive character. But though these hybrids are tall in appearance, the dwarf element has not wholly disappeared, it remains in respect of their powers of propagation. For if these tall hybrids be interbred together the dwarfism comes out again in their progeny, so that in the third generation there are some tall, some dwarf. Moreover, there is in this third generation a definite proportion between the two varieties—namely, three tall to one dwarf; or, to speak more accurately (as can be proved by further interbreeding), one pure tall, two hybrids which appear tall, and one pure dwarf. The theoretical interpretation of these facts is that the pairs of characters which behave in this way (allelo-morphic pairs as they are termed) do not blend in the germ cells or gametes, but that each gamete carries either one of the characters or the other; and further, that the difference between a pure breed and a half-breed is this, that in a pure breed all the gametes carry one of the characters to the complete exclusion of the other, while in a half-breed half the gametes carry one character and half carry the other.

Mendel made his classical experiments on plants; they have been repeated by other observers not only with plants but with many forms of animals—e.g., insects, snails, poultry, pigeons, rats, mice, and rabbits; and many characters have been studied from this point of view. One result may be quoted as specially interesting to physicians. It is that when a certain species of wheat which is very susceptible to the ravages of a fungus which causes "rust" is crossed with another species which is not susceptible, the immunity to rust which reappears in the resulting strains of wheat distributes itself in the Mendelian proportion. This suggests the possibility that something of the same sort may hold with respect to our own susceptibilities to disease, and raises the very questions which interest us most. For we want to know whether Mendelian laws are applicable to man, to his normal characteristics, and to conditions of disease, and how far they are applicable.

This question cannot be answered completely. Observations have been made (many of them I imagine under the inspiration of Professor Bateson) on various points, such as the colour of the iris by Mr. Hurst; hereditary diseases of the eye, such as congenital cataract, night blindness, and colour blindness by Mr. Nettleship; hæmophilia; albinism; alkaptonuria by Dr. Garrod; hereditary deformities of the limbs by Farabee and Drinkwater. Dr. Gossage has rightly drawn attention to the importance of hereditary diseases of the skin, which are easily observed, and has himself investigated the condition known as tylosis of the hands and feet. It would appear that in some cases the Mendelian proportion works out; in enough, perhaps, to encourage further research, but I do not know whether more can be definitely said. The difficulties are sufficiently obvious. The only method of inquiry at present open seems to be the patient collection of pedigrees; experiment is possible with plants and animals but not with mankind. We cannot pick parents to breed from. The pedigrees, too, must be complete, not only as to the number of diseased people but also as to the number of the normals, since the proportion between the two is a vital point. A pedigree should embrace at before it began to be ill adapted for its purpose. It became law in 1876, and it was in 1878 that Pasteur took part in that memorable discussion in the French Academy of Medicine on puerperal fever. Henceforward, of course, began the rapid increase of the number of experiments on animals which has risen continually ever since. In 1875 the evidence before the Royal Commission had mostly been technical, abstruse, occupied mainly with physiology, and hardly intelligible to the general reader. In 1906 the whole world was interested in bacteriology; public imagination had been caught and fired by the work of Pasteur and of Lister and of Koch. The discovery of diphtheria antitoxin and of thyroid extract, the mapping out of the motor areas of the brain, the protection of sheep and cattle against epidemic diseases, appealed to everybody. Then, above all, came the news of what was being done in tropical medicine. Men were taking their lives in their hands, and some of them had lost their lives, in India, on the Gold Coast, or in the Uganda Protectorate. Expedition after expedition was going out from Liverpool, more romantic than any adventurer in the days of Elizabeth, and infinitely more beneficent. How they fought the plague in India, how they stamped out the yellow fever in Havana, the malaria wherever the malaria was, and what they did for Texas cattle fever and for the tsetse fly disease—all these mighty works were read and believed. In brief, the works of science had come down at last, out of the laboratories, into the national life and the national conscience; and every man of science who had watched these wonders in the making, or had something to do with the making of them said, "Now, at last, this country is beginning to understand what it owes to experiments on animals. And we will use this Royal Commission for the education of the public; they shall have chapter and verse for everything; they shall have, for the first time in their lives, a careful and complete history of the Thirty Years War against disease." In brief, the men of science welcomed the present Commission with gladness because it was so exactly the very thing that they wanted. They had so much to tell the Commission, so many things that they wished to get into the public mind, that they had to be very careful to avoid the overlapping of evidence and all waste of precious time; so, on the appointment of a Commission a meeting was held of representatives of some 60 or 70 scientific or medical societies, and from these representatives a small executive committee was formed, with Professor Starling as chairman. It was the business of this committee to divide the whole history of modern experiments on animals, giving each witness a part of it; to be in recognised correspondence with the Royal Commission; and to watch and record the whole course of the inquiry. We owe it to Professor Starling's committee that the public possesses, in five large Blue-books, a most admirable history of all experimental medicine in this country back to the days of the 1875 Commission. Then when the present Commission, having sat from October, 1906, to March, 1908, and heard no less than 21,761 questions and answers, decided that they did not desire any further evidence, it seemed a pity that Professor Starling's committee should come to an end. There was need, so it seemed, for some association or society which should permanently remind the public of these facts about experiments on animals and should steadily oppose the antivivisection societies. Such a society might, it seemed, do good work without interfering in any way with the work of the Association for the Advancement of Medicine by Research. That association is privileged to advise the Home Office, and by virtue of that privilege is not a public or militant body. Therefore, at a meeting of Professor Starling's committee in January of the present year the Research Defence Society was founded. It began with seven members, which was a lucky number. It has now, October 8th, 1472 members, of whom 158 are ladies.

[Mr. Paget continued by describing the aims of the Research Defence Society which he said was first and foremost a society for telling the truth about a very important set of facts which have been saturated with falsehood. It existed to disseminate practical advice amongst the people in the interests of the national health, but especially to combat the mis-statements and slanders of the many antivivisection societies which had now for 30 years been fighting so hard not only against science but among themselves, and had received not much less than £80,000 and had accomplished next to nothing. He continued:] Against these societies, we now have a society which may truly be called representative of the collective good feeling, philanthropy, scientific mind, and passionate respect for plain facts which are no less admirable than our care for animals, and are even more necessary for the health and the strength of the national conscience. Thus, at last, we come to the work of the Research Defence Society. Its work is not only to defend the practice of research but to defend the honour of research. Our men of science have been grossly and most impudently insulted, and we are not going to stand that any longer. The British public is sick to death of hearing Pasteur called a torturer and Lister called a fool: sick to death of the platform facts, the placards, the public meetings, and quarrelling, and the incessant begging of these antivivisection societies. They have gone too far, they have talked too much, and at last they have defeated their own ends and everybody has got tired of them. The work of the Research Defence Society, therefore, is mostly, if I may dare to use the word, apostolic. It is willing always to send a representative to any straightforward debate, and even to meet at such a debate the representative of an antivivisection society. Only it draws the line, very properly, at accepting challenges from antivivisection societies or at arranging debates with them. It is also willing to arrange with any literary society or institute for the giving of a lecture or address which would be open to fair discussion. But its more immediate daily business is the sending to all applicants of the pamphlets and the leaflets already issued. Bound copies of these pamphlets have lately been sent to all the chief public or educational libraries in London and in our great provincial towns. But, of course, it is nothing to send a book to a public library in a place like Manchester or Bournemouth. What is everything is a branch society in every great town in England, spreading in that town a more general knowledge of the facts about experiments on animals. Finally, as it is the privilege of a new society to be ambitious and to look far afield for the extension of its work, so the Research Defence Society has been in communication with some of the most eminent American physicians and surgeons; and steps have now been taken in regard to the formation of a Research Defence Society in the United States.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Oct. 15th, Mr. D'Arcy Power, the President, being in the chair.—The proceedings commenced with a discussion on two proposed alterations in the rules of the society: 1. It was proposed "that smoking be allowed at ordinary meetings." This motion on being put to the vote was not carried, a majority of members voting against the suggested change. 2. It was proposed "that gentlemen who possess a dental diploma of the United Kingdom and who are on the Dental Register shall be eligible for membership of the society." This motion was carried and the rules of the society will be amended accordingly.—The President then showed a case in which he had Removed the Spleen by Operation, the spleen having been ruptured by an abdominal injury. The patient had made a complete recovery.—Dr. Sidney P. Phillips showed a case of Left Hemiplegia in a boy. There were complete optic atrophy and choroiditis with blindness. There was marked athetosis on the left side and defective articulation was present. The condition was the result of cerebral thrombosis associated with congenital syphilis.—Dr. Phillips also showed a case of Transverse Myelitis in a boy. The lesion was in the lower dorsal region. The patient had much improved under treatment and was now able to walk. Spastic paraplegia and incontinence were still present.—Dr. W. H. Willcox showed a case of Hæmophilia in a man, aged 26 years. The patient had been under treatment for five years. Unless calcium and magnesium salts were given from time to time the coagulability of the blood fell to below the normal and bleeding occurred. The attacks of bleeding were now less frequent and much less severe.—Dr. Willcox also showed a case of Hæmoptysis in a boy whose brother suffered from hæmophilia. The patient had apical pleurisy and also some slight pleurisy in the left axilla. It was thought that the hæmoptysis was due to pulmonary tuberculosis and not to hæmophilia.—Cases were also shown by Sir John Broadbent, disease which must have existed potentially all his life. The date of onset may be influenced, too, within limits, by family proclivity or circumstances; in a series of brothers and sisters it often repeats itself.

Now, though the presence of a definite organic lesion and a progressive downward course are the rule for these complaints, this is not so for all of them. Contrast the hereditary chorea of Huntington, which is fatal and in which lesions of the cortex have been found by Michell Clarke and others, with family tremor, which is not necessarily progressive and for which we know no anatomical basis. Contrast, too, in this respect, muscular dystrophy which may slowly reduce a patient to the condition of a living skeleton with the perverted condition of muscular contraction known as myotonia congenita or Thomsen's disease.

Notice, too, that most remarkable family disease called "periodic paralysis," in which the patient experiences recurrent attacks of paralysis, so complete that even the electrical reactions of the muscles disappear; yet the attack passes off and he is well in the intervals. This affection has been traced back through as many as five generations. There can hardly be a gross lesion; and the suggestion has been made that some poison is at work, perhaps produced by the patient's own faulty metabolism; an "inborn error of metabolism," like those with which our Croonian lecturer, Dr. A. E. Garrod, has made us acquainted.

In these family nervous diseases the curious phenomenon of sex limitation is sometimes seen, and generally in this sort, that females are themselves not affected, yet they transmit the disease. This was pointed out, I think, by Sir William Gowers, in pseudo-hypertrophic paralysis, and in the remarkable pedigree of peroneal atrophy published by Dr. W. P. Herringham in 1889 it is a striking fact. Yet in peroneal atrophy it is certainly not the rule; and in sundry other family diseases I do not think it occurs at all.

Lastly, as to the essential nature of these diseases. They have been called family diseases, if I mistake not, in order to avoid the distinct assertion that they are hereditary—i.e., *transmitted from ancestors*. But why should we not assert this? It is true that such disease may break out in a family of brothers and sisters without obvious ancestral taint; but in all these instances there is an absence of other sufficient cause, and they can be supplemented by quoting other families in which we know the disease to have been handed down. How, too, when *cousins* are affected? The common cause must then lie further back than the parents or the upbringing of one particular family. Indeed, if we refuse to call these complaints hereditary because we cannot always trace the heredity we should on the same ground refuse to call them family affections. For we often meet with isolated instances, sporadic cases where only one member of a family is affected. This is surprisingly frequent in Friedreich's disease. Still, it is a strange thing to witness, when a disease, hitherto unknown in a family, arises without apparent cause, and involves in a progressive paralysis one after another of the brothers and sisters. What shall we call it? is it a "mutation," a biological "sport"? Is the germ plasm just trying a change, stimulated, it may be, by some untoward circumstance, such (let us say) as alcoholism in the father? Or shall we suppose that the disease has been in the ancestry all along, but hidden away as a "recessive" character, so that if we could push our researches far enough back we might find it? Let us remember the remarkable account given by Rutimeyer where no less than *four families of cousins* (in various degrees) were affected by Friedreich's disease, a sure enough indication that there was some ancestral taint. Yet no case could be found among the ancestry till in the fifth generation a record was found of their common great-great-great-grandfather who, on account of his unsteady gait, had been nicknamed the "Stumbler."

As to the actual pedigrees of these family paralyses we are beginning now to acquire some tolerably complete ones, and it might be thought that this is just the class of disease which would lend itself to a Mendelian explanation. But I understand that there are considerable difficulties about this: so much, indeed, that it has been suggested that parental infection and not heredity is the real cause. But what infection could pass down for several generations, sometimes skipping a generation, sometimes limiting itself to the male sex? For myself I cannot imagine that, and I think that the key to this lock must be provided by the laws of heredity, whatever these laws may be.

But I fear, Sir, that in pursuing the subject of heredity I have already wandered too far. How shall I, in conclusion, come back to Harvey and to the College which he loved so well? Harvey himself in the presence of a great subject did not shrink from metaphor. He spoke of bodily conceptions and of conceptions of the mind almost as if they were one, and in speaking of the generation and inheritance of ideas he says Democritus and Eudoxus "impregnated" Epicurus and the four elements of Empedocles Aristotle. Is it, then, too fanciful to ask, How does this College reproduce itself and what laws of inheritance are at work within it from generation to generation? Now we are told that Nature has reserved the work of reproduction to herself and left parents little to do in determining the inborn characteristics of their offspring, but we in this College have the privilege of actually choosing our successors. This inestimable privilege we delegate to no one, not even to a body of examiners, and we choose our new Fellows by coöption, the best of methods when well exercised, the worst when exercised badly. Rightly, then, are we reminded each year of the responsibility which rests upon each of us in this respect, and rightly is that meeting of the Council in which recommendations for the Fellowship are winnowed out held to be of supreme importance. Is there then no continuity in the successive generations of the College? Does each depend on the mere caprice or individual likings of its predecessor? No; for we, too, have our "germinal plasm" which is continuous and everlasting; I mean *the noble principles upon which the College is founded* and by which it has ever been maintained—zeal for the pursuit of truth whether in medicine or in other science; the dedication of knowledge thus acquired to the relief of human sickness and pain; *self-effacement in the interests of* the profession and of the College to which we belong; and, above all, the spirit of unity and amity. For Harvey's last and best exhortation is "to continue in mutual love and affection among ourselves"; an exhortation which he enforces with the weighty words: "Concordiâ res parvæ crescunt, discordiâ magnæ dilabuntur."

An Inaugural Address

ON

THE LIMITS OF KNOWLEDGE.

Delivered before the Medical Faculty of the McGill University, Montreal, on Sept. 22nd, 1908.

BY G. A. GIBSON, M.D. EDIN., LL.D. ST. AND.
PHYSICIAN TO THE ROYAL INFIRMARY, EDINBURGH.

MR. VICE-CHANCELLOR, MR. DEAN, LADIES, AND GENTLEMEN,—Such an honour as that which the *faculty* vouchsafed to me in the request to address you to-day led, as you may readily believe, to much searching of heart. At the first blush the prospect seemed too alluring to be foregone; second thoughts followed, burdened with doubts whether it would be possible to rise equal to the demands of the occasion; these, however, in turn faded before the feeling that the only fitting acknowledgment of your kindness lay in yielding to your wish.

It is indeed a source of much pleasure to be again amidst the fair scenes of this great Dominion, and to dwell upon the manifold beauties showered upon her by the ungrudging hand of Nature. It is delightful to gaze once more upon the broad bosom of the silver river with its emerald jewels, reflecting the glowing tints of the woods in their winsome robes. It was amongst these lovely scenes that the thrilling pictures of Parkman first held me in thrall and led me to understand, as would in no other way have been possible, the lives and works of those who, during two centuries of conflict, strove for the mastery of the new world. Here also was borne in upon me the full meaning of the charming tales of Parker, and amidst their natural surroundings the characters whose loves and hates throb in his pages took an even more living form. Under the witching wand of *these* and many other wonder workers who have lived in your midst, the ground is hallowed by thoughts of the past. What a marvellous vista it is! The brave stealthily gliding through the primæval forest; the pioneer pushing farther into the Western fastnesses; the diagnosis of bone disease radiograms are useless unless this texture can be properly studied. Past books on the subject have usually erred in this respect and have therefore been of little use to the practitioner who is unable to study a series of radiograms first-hand. We can therefore confidently recommend this book to those who wish to study the subject of differential diagnosis of diseases of bone by means of the x rays, a subject which has so far been comparatively neglected. With a knowledge of the subject such as this book confers it is comparatively easy to say whether osteitis is tuberculous, syphilitic, or due to the other more virulent pyogenic organisms, and to differentiate inflammatory swellings from tumours of bone, a boon which no other method of examination confers with half the same certainty. We recommend it specially to those who have to deal with large numbers of obscure cases of diseases of bones and joints in the out-patient departments of the large hospitals.

The book is worth buying as the plates are accurate records of typical pathological conditions and can therefore not get out of date. Nor is modern printing likely to reproduce such plates any more accurately in the future. The plates could hardly be better done.

Essentials of Physiology for Veterinary Students. By D. NOËL PATON, M.D., B.Sc. Edin., F.R.C.P. Edin. Second edition. Profusely illustrated. London and Edinburgh: William Green and Sons. 1908. Pp. 464. Price 12*s.* net.

IN setting himself the task of writing a book on veterinary physiology Dr. Noël Paton has well earned the thanks of the veterinary community, both of students and practitioners. Realising the pressing need for a work of this nature he has brought to bear on the subject not only his knowledge as a professor of physiology but also the experience which he gained as examiner in the same subject appointed by the Royal College of Veterinary Surgeons. In this capacity he had from time to time before him the students for whose assistance he has now compiled the volume under review.

Careful reading of Dr. Paton's book conveys the impression that the author writes from the point of view of the scientific theorist. The trained veterinary practitioner whose life's work lies amongst the animals of the farm will disagree with some of the statements made. Thus we can find no mention of the fact that the horse possesses no gall-bladder. In speaking of this organ Dr. Paton would seem to give the impression that it is possessed by all animals, yet it is a fact which is of great clinical importance that the equine bile-duct has no diverticulum and consequently the bile dribbles continuously in small quantities into the bowel. We have only to consider this fact, associated as it is with small capacity of the stomach in this animal, to appreciate the necessity for feeding the horse frequently, and with small quantities each time, if we would keep it in health; recollecting, too, that it adapts itself to these inconveniences in the natural state by being a continuous feeder.

General physiology is fundamentally the same in both man and animals, and animal protoplasm is exactly the same as human. The circulatory system is the same in both, and the human nervous system only differs from the animal in being more highly developed. But in the alimentary tract we find great differences of structure and variations in the composition of the digestive juices. For the most part the author deals with this complex subject in a manner which leaves little to be desired. He states briefly the nature and comparative value of the various food-stuffs; he points out clearly the differences in value between the foods of the carnivora and the herbivora; and he describes the relation between the foods and the nature of the tract through which they pass. He demonstrates clearly in the text and by means of some excellent diagrams the anatomical peculiarities to be found in each animal. He describes the different processes through which the foods pass after being eaten, discussing their digestibility and energy value, the part which they play in the metabolic processes, and their ultimate fate in the tissues. All these matters are dealt with exhaustively yet without superfluity. Reproduction, the bugbear of the student, is rendered admirably clear and simple in the concluding pages of the work, the value of which would have been enhanced, however, if greater emphasis had been laid on the differences to be found in the placentation in the different animals.

Taking the book as a whole we feel sure that the information contained in it will be welcomed by the present-day veterinary student, and we venture to express a hope that when it comes to a third edition the wants in this direction of the veterinary practitioner may also be more fully dealt with especially in reference to the everyday occurrences which are met with in daily practice; in fact, if we may so use the term, we should like to see the book named a "clinical" veterinary physiology.

LIBRARY TABLE.

Diseases of the Genito-Urinary Organs and the Kidney. By ROBERT HOLMES GREENE, A.M., M.D., Professor of Genito-urinary Surgery, Medical Department of Fordham University; Genito-urinary Surgeon to the City and to the French Hospitals, New York City; and HARLOW BROOKS, M.D., Assistant Professor of Pathologic Anatomy, University and Bellevue Hospital Medical School; Visiting Physician to the City Hospital, New York City. With 292 illustrations. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 536. Price 21*s.* net.—In this work we have for the first time, so far as we are aware, a treatise on the genito-urinary system which has been written jointly by a surgeon and by a physician. Nearly the whole of the literature of this important department of therapeutics has been written from a surgical point of view, therefore it is well sometimes to have combined with this the medical aspect of the subject. We are also pleased to see that the urinary part of the genito-urinary system has received its due share of notice, for in many works on the subject sexual disorders have usurped more attention than they deserve. A good account is given of the instruments employed in the examination of the urinary organs, and we are inclined to agree with the authors that urinary segregators will give way to ureteral catheterisation. With the latter method the results are much more certain, though it is probable that less skill and experience are required in the employment of a urinary segregator. The authors speak favourably of massage of the kidney and ureter as an aid in diagnosis of suppurative nephritis. The method was introduced by Giordano of Venice and it deserves attention, but the cases in which it is likely to be useful are probably few in number. A very brief account is given of litholapaxy and the authors are mistaken in saying that Bigelow was the inventor of the evacuator, though he should certainly have the credit of extending its use greatly. The histology of hypertrophy of the prostate has been fully investigated by the authors and their conclusions are that the condition is certainly inflammatory, and they are inclined to attribute it in most cases to a posterior urethritis, usually of gonorrhœal origin. A good description is given of the perineal operation for enlarged prostate, but the account of the suprapubic operation is inadequate. We should like to know the evidence that the authors have for saying that the ordinary radical operation for hydrocele affects the function of the testis. They say: "By removing the tunica the natural covering of the testicle is destroyed, and it would seem to follow, as a matter of course, that the adhesion with subject pregnant with interest, showing how the grey dawn which we owe to the keen insight of the fathers of modern medicine has brightened into the morning light, how both sides of the world have been engaged upon it, every civilised country in a spirit of generous rivalry doing something to aid the efforts to reach the noontide of knowledge. It is a matter also full of encouragement, for it shows how much may be done by earnest men possessing apparently but small opportunities for original research. To some of us it is only vouchsafed to spin the thread and we have to learn to rejoice in cheerful vein when another weaves the web.

To the loyal worker in scientific fields it is enough if he feels that he is adding something to the general fund of knowledge. He may not be able to see at the time whither his observations lead, but he knows that, when joined to the results of other investigations, they will be useful. They may not be fitted to enter into the warp and the woof; the work of others may be of stronger stuff, for "the web of our life is of a mingled yarn, good and ill together." But even if they do not become woven into the finished fabric they have at least helped other labourers by the example they have shown.

Two of the great men who adorned Dublin during the first half of last century observed a group of symptoms which have in recent times been the object of close scrutiny. Adams, in one of the most remarkable of single contributions ever made to medicine, described infrequency of the pulse attended by apoplectic attacks in cases which presented the pathological appearances of fatty heart. He was followed by Stokes who, in adding further observations, noticed a want of harmony between the movements of the veins in the neck and of the arteries at the wrist; he stated, indeed, that the number of the venous pulsations was more than double that of the ventricular contractions. Stokes further described feeble sounds heard between the cardiac impulses. The meaning of these observations will be clear to us in the sequel. Many years passed before the observations of Adams and Stokes received any additions. It is true that a brief mention is made by Skoda of the subject, but new interest was not aroused until the appearance of some investigations by Leyden. The subject was afterwards discussed by Roy who ranged himself alongside of Leyden in favour of hemisystole as the cause of the want of harmony in the action of the veins and arteries.

To show how our various additions to knowledge are knit together it may be mentioned that almost immediately after the appearance of Roy's contribution a paper was published by Malet and myself in which we described the sound of the auricles in a healthy heart. The case was one of sternal fissure. Little did we think when placing this observation on record how it might afterwards prove fruitful. Linking it with the observations of Stokes, these isolated facts, apparently of no great value at the time, were afterwards found to be of real importance.

Some five years after our observation was placed on record Chauveau described a case of heart disease in which for the first time a dissociation of auricular and ventricular rhythm was carefully analysed by modern methods. This was followed by an excellent study in which Vaquez and Bureau still more clearly emphasised the lack of harmony between the movements of the auricles and ventricles. These investigations have been followed by the results obtained by a large number of observers, who, by means of clinical methods, have been able to demonstrate in the most complete manner that a partial or total dissociation may take place. It may seem almost invidious to single out any names in this connexion, but it is only right that we should honour those who have been pioneers in this field, and it is accordingly a pleasure to refer to the work of Moritz, His, Lichtheim, Mackenzie, Wenckebach, and Osler.

Besides obtaining such results in the investigation of the cardiac, arterial, and venous movements by the graphic method, it is full of interest to be able now to add that the sounds of auricular contraction have been over and over again heard by many observers in the intervals between the complete systole of the heart. These facts absolutely prove the correctness of Stokes's observations, and bring them into harmony with the physiological sounds described by Malet and myself.

Another addition to our knowledge of this interesting condition is due to Ritchie, Magee Finny, and Brouardel and Villaret, who, independently of each other, took advantage of the fluorescent screen in order to watch the movements of the heart. They published the interesting fact that the auricles can be seen beating in the intervals between ventricular systole. During the last three years this observation has been frequently repeated by other observers and is now well known.

Einthoven has taken advantage of the electromotive changes produced by the action of the heart, and by means of the string galvanometer has obtained beautiful tracings from cases of heart block which demonstrate beyond the possibility of doubt that the electromotive changes caused by the action of the auricles may be seen entirely dissociated from those caused by ventricular action. In ignorance of the important observations being made by Einthoven the electromotive changes in heart block simultaneously engaged my attention. My investigations were carried out with Lippmann's capillary electrometer. The movements of the column of mercury, thrown upon the screen by means of a projection microscope, showed the ordinary oscillations caused by the electric changes attending the apex beat, but, between these, smaller waves were distinctly visible and were undoubtedly produced by the contraction of the auricles.

One more clinical result obtained in this disease may be referred to before we pass on to the explanation of the condition. The arterial pressure in such cases has attracted my close attention. Observation on a good many cases has now proved that the systolic pressure may reach a level of from 270 to 300, while the diastolic may at the same time and in the same individual be as low as from 70 to 80 millimetres of mercury. This must be regarded as a most interesting fact, showing that the long interval of time following each ventricular contraction allows the high arterial pressure to fall to a low ebb before the succeeding systole occurs. It need scarcely be added that in such cases there is no aortic incompetence; nevertheless, clinical investigation of the arterial pressure yields results singularly like what we are accustomed to observe in that condition.

We have in this chain of investigations a really interesting illustration of the gradual evolution of clinical knowledge, and we must now enter upon the successive steps by means of which the different facts have been subjected to analysis and synthesis.

All of us who have sat on the upper forms at school must remember that the great epic poet of Rome tells of the happiness of him who is able to discern the causes of what he sees. The investigation of a series of appearances such as those that have now received our attention has furnished abundant interest, and therefore happiness, for all of us who have worked at the subject. Some points were found to be easy of explanation; others much more difficult. We have not merely to exercise the imagination in the search for these causes, but we may even invade the realm of speculation. It is a subject which allows opportunities to "spin the gossamer as well as forge the anchors of the mind." Our thoughts are not all endowed with the possibility of soaring to the very roof of heaven, but it is within the reach of us all to contribute what we can to the general advance and some of the suggestions, as well as many of the observations, are due to men deeply engaged in the hard work of general practice.

Until the last quarter of the previous century the heart was considered to consist of what might be termed distinct compartments, absolutely separated from each other and not united by any continuity of muscle fibres. The first light borne in on the subject came from the investigations of Gaskell who showed that there was a direct and continuous connexion of the sinus, the auricle, and the ventricle. It is exactly a quarter of a century since this great work made its appearance. Every succeeding observation has only served to prove more thoroughly the accuracy of the views which he then expressed, and to show the remarkable foresight which he manifested in his analysis of the various functions which he described. His investigations, in truth, have permitted the esoteric explanation of the condition at present under consideration. The facts unfolded by him formed, ten years afterwards, the subject of an interesting study by Stanley Kent, who, devoting attention more exclusively to the connecting link between the auricle and ventricle, showed the path by which impulses pass from the one to the other. His, in the same year, published his anatomical researches by which he

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A few words, addressed more especially to the undergraduates of the University, may in the last place be allowed me. These must be taken as coming from an older to younger brothers. You will not expect me, in the terms of a certain school of theology, to "improve the occasion." If you do you will be disappointed. The purpose of the remarks which have been made is to bring some aspects of modern research before you, to hearten you in your studies, but at the same time to warn you of the dangers which may attend them. We have seen in one small field of the vast domain of medical study that many industrious labourers have been engaged upon the matter; that the gradual growth of knowledge has taken place by separate additions made by patient observers, and that it is within the power of each and all of us to contribute to the store of information. In all this you have great encouragement for your work to come. The illustration chosen is only a single example of what you will find in every branch of science. The first aim of every one of us must be to strive after fitness for the task which each will find. Again, one of the clearest duties lying to one's hand is to discover in which direction practical usefulness may most likely be found. In the present age omniscience cannot be our foible and a wise choice of study is an absolute necessity. To be able to grasp the real and eschew the unreal is the first requisite of him who is in quest of truth. You will be guided in your early footsteps by men of experience and distinction, who will help you to gain an insight into what is worth study. In this way you will escape the risk of resembling the dull pedant of whom the American humorist sings:—

> "A reading machine ever wound up and going,
> He mastered whatever was not worth the knowing."

In the search for truer interpretations of natural appearances we must train ourselves to build our foundations on the solid bed-rock of fact. Blowing hypothetical bubbles will not avail. It would be foreign to the genius of my race to contemn philosophical reasoning, but it is nevertheless a duty to condemn baseless speculation. Imagination rightly used is of the highest value in science,

> "But not for golden fancies iron truths make room."

The scientific method is, as Huxley has clearly stated, "Nothing but trained and organised common sense, differing from the latter only as a veteran may differ from a raw recruit." No one can successfully dispute this statement and probably few will make the attempt. There is no need for me to dwell on this theme, but it will not be out of place to add that this quality of common sense is not the possession of mankind in equal proportions. To some it has been granted in fuller measure than to others, but to most men a fair share has fallen. It is one of our first duties to listen for the whisper of this inborn wisdom or common sense which must be our final guide in all our work. May we not without any great strain apply to this gentle voice the words of an early English poet who died just 400 years ago?

> "The vertue of her goodly speche,
> Is verily myne hartes leche."

Goethe long ago frankly said that in his old age he had found it hard to be as wise as he had been in youth. This is a brilliant paradox the meaning of which is clear so that he who runs may read. But there is another side to the shield. It is within the reach of all of us to train this inherent quality by the discipline of experience. There is but one way in which this can be done: the way of hard work. In this age of strenuous endeavour it seems unnecessary to emphasise this gospel. It has been preached by many modern writers from Carlyle to Kipling, and the nobility of work in every field is now universally recognised. Upon us, most of whom are or will be concerned with the practical duties of serving our fellow men, it is incumbent to remember to what a high calling we are devoting ourselves. We have to enter into the lives of others in the fellowship of suffering as well as the brotherhood of happiness. "Man is the only book of life," says Pierre, and in this saying of Parker's interesting creation there is deep significance. It is our privilege, above all other men, to have the leaves of this book opened to us, and we must fit ourselves for its study.

In all our doings we must spend our lives in truth, faith, hope, love—clinging to that mood of mind, bent on winning to the very heart of everything; believing in real work as the means whereby in its own good time what is now hidden will be laid bare, trusting that the end of our quest will be the furtherance of knowledge and the good of mankind, and holding each of our fellow workers in such kindly thought as will lead us to be happy when any of them makes a forward step. May each of us be able to say in the words of a historic rascal, who yet had the elements of good in him, François Villon: "En ceste foy je veuil vivre et mourir."

An Address

ON

SANITATION IN INDIA.

Delivered before the Sanitary Conference of the United Provinces of Agra and Oudh at Naini Tal on Sept. 4th, 1908,

BY SIR J. PRESCOTT HEWETT, K.C.S.I.,

LIEUTENANT-GOVERNOR OF THE UNITED PROVINCES.

GENTLEMEN,—I am here to welcome you this morning on your assembling in reply to the invitation issued in this Government's resolution of the 6th ultimo with the object of undertaking a comprehensive discussion as to the manner in which sanitary reform should be prosecuted in the United Provinces. We aim at trying to devise some scheme by which, in course of time, the conditions of life may be made healthier for the residents both of towns and villages within the province; we seek some means of giving our men and women more strength and vigour with which to undertake their duties in life and to earn their daily bread, of making their days longer in the land, of endowing them with more stamina, and of insuring for them greater power of resisting disease so as to make them more fit for every form of employment, whether it calls into operation manual strength or the faculties of the mind.

The first thing that must strike every observer is that, cleanly as are the habits of a very large number of the people of India individually, they are very prone to ignore what has been well described as coöperative sanitation. Cleanliness of person and of the habitation constitutes only part of the precautions needful to insure protection against disease, and is wholly ineffective by itself if the house is inadequately provided with light and ventilation, and if the out-of-door surroundings and the air that is breathed outside it are contaminated and infective. You have to examine the whole question of how we can improve the sanitary conditions of life throughout our province, to try to determine whether what has been done in attempting this in the past (for a

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00 ; 52 per cent. live in villages of from 500 to 2000 ; 10 per ent. in villages of between 2000 and 5000 ; and 1 per ent. in villages of over 5000. There are 453 towns the opulation of which varies from 264,000 in Lucknow to a opulation of even less than 1000 and averages about 1,600. *These towns are differentiated according as they come* nder the Municipalities Act, the Act dealing with notified reas that were once but have ceased to be municipalities, nd Act XX. of 1856, an Act to regulate police and sanitaion in the smallest towns. The Village Sanitation Act pplies to certain rural areas ; at present it extends to some 00 villages with a population of 2000 or more. In areas ther than those under the Municipalities Act or notified reas there is no compulsory registration of vital statistics by private persons. In rural areas the village watchman reports births and deaths on his periodical visits (usually twice a week) to the police stations. In the towns under Act XX. of 1856 registration is effected by the chaukidars employed under the Act, and in municipalities and notified areas there is compulsory registration. Returns are obtained in some towns from non-official practitioners differentiating the cause of death, but an enormous majority of the reports of deaths are made by an illiterate agency utterly incapable of discriminating as to the cause of death.

In the past 25 years there has been large expenditure within municipalities on sanitary improvement: 113 lakhs of rupees (over £750,000) have been spent on capital outlay, and 57 lakhs (£380,000) on establishment and repairs in connexion with the water-supply; the capital outlay on drainage works has been 57 lakhs (£380,000) and that on establishment and repairs nearly 13 lakhs (£86,000). Expenditure on conservancy has been 215 lakhs (£1,430,000). In rural tracts and smaller towns expenditure has been on a very limited scale. In six of the seven cities with a population of over 100,000 as much as 292 lakhs (£1,950,000) have been expended on these objects, on vaccination, the improvement of markets, and protection against plague. In spite of all this expenditure the death-rates now reported in some of these cities are higher then they were before. Even if allowance be made for better reporting it is still impossible to gain consolation from the returns.

Still, in the matter of the restriction of diseases against which special measures have been taken both in towns and villages, such as cholera and small-pox, there is room for congratulation on the results achieved. The improvement in the water-supply in cities, the use of permanganate of potassium in wells and of Nesfield's powders have all contributed to reduce the mortality from cholera. This is a disease the deaths from which are returned with fair accuracy. It used to be very virulent among the troops 20 years ago, but a serious outbreak in a regiment is now of rare occurrence. The disease is now usually sporadic and is often due to food contamination by flies. The average death-rate from this cause between 1882–91 was 1·68 per 1000, between 1892–1901 1·49 per 1000, and between 1901–07 1·30 per 1000. In the famine year of 1896-97 the death-rate from this cause between September, 1896, and July, 1897, was 0·96; between November, 1907, and June, 1908, it was 0·72. There are only three districts in which famine camps have been seriously troubled with cholera this year. On the other hand, in some of the districts badly stricken with famine which have also suffered from epidemics of cholera it has been possible to protect the famine workers completely. Thus in the Bara Banki district over 3000 deaths were reported from cholera, but only two occurred on relief works; in the Gonda district there were 1900 deaths among the general population and only one on relief works. Here, at all events, there is direct evidence of the success of our sanitary department's work, and it is also to be found in the continued decline of deaths reported from dysentery and diarrhœa, a result which can fairly be attributed to the improvement of the water-supply. 50 years ago small-pox devastated the country and was specially prevalent in the hill tracts. So well protected are the latter now that the district of Garhwal has the highest vaccination rate and the lowest mortality from small-pox in the whole of British India. A great reform effected in recent years has been the substitution of glycerinated lymph for humanised lymph. The death-rate in the whole province from this disease was 1·26 between 1882–91, 0·33 between 1892–1901, and 0·25 between 1902–07. Here again there is indisputable proof of the good results achieved by the sanitary department in popularising vaccination.

The statistics under the head of fever are the reverse of encouraging. They do not indeed show how many people died from malaria, but they give an enhanced death-rate in each successive period of the past 25 years. Whatever the extent to which this may be due to better reporting it is *most discouraging that the death-rate* reported between 1882–91 (24·41) should have risen in the next decade to 25·21, and in the five years between 1902–07 to 26·49. The last figure is an appalling one. It is swelled by lung affections, tuberculosis of all kinds, and (during the past few years) by undiagnosed plague. But after making allowance for all these causes the number of deaths due to malaria is terribly high. Great strides have been made in the investigation of this disease in recent years. The only way known to science for the propagation of malaria is by infection through the bite of the anopheles mosquito. The *layman whatever he may think about the possibility of* malaria being contracted in other ways must accept the view of science that so far none other has been discovered. Such action as the executive government can take then must be based on the view that what we have to aim at is the restriction of the dissemination of malaria by the anopheles mosquito. I propose to place a medical officer on duty at once to investigate the liability of certain tracts in this province to malaria and to endeavour by special measures, such as the filling up of excavations and other irregularities in the soil, treating mosquito breeding grounds with kerosine oil, the free distribution of quinine, and inducing the better classes to protect themselves from mosquito bites by mechanical means to see whether we cannot effect a reduction in the incidence of the disease in these specially affected tracts. This is only one method of attacking the question of how to check malaria, and I hope you will give the problem of how to fight it your earnest attention. I do not propose on this occasion to say much about plague. Between its recognition in Bombay in 1896 and the first year of the present century only 363 deaths were reported in this province from this cause. From 1901 to the end of 1907 the number reported in the province was 1,095,000. The statistics of this disease have recently been dealt with in a published resolution. During practically every month of the past year its attack has been feebler than for six years, and there is certainly hope that we have seen the worst of it.

Of all the vital statistics the most distressing are those relating to infantile mortality. These figures are the index of the sanitary state of a community. The reported annual death-rate of children under one year of age was 229 per 1000 infants born between 1891 and 1900. The figures for the past three years have been 263, 251, and 253 respectively. To some extent the increase has been due to epidemics of measles which have become prevalent in recent years. In the last three years the number of deaths reported to be due to such epidemics has been 22,000, 44,000, and 80,000 respectively. But, whatever the cause, it is lamentable that one out of every four children born should die before he or she has completed a year of life. Infantile mortality is indeed enormous in every country. Even in England and Wales the annual death-rate was 153 per 1000 infants born between 1891 and 1900, and 132 in 1906. Here, as in England, the mortality among infants is higher in urban than in rural tracts, and specially high in industrial centres, where women work in factories and have to neglect the care of their young children. In Cawnpore the average death-rate during the past five years was 365 per 1000. In addition to the general difficulties in the matter of improving the sanitary surroundings of the people, we have here to contend with the immaturity and ignorance of the mothers, most of them being constantly employed on work both up to the child's birth and while they are suckling it, to the want of skilled midwives, to inadequate and dirty appliances used at the time of delivery with the result of inoculating the child with tetanus, to the prolonged period for which a child ordinarily remains at the breast, to the poor clothing of infants, to their exposure to various sources of infection, and to the neglect of the treatment of their diseases when they are attacked. This is truly a formidable list of obstacles to the growth of a child of the poorer classes to a healthy maturity; and many of them cannot be removed for a long time. But this should be no reason for our failure to look the problem in the face: to my mind it is the most important one to be attacked, if catholicity, subserved by the philosopher. No liberal calling, no career intellectual or moral, but has profited by his initiative and intervention. Apart from what he actually contributed to the common fund of ideas, the mere perusal of his writings is an exercise, a discipline, in what he himself finely calls "the Georgics of the Mind." Aye, and the lessons to be drawn from his own failings and positive misdeeds are fraught with admonition, as he would have been the first to own. Restricted in worldly means, while passionately devoted to the research for which such means were an indispensable pre-requisite, he did that which was unlawful, he even proved himself corrupt, he let himself lapse into evil "that good might come." Posterity, however, has been disposed to deal leniently with him—all the more that he practically says to it, "Reum habetis confitentem"; or, in his own pathetic words when commenting on his condemnation: "I was the justest judge that was in England these 50 years; but it was the justest censure in Parliament that was these 200 years." MACAULAY, interpreting the verdict of the nineteenth century, has given it noble expression: "Turn where we may, the trophies of that mighty intellect are full in view: we are judging MANLIUS in sight of the Capitol!"

BACON himself, as if to account for, not to justify, his own *peccata*, admonishes the reader that his "new instrument," while it will confer infinite and never-ending boons on mankind, will do this only in the material direction, leaving morality pretty much where it found it. Comfort, convenience, all that makes for the physical ease and well-being of humanity will go on increasing and multiplying, but on one side only of human development. "Let us not," said D'ISRAELI, "mistake Comfort for Civilisation," a witty and profound saying which RUSKIN was never tired of bringing home to a world exulting in its wealth and prone to the self-indulgence which wealth can favour. Take, he would say, the Platonic Trinity, the Beautiful, the True, the Good. In the first of these, are we superior, nay, are we equal, to the age that produced a PHIDIAS and PRAXITELES in sculpture, a ZEUXIS, a PARRHASIUS, and an APELLES in painting? In the second, are we one step nearer the solution of Knowing and Being than PLATO or ARISTOTLE, whose entrance into a modern metaphysical lecture-room would be more likely to embarrass the professor than to enlighten themselves? In the third, are not sin and crime a perennial quantity, more refined perhaps in their methods but not less real in their character than in ages when the steamship and the telegraph were unknown? Nay, are not these latter the instruments of despotism as much as of liberty, of the criminal as much as of the philanthropist? Questions these to be answered in the all-including Baconian sense, conveyed in the aphorism, "Man was made to mourn," which will be as true of him in the latter day as in the first! To the end of time humanity will have need of all its resources against the agencies of evil which have hitherto beset it; nor can an epoch yet be foreseen when the legal, the medical, and the ecclesiastical vocations will have died out for lack of employment. BACON, while enthusiastic in his estimate of the power of the "new instrument," did not omit to enter a caution as to its limitations—a caution not more needed in his own generation than in what a recent speaker, with unconscious humour, referred to as "this so-called twentieth century"!

The Pollution of Milk.

THE people of Chester are fortunate in the possession of a medical officer of health who is not only familiar with the dangers encountered by the community, by reason of the unsatisfactory methods of the production of milk in vogue amongst farmers generally, but who has the courage to speak plainly to his sanitary authority and to remind that body of its serious responsibility in connexion with this important subject. We have received from Dr. A. E. THOMAS, the health officer of Chester, an interesting pamphlet consisting of a reprint of a report submitted by him to his sanitary authority, in which he deals with the subject of the pollution of milk thoroughly and after a fashion which is in some respects original. The report has apparently been approved by the Chester city council, for it has ordered its publication for general distribution in the form now before us. The amount of money spent annually on the production of milk in the United Kingdom is enormous. "In round numbers" Dr. THOMAS computes it "at between 120 and 130 millions annually, or about two-thirds of the cost of the Boer War, about three-fourths of the national drink bill, and roughly about one-sixth of the National Debt." We proceed firstly to follow Dr. THOMAS, of necessity very briefly, in his description of the chief existing sources of the pollution of milk, based on his official experience in Chester and its neighbourhood, and then to notice his suggestions for the prevention of such pollution, for we believe that contamination of this commodity is by no means confined to the district referred to. Discussing the more common sources of the pollution of milk we are told that the problem of "clean milk" in all probability circles around the actual milker who is frequently the dirtiest individual in the cowshed; indeed, sometimes the cleanest is the cow itself. Among milkers he has observed general uncleanliness of the hands, finger-nails, face, and skin, filthy habits during milking, and the use of soiled clothes or fouled leather apron whilst milking, frequently a soiled equipment being reserved for this work alone. It is quite conceivable that the milker suffering from pulmonary tuberculosis may infect the milk or that patients who have been the subjects of enteric fever may some years later become sources of infection to others and may excrete daily countless numbers of specific germs. Obviously, therefore, it is desirable that persons in both the latter categories should be excluded from any department of the production of milk which exposes it to the risk of conveying infection. It is high time, says Dr. THOMAS, that the ignorant, dirty, careless milker was abolished and replaced by a clean and careful operator trained in one of the many dairy schools now established. It is not enough to provide washing basins, soap, towels, and nail brushes: it should be somebody's business to see that these are regularly used and that the milker does actually clean himself before milking. Very obvious is the influence of overcrowded, ill-ventilated, badly-road towards industrial progress throughout the land. The goal may appear to be far away, and indeed it is, but let us make a start on the road towards it; I feel sure that we could put no nobler aim before us.

NOTES OF A CASE IN WHICH NINE CONFINEMENTS WERE TERMINATED VARIOUSLY:—

(1) BY THE NATURAL POWERS; (2) BY SYMPHYSIOTOMY; (3) BY INDUCTION OF LABOUR AND FORCEPS; (4) BY FORCEPS ALONE; AND (5) BY CÆSAREAN SECTION.

BY ARTHUR H. N. LEWERS, M.D. LOND.,
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SENIOR OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

THE notes of the case are shortly as follows. The subject, now, in 1908, aged 34 years, has been married 16 years and has had nine children and one miscarriage.

First confinement.—This took place on March 2nd, 1892, at full term and the patient was delivered naturally. The child, a female, was said to have been small, and it died from wasting when four months old.

Second confinement.—This occurred on Feb. 12th, 1893. The patient was said to have been in labour for three days. The membranes ruptured at 2 A.M. on Feb. 12th. Attempts were made to deliver the child by the forceps at the patient's home but failed. She was admitted into the London Hospital under my care and I saw her at 9.30 A.M. The os was nearly, but not quite fully, dilated. The vertex was presenting in the fourth position and was definitely engaged. The fœtal heart was distinctly heard. The patient was having strong pains. Blood-stained urine was drawn off with the catheter. At 2 P.M. the os was fully dilated but there was no advance of the head. The caput succedaneum had increased in size and the fœtal heart was still audible. Chloroform was administered and a deliberate effort was made to effect delivery with the forceps, but it was found impossible to do so. Accordingly I performed symphysiotomy by the open method. Owing to an irregular projection in the line of the articulation the separation of the bones had to be completed with a saw. When the pubic bones were five centimetres apart the head was easily delivered with the forceps. The child, a male, was born alive and is at the present time (April, 1908) alive and well. Convalescence was long in being established, chiefly owing to incontinence of urine for some time after the operation and to the fact that the wound made by the symphysiotomy suppurated. A piece of dead bone was removed on March 25th. Ultimately the patient recovered complete control as regards the bladder and the operation wound healed soundly. The external measurements of the pelvis before the operation were as follows: between the anterior superior spines = 8¼ inches; maximum distance between the crests = 10⅜ inches; external conjugate = 6 to 6¼ inches. After the wound was soundly healed there was a vertical depressed cicatrix in the middle line in the region of the symphysis, and the external conjugate, when the anterior limb of the callipers was placed at the bottom of the cicatrix, was 5¾ inches. The other measurements were the same. So far as I can find, this symphysiotomy was the first to be performed in England since 1782, and the first successful one as regards its result. (See THE LANCET, August 5th, 1893, p. 300.)

The third confinement (January, 1895).—This took place in the London Hospital. Labour was induced at eight months and delivery was effected with the long forceps. The child was a female and is alive and well now (April, 1908).

The fourth confinement (Nov. 10th, 1896).—This also took place in the London Hospital. Labour started naturally at the eighth month. The presentation was the second vertex and delivery was effected with the forceps easily. The child, a male, is alive and well now (April, 1908).

The fifth confinement (Nov. 25th, 1898).—This also occurred in the London Hospital. Labour started naturally at eight and a half months. The presentation was the first vertex. Delivery was effected with much difficulty with the axis traction forceps and the child was stillborn.

The sixth confinement (Nov. 1st, 1899).—This also occurred in the London Hospital. Labour was induced at eight months. The presentation was the first vertex. Delivery was effected by the forceps with difficulty. The child, a female, weighed 6 pounds, and is alive and well now (April, 1908). The mother developed lobar pneumonia on the fourteenth day but ultimately did quite well.

The seventh confinement (Dec. 19th, 1901).—Labour began spontaneously at seven months. The patient was admitted into the London Hospital in labour; the breech and trunk were born in the receiving room and the arms in the corridor as she was being taken up to bed. The head was delivered with forceps as soon as she reached the ward. The child, a male, only lived 15 hours.

The next pregnancy terminated by a miscarriage at three and a half months. The patient did not come into the hospital but was treated at home and did quite well.

The eighth confinement (May 28th, 1903).—This occurred in the London Hospital. Labour was induced at eight months; the presentation was the third vertex. The child was stillborn.

The ninth confinement (Dec. 27th, 1904).—The patient was admitted into the hospital in labour. The vertex was presenting, the os was nearly fully dilated, and the membranes were unruptured. After rupturing the membranes the forceps was applied without success. Accordingly I performed Cæsarean section and delivered her of a male child which is alive and well now (April, 1908). With the view of rendering subsequent pregnancies unlikely I removed a portion of the Fallopian tube on each side. Up to the present there has been no other pregnancy, and as there has never been hitherto anything approaching such an interval as three and a half years between any of the pregnancies it seems as if what was done is proving effectual in this particular case.

The patient has now (April, 1908) five children living. Of these one was born by symphysiotomy, one by Cæsarean section, two by the induction of labour and forceps, and one by spontaneous premature labour and forceps.

As regards the four children she has lost, *one was born naturally*. This was the first. It is said to have been at full term, but the child was very small and died when four months old. Seeing how often labour began prematurely in her subsequent pregnancies, no less than three times, it seems not improbable that the first child was premature. *Two were born by spontaneous premature labour*, at eight and a half and seven months respectively, delivery being effected by forceps. The former was stillborn and the latter only

Table of the Nine Confinements.

Confinements.	Mode of delivery.	Sex of child.	Result as regards child.
First.	Natural labour at term. (March 2nd, 1892.)	Female.	Child died from wasting when 4 months old. Said to have been small and labour only lasted 6 hours.
Second.	Symphysiotomy at term. (Feb. 12th, 1893.)	Male.	Child alive and well, April, 1908.
Third.	Induction of labour at 8 months, forceps. (January, 1895.)	Female.	Child alive and well, April, 1908.
Fourth.	Spontaneous premature labour at 8 months. (Nov. 10th, 1896.) Forceps (easy).	Male.	Child alive and well, April, 1908.
Fifth.	Spontaneous premature labour at 8½ months. (Nov. 25th, 1898.) Axis traction forceps; very difficult.	No note.	Child stillborn.
Sixth.	Induction of labour at 8 months. (Nov. 1st, 1899.) Forceps (difficult).	Female.	Child alive and well now, April, 1908.
Seventh.	Spontaneous premature labour at 7 months. Breech. Forceps to head. (Dec. 19th, 1901.)	Male.	Child only lived 15 hours.
Eighth.	Induction of labour at 8 months; third vertex. (May 28th, 1903.)	No note.	Child stillborn.
Ninth.	Spontaneous labour at term. Forceps failed. Delivery by Cæsarean section. (Dec. 27th, 1904.)	Male.	Child alive and well, April, 1908.

Physicians was held in January of this year and a motion was carried that it was desirable that such alterations should be made in the by-laws as to allow the admission of women to the examinations of the College. This was carried by 74 votes to 33. When the Council of the Royal College of Surgeons was informed of this, it was decided to take a poll of the Fellows and Members of the College, and the result was that there was a majority of 415 against the proposal to admit women to the examination for the Membership and a majority of 1182 against admitting them to the Fellowship, 9451 Fellows and Members voting; when the votes of the Fellows were considered separately, it was found that the Fellows were in favour of the admission of women, though the majority in favour of admitting them to the Fellowship was only 34 out of 1034 who voted. It must be borne in mind that 13,812 circulars were sent out to the Fellows and Members and that more than 5000 were unanswered. On Thursday of last week the Council of the Royal College of Surgeons considered the matter finally and on the motion of Mr. Clinton T. Dent it was resolved to admit women candidates to all the examinations of the College. Two or three months will elapse before the necessary alterations can be made in the by-laws and the approval of the Home Secretary has to be obtained, but that will necessarily follow, so that women candidates will be admissible to all the examinations of both the Royal Colleges, including those of the Conjoint Examining Board for England. It was possible for the Royal College of Physicians to admit to the examination for the Membership, or for the Royal College of Surgeons to admit to the examinations for the Fellowship without the consent of the other College, but the consent of both was needed for the admission of women to the examinations of the Conjoint Board. It will be noticed that the Royal Colleges are admitting women under the Act of 1876 and the Royal College of Surgeons has taken counsel's opinion on the question of the voting powers of those women who obtain the Membership or the Fellowship of that College, and the opinion has been given that those women who obtain these diplomas will not possess any voting power. It was hoped by many Members of the College that the Council would apply for a new charter to enable it to admit women to the examination, and thus an opportunity would have been afforded for the Members of the College to obtain representation on the Council, but the action of the Council in utilising the Act of 1876 has frustrated this hope. It is of interest to consider the gradual change of opinion in this matter, and this is well shown by the voting at the meetings of the Royal College of Physicians. In 1877 the admission of women was negatived by 68 votes to 16; in 1895 the votes were 59 against and 50 in favour of the admission of women; and in 1908 the figures were 33 against the admission and 74 in favour. The only bodies possessing the power of granting qualifications to practise medicine and surgery which still decline to admit women to their examinations are the Universities of Oxford and Cambridge.

OLD AGE PENSIONS AND THE DESTITUTE.

AT the Hackney coroner's court on Oct. 17th Dr. W. Wynn Westcott held an inquest on the body of a crossing-sweeper, aged 77 years, who had been grossly neglected before he was admitted to the parochial infirmary suffering from a recent apoplexy. He was found in his single-room tenement in a very filthy state; indeed, maggots were seen crawling over his body. The coroner, having tried in vain to discover someone upon whom the responsibility for the care of the old man could be placed, instanced the case as an exemplification of his previously expressed opinion that the forthcoming old age pension would not be a certain benefit to those aged and feeble people who were without relatives who could, and would, help to look after them and keep them in a cleanly condition. With the proposed weekly grant of a pension of five shillings he was of opinion that, in London at any rate, the duties of the relieving officer and the work of the coroner would be greatly increased in so far as the aged poor were concerned. Five shillings were insufficient to pay for rent, fuel, food, and attention. Yet many old people would, while in receipt of this pension, absolutely decline to be removed from "home" to the parochial infirmary wherein they could be skilfully treated and nursed. Dr. Wynn Westcott cited some facts which had been collected by a friend of his from a neighbouring Poor-law institution. All those inmates who were above 69 years of age had been interrogated as to whether they would, if offered a 5*s.* weekly grant, accept this and take their discharge or prefer to continue as now in the institution. Of 161 men asked, 30 said that they would under the above conditions take their discharge; of 208 women 35 said that they would prefer to live outside. A liberal discount must be made from these figures, as the friends or relatives might decline to accept the responsibility for the care of these 65 would-be outdoor pensioners; nevertheless, many of those who are being well looked after at present would strive to seek their freedom and in so doing would probably run very great risks of succumbing to neglect. The events of next year will probe the coroner's fear.

NOTIFICATION AND ISOLATION OF SCARLET FEVER.

IT is impossible to avoid some disappointment at the fact that notwithstanding notification and a constantly increasing proportion of isolated to notified cases of scarlet fever, the prevalence of this disease, judged by the number of occurring cases, shows practically no decline, even in those towns where notification and hospital isolation are most thoroughly carried out. It appears from the last report of the Statistical Committee of the Metropolitan Asylums Board that during last year 25,925 cases of scarlet fever were notified in London, of which no less than 89·4 per cent. were admitted for treatment in the Board's isolation hospitals. This number of notified cases exceeded those returned in any year since 1893 when 36,901 cases were notified, only 39·7 per cent. of which were admitted to hospital; while the percentage of hospital admissions to notifications has almost steadily increased from 42·8 in 1890 to 89·4 in 1907, which exceeded the percentage in any previous year. The figures for Manchester in Dr. J. Niven's report for 1907 (noticed in THE LANCET of Oct. 10th) also fail to show a satisfactory decrease of the prevalence of scarlet fever in that city, notwithstanding the large proportion of isolated to notified cases. During last year 2732 cases of scarlet fever were notified in Manchester, considerably exceeding the number in any of the ten preceding years, except 1906, when the number was 3075. The percentage of notified cases in Manchester isolated in hospital was 65·0 in 1907, and appears to have somewhat steadily declined during the last five years from 83·4 in 1903; in 1892 and 1893, however, the percentage of isolated cases did not exceed 58·5 and 58·6 respectively. Thus neither in London nor in Manchester do notification and isolation of cases of scarlet fever appear to have fulfilled the reasonable expectation of a decided decrease in the prevalence of this disease. The marked decline in the mortality from scarlet fever is proved by the fact that while the annual death-rate from this disease in England and Wales in the ten years 1861–70 was equal to 971 per 1,000,000 persons living, it has not exceeded 116 per 1,000,000 during the ten years 1898–1907; in London and in Manchester the mortality from scarlet fever has special sense are to be avoided. Von Bergmann entered the cranium from in front, close over and to the inner side of the frontal eminence, and inserted the hollow needle through the frontal lobe of the brain backwards and keeping to the inner side. Keen punctured the lateral ventricle from the side in the following manner. The cranium was opened 3 centimetres behind and 3 centimetres above the external auditory meatus—that is, 3 centimetres above Reid's base line, which is drawn from the lower border of the orbit through the middle of the meatus. The needle is inserted in the direction of an imaginary point 6 centimetres vertically above the external auditory meatus of the other side and through the second temporal convolution. From 4½ to 5 centimetres deep lies the lateral ventricle of the brain in the course or at the beginning of the descending cornu. Keen performed the operation of puncturing, draining, and irrigating the lateral ventricles with satisfactory results. Mayo Robson also recommends puncturing the ventricles from the side, but through the first temporal convolution.

As do Kocher, Neisser, and Pollack, I recommend puncturing the ventricle from above, through the frontal bone about 2 centimetres from the central line and 3 centimetres from the precentral fissure. The hollow needle must be pushed downwards and backwards. You strike the ventricle at a depth of from 5 to 6 centimetres. The ventricles can also be drained very well from above. Care must be taken not to insert the drainage-tube too deeply into the ventricle, so as to avoid injuring the opposite wall. This can easily be avoided by fitting a ring or shield to the tube.

As it offers so little danger of infection, subcutaneous drainage is most advantageous. For a really efficacious draining of the ventricle Payr recommends transplanting living pieces of human arteries, taken, for instance, from the arteria radialis or brachialis, into the lateral ventricle in such a way that the other end becomes grafted in the sinus longitudinalis. In this way the serous fluid from the ventricle is carried away by the blood. This operation can naturally only be successful when performed in the best way in every respect. From what we know to-day of transplantation it may reasonably be expected that living pieces of artery can be thus grafted into the ventricle and sinus longitudinalis.

Finally, the ventricle may also be punctured from behind, from the occipital lobe. According to von Beck the tip of the posterior cornu is met with at a depth of about 3 centimetres, if the cranium is opened 4 centimetres over the protuberantia externa and 3 centimetres to the side of the central line of the skull, in which case the needle is inserted in a forward and slightly upward direction.

Leipsic.

NOTES ON

679 OPERATIONS PERFORMED UNDER SPINAL ANÆSTHESIA (COCAINE OR STOVAINE) BY TUFFIER'S METHOD.

BY DR. SABADINI,
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(*Translated for the Author by* ALFRED S. GUBB, M.D. PARIS.)

IN August and September, 1903, even before Dr. Fourneau read his paper on *stovaine* at the Académie des Sciences (February, 1904) and Chaput his communication to the Société de Biologie (May 2nd, 1904) I found, in the course of a visit to various hospitals of Paris, the provinces, and abroad, that the majority of surgeons were ignorant of this method of inducing surgical anæsthesia, while some indeed frankly stated their view that the method was absolutely unphysiological and dangerous. Of the latter it was evident that none of them had ever tried it and their statements were obviously based merely on impressions derived from the medical journals. Yet the remarkable publications of Leonard Corning and of Tuffier (1889), the inventor of the method, and of his pupils, Cadol and Nicolendorff, the contributions by Nicoletti of Naples, Professor Bier of Kiel, and his assistant Eden, and those of Schiani and Durante of Italy, had peremptorily established the fact that the introduction of cocaine into the spinal column produced widespread anæsthesia *without circulatory or respiratory disturbance and that cocaine determined no grave changes in contact with the nerve elements.* Since that time numerous articles have appeared in the various medical journals in France and elsewhere by surgeons who have practised this method of anæsthetisation with satisfaction to themselves and benefit to their patients.

Why, then, this ostracism or this indifference in regard to a method which had been fully tried? In part no doubt to the attacks of Réclus and Laborde, the latter, by the way, being a physiologist and not a clinician, but neither attack was supported by any weighty reasons. Legueu's two mishaps and Broca's fatality, neither of which could fairly be attributed to the cocaine, seem to have made surgeons hesitate. My object in publishing my statistics of spinal cocainisation is to show that lumbar anæsthesia is in no wise dangerous and that the accusations which have been levelled at the method by its detractors are without foundation.

SPINAL COCAINISATION.

It was in July, 1900, that I for the first time saw Tuffier practise spinal anæsthetisation at the Lariboisière Hospital for the removal of a uterine fibroid. The anæsthesia was complete and was not attended by any untoward incident. On my return to Algiers I at once put the method into practice, so that my experience dates from August, 1900.

I may state at once that I have never imposed spinal cocainisation on my patients. Having proposed it, in the event of refusal I gave chloroform or other general anæsthetic according to circumstances. The cases comprise operations of every degree of severity: resection of ribs, hydatid cysts of the liver and peritoneum, strangulated hernia, abscess of the liver, eventration, incised wounds of the abdomen and contained viscera, on the anus and rectum, with a very large proportion of operations on the genital organs of both male and female, and on the limbs.

Age.—The patients' ages varied from 15 to 93 years and age *per se* is not regarded as a contra-indication.

Nature of the operation.—The operations performed under spinal anæsthesia were always low down—i.e., below the level of the umbilicus, anæsthesia extending upwards *as a general rule* to within two fingers' breadth below the mammæ.[1] Yet I have removed three mammary cancers by this method and done one resection of the elbow for tuberculosis in a girl, aged 18 years. The dose in these four cases was 3 centigrammes for the first three and 4 centigrammes for the fourth. In order to insure diffusion of the cocaine I was careful to keep the patient in Trendelenburg's position for ten minutes after the injection but anæsthesia was not complete, and I was fain to have recourse to chloroform, so that I have not repeated the experiment. In empyema I usually resect the tenth rib and in these instances the anæsthesia was sufficient.

By employing spinal anæsthesia only in persons who willingly submit thereto one reduces the number of failures; these in my experience amounted to about 11 per cent. It is with cocaine as it is with ether and chloroform, by which I mean that there is such a thing as idiosyncrasy or rather that the anæsthetic dose varies according to the individual. I am inclined to think that if we adopted in respect of cocaine the procedure which Chaput has adopted for stovaine—that is to say, if a further injection of 1 or 2 centigrammes were made—complete anæsthesia might be obtained in every instance. It was noted that most resistance was shown by alcoholic and nervous subjects. I recall the case of a nervous woman with a double pyosalpinx who only reluctantly agreed to the injection and obliged me in the middle of the operation to call chloroform to *my* aid. Yet this very patient confided to her neighbour that as a matter of fact she did not feel anything but that the bandage having fallen from her eyes she saw her belly open and began to scream. This is not infrequently the case; the patient feels no pain but owing to a lack of surveillance they see what is going on and get alarmed, or it may be they feel when tissues are being dragged upon as during the removal of large uterine fibroids.

Immediate effects.—By this I mean the subjective phenomena between the fifth and the fifteenth minute after injection such as pallor, sweating, nausea, vomiting, and occasionally *but rarely* marked apprehension; and, secondly, epileptoid tremor of the lower limbs and fatal syncope.

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[1] I have invariably employed Poulleno's solution 2 centigrammes per bulb.

shallow. One-twentieth of a grain of strychnine hypodermically and brandy were given, and artificial respiration was performed. Improvement took place and the operation was completed. Four days later an oval purplish vesicle, of about the size of half a crown, appeared on the sole of the left foot behind the little toe, and the skin beneath became purple. There was neither pain nor inflammatory reaction. Two days later a similar patch appeared on the outer part of the heel. In each case the subjacent skin became black and necrotic and separated slowly as a slough. On May 22nd healing was far enough advanced for the sores to be grafted which was done under local cocaine anæsthesia with good result. The Thiersch grafts applied to the leg were perfectly successful. Goldmann[1] has reported a case of gangrene of the skin of both heels following a spinal injection of two cubic centimetres of novocaine-suprarenin solution. The patient was 52 years of age and healthy, except for a moderate degree of arteriosclerosis. The injection was followed by severe pains in the neck, back, upper limbs, and especially in the heels. Dr. Morton suggests that the adrenalin may have been responsible for the gangrene which was obviously a trophic change. It will be interesting to note whether cases of gangrene occur after the spinal injection of the stovaine-glucose solution which is recommended by Mr. A. E. J. Barker[2] and so far has given excellent results.

THE INSPECTION OF SCHOOL CHILDREN BY COUNTY MEDICAL OFFICERS OF HEALTH.

IN our issue of Oct. 17th we commented under the above heading upon the situation which has arisen in Herefordshire as to the appointment of a county medical officer of health, part of whose duties would be the inspection of all the school children in the county. We pointed out that the council expected its county medical officer to pay for any assistance which he might require out of his own pocket. We now learn that the salary offered was £500 a year, out of which an assistant would certainly have to be paid—there are, we may add, some 16,000 children in the county—and other expenses, such as travelling expenses, would have to be considered. Altogether it is probable that the £500 a year would be reduced to something over £200 by the time when all expenses had been paid. Mr. Herbert Jones, as we said before, rightly demurred to the proposals of the committee as to the inspection of school children and the suggestion that the county medical officer should pay for any assistant out of his own pocket. He therefore withdrew his application for the post. At a meeting of the Herefordshire County Council, held on Oct. 10th, we see that it was decided that the education committee should select three other candidates to appear before it from whom an appointment might be made. We have before us a letter dated Oct. 16th in which the clerk of the Herefordshire County Council informs one of the candidates that he (the clerk) has been "directed to inquire whether your application may still be considered as before the committee." This letter would appear to show that the education committee is still in hopes of obtaining a medical officer on the terms which Mr. Herbert Jones has rejected. We cannot think that £500 per annum is an adequate salary if out of that £500 about half must be deducted for assistance; but, as we said in our leading article last week, the proposal that the county medical officer of health should have most of his time taken up by the inspection of school children is one which cannot be commended on general sanitary grounds. The Herefordshire county council might take example by the Norfolk education committee which is about to appoint two medical men for the medical inspection of children under the supervision of the county medical officer of health. These two gentlemen will each get £250 per annum and the necessary travelling expenses.

THE MODERN BLOATER.

THE bloater is excellent food and probably represents a nutritive value, having regard to its cheap price, greater than all the other animal foods. Not only, however, is the herring decidedly nutritious but in the cured form it is also tasty and appetising. It is to be feared, however, that modern bloaters, and more particularly the specimens sold in London, are often robbed of their attractive qualities by the adoption of a process of curing which is an ineffectual imitation of the better classical method. Possibly a "short cut" to the obtaining of a bloater from the fresh herring consists simply of a process of pickling the fish in, or brushing the surfaces with, a curing "essence" composed of tar or smoke oils. It should not be forgotten that curing by smoke not only preserves the fish but adds to it a condiment which aids the appetite and does no injury to the organism. The treatment, therefore, with solutions of antiseptics cannot be regarded dietetically in the same light as can the curing process. It is not unlikely, also, that borax and other antiseptics are used in order that the preserving process may produce what is called a "mild cured" article. In this way it is not unlikely that stale or even worse herrings are manipulated which might obviously be a source of danger to health. The result is that the modern bloater is often, as a correspondent has rightly pointed out, sodden, tasteless, unpleasing, or even only just eatable, whereas the bloater of previous times was attractive in appearance, the flesh being firm and sound yet tender and possessing an agreeable flavour. The same remarks apply to the kippered herring. Surely modern methods which detract from the pleasing or the important æsthetic qualities of a cheap and wholesome food need strongly to be condemned, especially in these days when we hear so much of the sufferings experienced by the starving unemployed.

PUNCTURE OF THE BRAIN.

ELSEWHERE in this issue we publish an article by Professor H. Tillmanns of Leipsic on a very important subject, puncture of the brain. The operation is as old as the time of Hippocrates, though it would be rash to believe that it was employed by the Father of Medicine himself, for much that is ascribed to Hippocrates is really due merely to his school. In the literature of the centuries which have passed since these early days of medicine references may be found here and there to the practice of puncture of the skull, but it is only within recent years that any systematic advance has been made, and even now many surgeons look askance at the operation. Antiseptic surgery has robbed the operation of the dangers which it once possessed and when practised with care the risk is extremely small. As Professor Tillmanns points out, puncture of the brain can be employed both for diagnostic and for therapeutic purposes. For diagnosis a puncture may be employed when there are signs of pressure on the brain or when an accumulation of blood, pus, or other fluid is suspected in the substance of the brain or in its ventricles. When the diagnostic puncture affords definite information it will be immediately followed by an operation for the removal of the disease. For purposes of treatment puncture of the brain is also of no small value. It can be used for cases where fluid has collected in the ventricles, and it has also been employed for the injection of liquids, such as tetanus antitoxin, into the cranial cavity, though this centigrammes. In one case 15 centigrammes were injected by error, the patient being a chronic inebriate with congested lungs who was brought in with double malleolar fracture and who refused chloroform. He presented very disquieting symptoms: intense dyspnœa, cyanosis, hiccough, thready pulse, headache, and vomiting with faintness. Dry-cupping to the chest, injections of caffeine, and inhalations of oxygen overcame the symptoms in about a quarter of an hour. He complained of numbness of the legs for two days after the accident. In five instances the anæsthesia was incomplete. Retention of urine was noted in 16 cases, lasting from 18 hours to eight days, and in one instance for two months. In the last-named case the patient also suffered from obstinate constipation which was only overcome 40 days after the operation. Dysuria was complained of five times and lasted for from 24 hours to 10 days. In one instance there was anuria for 24 hours following the injection of ten centigrammes of stovaine for an operation on hæmorrhoids.

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[1] Zentralblatt fur Chirurgie, 1907, No. 2.

[2] THE LANCET, Sept. 5th, 1908, p. 710.

The duration of the anæsthesia was from 10 to 100 minutes. This is usually proportional to the amount injected but not invariably so, and in some cases the injection of only 5 centigrammes was followed by prolonged anæsthesia. Perfect anæsthesia in alcoholic and nervous subjects cannot be relied upon with a less dose than 10 centigrammes.

In 11 cases slight headache was complained of and in seven it was severe. Vomiting was only noted on eight occasions *during* the operation and six times *after* the operation, either later in the day or on the following day. Rachialgia was complained of once and slight rise of temperature 12 times.

On the whole, the advantages appear to be in favour of spinal stovainisation and I may conclude: 1. That spinal stovainisation is an excellent mode of inducing anæsthesia which may be employed without danger from 15 years until an advanced age. 2. The dose of stovaine is from 5 to 10 centigrammes; this affords good anæsthesia which may last one and a half hours. 3. The constitutional disturbances are slight and never interfere with the performance of the surgeon's duties and they seem to be less frequent with stovaine than with cocaine.

The only serious drawback is the comparative frequency of urinary retention (44 out of 146 cases), lasting from one to several days. This drawback, which only exceptionally occurs when cocaine is employed, may not improbably lead me ultimately to give the preference to cocaine in the absence of the contra-indications mentioned above.

Algiers.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

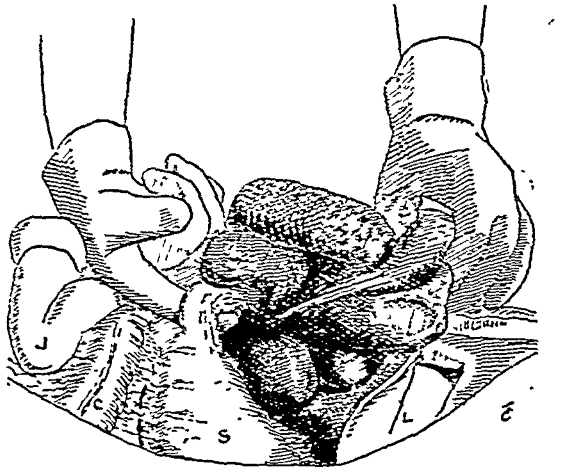
NOTE ON A CASE OF HERNIA THROUGH THE FORAMEN OF WINSLOW.

By T. CARWARDINE, M.S. LOND., F.R.C.S. ENG.,

SURGEON TO THE ROYAL INFIRMARY, BRISTOL.

HERNIA through the foramen of Winslow is so rare that the accompanying details of a case may be of interest. An engineer, aged 44 years, whilst using the telephone was suddenly seized with severe colicky pains which made him double up. He was not at first sick but had slight nausea, and the pain continued on and off afterwards and prevented sleep. On the next morning he was sick several times; on the morning of admission, two days after the onset, he brought up black vomit, so resembling ink in character and smell as to cause inquiries to be made as to whether any ink had been added to the vomit. The patient was dusky, with cold extremities; the pulse was feeble and 124; the temperature was 97° F. The abdomen was distended but not tense except in the epigastrium where there were resistance and impairment of resonance corresponding with the position of the lesser sac of peritoneum. Constipation had been absolute for the last 24 hours.

An immediate operation was performed. The patient was almost pulseless. The bowel, black and lustreless, was discovered on tearing through the gastro-hepatic omentum. A portion of the bowel was reduced, but an uncertain vascular band seemed to prevent reduction of the remainder; and as the patient's condition was bad drainage-tubes were put into the involved gut, the patient dying three hours afterwards.



Hernia through the foramen of Winslow. (From a photograph by Professor I. Walker Hall.) S, Stomach. L, Liver. C, Transverse colon. J, Jejunum.

Professor I. Walker Hall kindly furnished the following notes of the post-mortem examination: "At the autopsy it appeared that about 24 feet of the lower end of the ileum were present in the lesser sac. The entering portion had passed over the ascending and right part of the transverse colon, and then into the lesser sac. From the point of entry the lower part of the ileum dragged on the ileo-cæcal valve, the mesentery being twisted so as to form a distinct, sharp edge, simulating a band containing blood-vessels."

The illustration was drawn from a photograph kindly furnished by Professor Walker Hall.

Clifton.

NOTES ON A CASE OF ACUTE GOITRE.

By SIDNEY J. O. DICKINS, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

THE patient was a girl, aged 16 years. Her mother was dead but her father was alive and well. She had one brother alive who was healthy, but her three sisters were goitrous, one subsequently coming for treatment and recovering in three weeks, after taking syrup of iodide of iron and iodide of potassium and painting the gland with tincture of iodine. The patient, who was a fairly healthy looking girl, appeared to be well nourished but was a little anæmic, and she had a simple parenchymatous goitre. There had been no catamenia and slight exophthalmos was present. She had walked two miles to the surgery. She complained of difficulty in swallowing and in breathing. The tonsils were slightly inflamed. The left lobe of the thyroid was of about the size of a duck's egg and it extended behind the trachea, and was pressed down firmly upon the sternum during the act of swallowing and during inspiration. The gland was rather hard and could not be separated from the trachea. The patient was given half a drachm of syrup of iodide of iron and three grains of iodide of potassium three times a day, the gland being painted every night and morning with tincture of iodine. I was called up early on the following morning to see the patient who experienced considerable difficulty in breathing and in swallowing. There was an increase of stridor and the breathing was most comfortable when the patient was sitting up in a chair. There was no elevation of temperature and the pulse rate was 60 and of fair volume and tension. I ordered inhalations of steam, hot fomentations to be applied to the throat, and gave a gargle of chlorate of potassium and carbolic acid. The patient was more comfortable during the day. I was called up again on the next night, the messenger expressing the opinion that the patient was dying. I took with me effect of the hope aroused in patients under sentence of death. But this was only temporary. Dr. Weinstein sarcastically concludes: "There is no need to import placebos from Edinburgh. We have plenty on this continent." In a paper read at the Congress of the International Surgical Society and published recently by us[3] Mr. Henry Morris exhaustively discussed the trypsin treatment of cancer and came to an adverse conclusion.

EGYPTIAN VITAL STATISTICS FOR 1907.

IN an unsigned report issued with the usual statistical return of the Egyptian Public Health Department for the week ending Sept. 16th, 1908, we are supplied with an abstract of the demographical results of 1907. The native population on July 1st, 1907, exclusive of nomads, amounted to 11,038,112, showing an increase of 223,544, or about 2 per cent., on that of the preceding 12 months. These figures may be accepted as fairly exact, but the foreign population (which is returned as 112,447, the same as in 1907) can only be regarded as approximately correct because under the capitulations foreigners cannot be compelled to register births. This grave defect has often been mentioned in our columns and elsewhere, but apparently there must be difficulties in the way of its removal, which for some unaccountable reason are deemed to be insurmountable. The native births during the 12 months were at the rate of 43·7 per 1000; during the preceding year the birth-rate was 44·4 per 1000. 1334 foreign births came to the knowledge of the Public Health Department, but no rate can be furnished because, as already said, "the births of foreigners .... are not all notified." The native death-rate for 1907 was 27·0 per 1000 against 24·1 in 1906. The deaths in the foreign population took place at the rate of 23·0 per 1000; during 1906 it was 19·8 per 1000. The number of vaccinations performed during the twelvemonth was 456,285 with 3166 failures. There were also 4453 revaccinations, among which 714 were unsuccessful. The native births numbering 482,407 were in excess of the number of vaccinations by 26,122, but this discrepancy was no doubt due to premature infantile mortality. With regard to vaccination there is apparently no diffentiation in this return between natives and foreigners. The total number of nomads, or Bedouins as they are called, was 602,139. They are distributed all over Egypt and in many cases have long ceased to be wanderers.

SPENGLER'S TREATMENT OF TUBERCULOSIS.

WE have already alluded[1] to the results which are said to have been obtained in cases of tuberculosis from the use of a form of inoculation devised by Dr. Spengler of Davos. We have now received a reprint of an article by him,[2] in which an account is given of the theoretical basis on which his treatment is founded. It would seem that in attempting the cure of disease by means of the separated serum of the blood we have thus far been throwing away the substance for the shadow, since, if Dr. Spengler be right, it is in the red corpuscles of the blood that the immunising substances are formed and mainly stored, only a small proportion overflowing into the serum. Thus, according to his experience, there may be in the dissolved erythrocytes as much as one million times the quantity of the immune body which is contained in the serum; and this rule applies both to agglutinating and precipitating bodies and to antitoxic and bactericidal substances. The last two are, of course, the most important. Dr. Spengler states that the antitoxic body may be recognisable in a dilution of 1 in 100,000,000,000 of the blood of an immune animal. He admits that action in such a dilution is something apart from ordinary chemical action and speaks of an "atomic dissociation" which takes place, liberating "specific electrons." He has prepared the immune body from animals and advises its use as a remedy for human disease in the form of hypodermic injections; it can also be rubbed into the skin. It is not an albuminous substance. It is polyvalent, acting against pyogenic bacteria as well as against tubercle bacilli. It is procurable commercially under the name of "J. K." (Immun Körper). The theory propounded by Dr. Spengler is somewhat startling but it should not be difficult to verify his views as to the preponderance of immune bodies in the erythrocytes. If this be confirmed, then treatment by his vaccine will be supported by independent evidence and should receive prompt trial in this and other countries.

THE annual meeting of the Association of Public Vaccinators of England and Wales will be held at the Hotel Cecil, London, on Friday, Oct. 30th, when the chair will be taken by the President (Dr. A. Drury of Halifax) at 3 P.M. After the transaction of business a paper will be read by Dr. A. E. Cope (London), entitled, "Small-pox: What it was before the Introduction of Vaccination; and the Future of Small-pox, What is it to be?" The annual dinner will take place at the same hotel at 6.30 P.M. All public vaccinators, whether members of the association or not, are cordially invited and are asked to communicate early their intention to be present to the secretary of the association, Mr. Charles Greenwood, 1, Mitre-court-buildings, Temple, London, E.C.

THE opening lecture of the winter session of the Mount Vernon Hospital Post-graduate Course will be given by Sir James Barr on Oct. 28th, at 5 P.M., at the central out-patient department of the hospital, 7, Fitzroy-square, London, W. The subject of the lecture, to which qualified medical practitioners are invited, will be "Mitral Stenosis."

MR. William Knight Treves, F.R.C.S. Eng., died at his residence in Margate, on Oct. 14th, aged 65 years. Mr. Treves, who was a brother of Sir Frederick Treves, qualified as F.R.C.S. Eng. in 1870 and at the time of his death was consulting surgeon to the Royal Sea Bathing Hospital at Margate.

WE regret to announce the death of M. Paul Berger, the great French surgical authority on fractures and dislocations, which occurred on Oct. 17th. Pressure on our space forbids an extended notice of his career in this issue, but we hope to publish one later.

A TELEGRAM from the Governor of Mauritius received at the Colonial Office on Oct. 16th states that for the week ending Oct. 15th there were 13 cases of plague and 9 deaths from the disease.

THE first scientific meeting of the Zoological Society of London for the session 1908-09 will be held in the society's rooms at 3, Hanover-square, W., on Tuesday, Nov. 3rd, at 8.30 P.M.

UNIVERSITY COLLEGE, LONDON.—A course of eight lectures on Certain Fundamental Problems in Physiology Common to Animals and Plants is being given by Dr. W. M. Bayliss on Wednesdays, at 5 P.M. The lectures will be devoted mainly to the permeability of cells and membranes and phenomena connected therewith, such as plasmolysis, secretion, nature of the nerve-impulse, &c. The lectures are open to all students of the University of London, also to qualified medical men and to such other persons as are specially admitted.

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[3] Ibid., Oct. 3rd, 1908, p. 997.

[1] THE LANCET, March 21st, 1908, p. 893.

[2] Deutsche Medicinische Wochenschrift. 1908, No. 38.

distension of the fœtal bladder without stenosis of the urethra and he pointed out that although the view that a fœtus could empty its bladder into the closed amniotic sac was commonly held, no one had brought forward any evidence that this was possible, and it appeared to be very unlikely, although the cases where great hypertrophy of the bladder wall existed, as reported by Dr. Spicer, seem to show that in certain circumstances it might be possible.

Mr. DORAN and Dr. CUTHBERT LOCKYER communicated a paper on two cases of Uterine Fibroid showing Peritheliomatous Changes. The first patient was a 5-para, aged 49 years. A cystic uterine fibroid over 14 pounds in weight was removed by supravaginal hysterectomy, with an ovary the seat of fibroma. The opposite Fallopian tube and ovary were not removed. The solid part of the uterine tumour showed on microscopical examination all the characters of malignant perithelioma. Four and a half years after operation the patient had become very corpulent and there was no evidence of recurrence. The second patient was a 2-para, aged 36 years. A cystic uterine fibroid 2½ pounds in weight, invading the left broad ligament and sigmoid mesocolon, was removed by supravaginal hysterectomy, as total removal of the uterus appeared impracticable. There were marked changes in the left Fallopian tube and ovary and deposit in the parametrium of doubtful nature. The uterine tumour and the growths in the left tube, ovary, and parametrium showed on microscopic examination all the characters of malignant perithelioma. Speedy recurrence was expected, yet two years and seven months after the operation the patient was living and in good health. The stump of the cervix had become very small and the deposit in the left parametrium had disappeared. These cases showed the extreme importance of careful observation of all patients on whom hysterectomy for the removal of fibroid tumours had been performed.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

The British Pharmacopœia: Its Scope and Object.

THE first meeting of the session of this section was held on Oct. 6th, Dr. T. E. BURTON BROWN, the President, being in the chair.

Dr. NESTOR TIRARD read an address on the British Pharmacopœia: Its Scope and Object. After briefly mentioning some of the criticisms upon the present Pharmacopœia and indicating that in many instances they betrayed a lack of appreciation of its scope and object, Dr. Tirard quoted from the Medical Act of 1858 the terms under which the General Medical Council is directed to prepare the Pharmacopœia. In the Medical Act the original scope and object are accurately defined, but many factors, besides the changes of therapeutic practice, have served to widen the scope. In 1898 by some modifications of strength of galenical preparations greater freedom of prescribing was encouraged and the work of students and of medical men was diminished. Since that date the Indian and Colonial Addendum provided for the requirements of those practising in India and the colonies, drugs of local reputation and modifications requisite owing to climatic conditions being introduced. Further changes would be necessary to secure greater uniformity in the pharmacopœias of different nations and reference was made to the international agreement which had been signed with this object. Turning next to the steps which were being taken in view of a forthcoming new issue of the Pharmacopœia, Dr. Tirard indicated that great progress had already been made with many points involving prolonged researches; these had been undertaken very shortly after the publication of 1898. The Pharmaceutical Societies of Great Britain and of Ireland had been invited to appoint representatives to confer with members of the Pharmacopœia Committee of the General Medical Council, and numerous subjects requiring investigation had been submitted to various experts in pharmacy and pharmaceutical chemistry. Particular reference was made to the researches made by Professor Greenish on solubilities and ash yields, and to the report by Professor Dunstan on the best methods of testing for arsenic and the limits of that impurity in medicinal substances. Mention was made of the steps taken to ascertain what omissions, additions, and alterations in the Pharmacopœia were desired by medical men and by pharmacists, and of the reports received from the different medical authorities, from the Therapeutic Committee of the British Medical Association, from a collation of recent prescriptions, and from a committee of wholesale druggists. While the details of most of these were at present confidential, the report of the Therapeutic Committee indicated some points which might call for discussion. Mention was made of the suggested elimination of all substances devoid of action, which could be determined by physiological experiment or by therapeutic observation. The difficulties likely to be entailed by the introduction of sera or of the physiological standardisation of drugs were also referred to, since these appeared to involve the creation of special State laboratories and the substitution of an official guarantee in place of personal responsibility. In conclusion, Dr. Tirard said that in view of the number and diversity of the suggestions received, it would be impossible to act upon them all, but that he hoped the new Pharmacopœia would show that much had been done by good intentions and by mutual concessions.

Dr. C. O. HAWTHORNE pointed out the danger of regarding the Pharmacopœia as an official treatise upon drugs. It was no part of the duties of the Pharmacopœia to recommend particular drugs, or particular combinations of drugs. It was its sole duty to determine a standard of purity. That a drug was used entitled that drug to admission into the Pharmacopœia, however doubtful its merits might be. Nor should the Pharmacopœia be regarded as a text-book. It should be recognised that it was both unnecessary and impossible for a student to attempt to commit its contents to memory.

Mr. H. WIPPELL GADD referred to difficulties which had arisen in courts of law recently. It had been held that certain drugs must be dispensed in Pharmacopœial strength.

OPHTHALMOLOGICAL SOCIETY.

Dipterous Larva in the Anterior Chamber.—Six Generations of Piebalds.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Oct. 15th, Mr. R. MARCUS GUNN, the President, being in the chair.

Dr. FRANK G. THOMAS and Mr. J. HERBERT PARSONS communicated a paper on a case of Dipterous Larva in the Anterior Chamber. The case was that of a male, aged two and three-quarter years, who was seen on March 18th of this year. Three and a half weeks previously the left eye was noticed to be red and photophobic and the child seemed occasionally to be in pain. There was no history of injury or illness, nor any symptoms suggestive of intestinal "worms." On examination under an anæsthetic the eye showed slight ciliary injection, the cornea was clear, the anterior chamber was deepened, and the aqueous faintly turbid; the iris was discoloured and pattern-fogged and the pupil was irregular and filled with pigmented lymph. Lying on the iris was a long cylindrical body resembling a small worm, its head being in the lower and outer quadrant and its tail in the angle of the anterior chamber at the upper and inner quadrant. The body consisted of eight segments and measured 12 or 13 millimetres, was of greyish-yellow colour, and showed no movements. With a binocular loupe a fine covering of grey material could be made out enveloping it and reflected on to the iris. The tension was −1 and the eye was blind. Enucleation was performed on the same day. The eye was hardened in formol and sections were made at right angles to the foreign body. The anterior chamber contained exudate in front of the iris, tying down the cylindrical mass to it; the lens was somewhat shrunken and the vitreous was also shrunken and contained a coagulum. The retina was detached with sub-retinal coagulum. Microscopically, the cornea was found to be slightly infiltrated at the periphery. The anterior chamber was deep and contained homogeneous coagulum with multitudes of leucocytes. The angles were widely open and the region of the canal of Schlemm was densely packed with leucocytes. Lying on the surface of the iris was a circular body bounded by hyaline membrane, which was clearly an animal parasite. The iris, ciliary body, and retina were densely infiltrated with leucocytes. The lens was distorted, showing cataractous changes, and was covered by a fibrinous coagulum, the latter being also seen covering the ciliary body. The choroid was *in situ* and was

Extract of Meat Company farmed in 1868 some 28,494 acres of land, and the total herd of horned cattle reared on this area was 12,000; in 1878 the number of acres was 37,961 and the number of cattle 19,036; in 1888 the number of acres was 126,984 and of cattle 36,685; in 1898 the pasture land comprised 254,133 acres and the cattle numbered 66,435 head; and this year (1908) the acreage is no less than 1,302,386 and the number of cattle 224,406. That is to say, that at present this company possesses one and a third millions of acres of grass lands and nearly a quarter of a million of cattle. Striking as the figures may be as illustrating the enormous expansion of the cattle-rearing industry, they become still more impressive when regard is had to the fact that the cattle are no longer, as in Liebig's day, and according to his own words, "half-wild animals," but are bred from the choicest pedigree stock taken from the farms of our best English breeders. Drafts of Hereford bulls of the type shown in Fig. 1 and heifers and Aberdeen Angus, all from prize pedigree stock, are at intervals sent out not merely to perpetuate the herds but to improve the race and so to maintain such a superior class of beast as to produce a corresponding quality in the food product. Moreover, the Argentine and Uruguay authorities insist upon certain strict precautions being observed before the pedigree animals are admitted into the country. One certificate, for instance, is required from the home farm stating that the animals and the herd from which they came are free from disease and another to the effect that at the port of shipment the animals were sound. A further document is required from the Board of Agriculture that in the land whence they came there is a freedom from foot-and-mouth disease and so forth. On arrival the animals have to undergo government veterinary examination and a quarantine of 40 days, towards the end of which the tuberculin test is applied. The animals are only allowed to proceed to their destination when these tests have been proved to be satisfactory, failing which the beasts are killed without any compensation to the owners. As a rule, importers take the precaution of having the tuberculin test applied to the animal before it is shipped. It must be admitted that these stringent rules, made, as they are, in the interests of the health and sanitary conditions of the animals, are admirable and calculated to prevent the possibility of bovine disease being introduced into the country from without.

MODERN CATTLE FARMING AND ITS MAGNITUDE.

It is difficult to convey an adequate sense of the magnitude of the cattle farms situated upon the Liebig Company's property in the Argentine, in Uruguay, and in Paraguay.

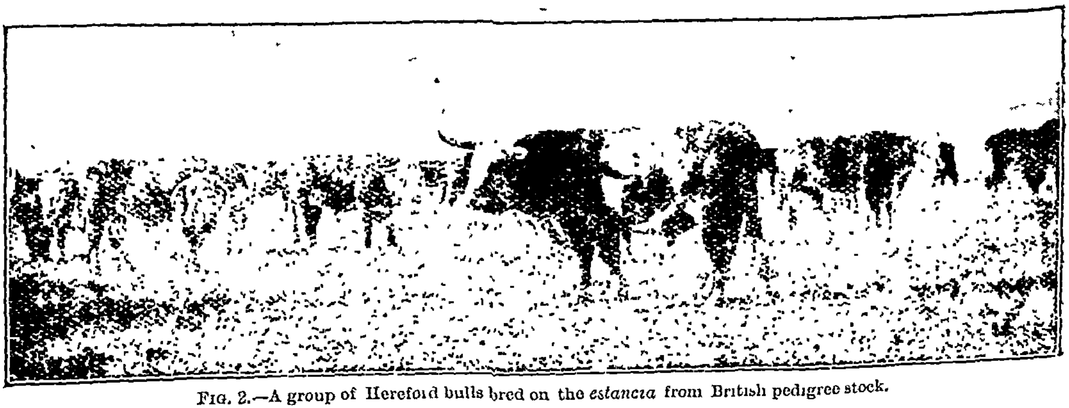

FIG. 2.—A group of Hereford bulls bred on the *estancia* from British pedigree stock.

Even a rapid round of all the *estancias*, without spending more than a day and a night at each, would occupy the best part of three months. And the traveller would encounter over the thousands of miles covered a vast ocean of grass ever being replenished by a congenial climate, studded by innumerable herds of cattle, each perhaps comprising from 2000 to 4000 head, and after some days he would probably get satiated with the sight of so many cattle, albeit they are splendid beasts the sires of which are English pedigree-bred (Fig. 2). He would appreciate the curiously exhilarating and pure air; the sense of real fatigue comes but rarely in spite of hard travelling. He would admire the marvellously healthy-looking condition and cleanly and picturesque appearance of the cattle, due to careful breeding and selection of stock, and above all to the fact that every moment of their life day and night is spent in the open air. The whole camp is, in short, one stupendous example of the open-air life. It not only supplies abundance of good pasture and water but it provides also a continual supply of fresh pure air which effectually guards the cattle from those diseases to which they are prone. Nothing could be more striking in favour of open-air treatment than the immunity from tuberculous disease which cattle share when their life is lived entirely in the open. There is no such thing as a stall-fed beast on the great grassy camps of the *estancia* and the tubercle bacillus finds such an environment uncongenial to its growth and development. As the towns or cities are approached so does the environment grow favourable for infection and the figures giving the returns of cases of tuberculosis amongst cattle admitted at the freezing factories (*frigorificos*) in the towns, as against the returns of those killed at the preserving factories (*saladeros*) situated up country and in convenient proximity to the camp, are interesting in this connexion.

TUBERCULOSIS FIGURES (CATTLE) IN THE ARGENTINE 1903-1907 *INCLUSIVE.*

	Number of cattle.	Number affected with tuberculosis.	Percentage tuberculosis.
1903.			
Freezing establishment (frigorificos) ...	230,095	646	0·29
Preserving factories (saladeros)	202,082	5	0·002
1904.			
Freezing establishment (frigorificos) ...	307,803	2000	0·64
Preserving factories (saladeros)	235,735	14	0·005
1905.			
Freezing establishment (frigorificos) ...	520,166	7760	1·49
Preserving factories (saladeros)	330,534	44	0·01
1906.			
Freezing establishment (frigorificos) ...	564,171	6212	1·10
Preserving factories (saladeros)	285,048	89	0·03
1907.			
Freezing establishment (frigorificos) ...	558,578	5604	1·00
Preserving factories (saladeros)	392,608	192	0·04

Our Commissioner was supplied with the above figures by an official at the offices of the Ministry of Agriculture with whom he had an interesting interview on this question. They show a highly favourable contrast with those recording the number of cattle affected by tuberculosis in this country. Official returns, in fact, show that at least a fourth, and probably more, of the cattle in England are affected with tuberculosis. But the experience again in this country is that immunity is most enjoyed by the breeds that are less domesticated—that is to say, by those cattle which live an outdoor life.

THE METAMORPHOSIS OF GRASS.

The vast camps furnish the arena for the metamorphosis of their prolific grasses into animal substances. For this great synthetic process the bovine machine requires nothing more than grass, water, and air, and of these the supply is south-west of the European settlement, that was to leeward having regard to the prevailing direction of the dry season wind, and about 400 yards away. So far as could be done, all cases of meningitis were isolated as early as possible, but it was a very unpopular measure with the natives and a great difficulty was the nursing and feeding of patients as there were no trained nurses or dressers in the station. Disinfection of the hospital was sufficiently easily and completely performed at the end of the epidemic by firing the grass roof which fell into the mud building. Isolation was preached to the chiefs and headmen of the infected villages, and in one or two cases they were prevailed upon to build an outlying grass hut for the reception of patients. But the objection raised, with some reason, was that the patients so isolated ran risk of attack at night from wild beasts; generally the utmost that could be done was to collect the sick together in one compound, or one part of a compound, from which the younger people were excluded so far as possible. The probable methods of spread of the epidemic were pointed out and the rudiments of sanitation instilled into their primitive minds. 3. Disinfection of infected houses with burning sulphur was carried out where possible. 4. Examination of suspicious cases of sickness among caravans. 5. Funeral customs, with the consequent intervisiting, were forbidden or restrained so far as possible. 6. House-to-house visiting on any large scale could not possibly be carried out on account of the large areas covered by the separate villages, but, so far as could be done, all cases of sickness were examined. 7. The public market was closed where considered necessary, as in Tumu, having regard to the people from infected villages who frequented it. 8. Station carriers and labourers were not taken from villages where sickness was present. 9. *Zongas* or caravanserais had been erected in many cases by the district commissioners to serve as a halting place for travelling caravans, thus avoiding the necessity of traders sleeping in native villages. 10. Dr. Horn found it advisable at the time of the Chief Commissioner's tour of the Northern Territories to suggest that owing to the prevalence of the epidemic at that time in the Lorha and Tumu districts it would be inadvisable for the chiefs or headmen of the villages to travel to these stations for the purpose of meeting the Chief Commissioner as it would in many cases entail their sleeping at infected villages on the road and so possibly spread the infection. That suggestion was acted upon and any large congregation of chiefs at Lorha and Tumu was avoided. 11. He also suggested to the Chief Commissioner while at Lorha that it would be unwise while the epidemic prevailed in the dry season to allow any gang of natives from the infected districts to be taken down country for work at the mines in Ashanti and the Colony owing to the grave risk of introducing the infection to those parts. The Chief Commissioner agreed with the suggestion and no men were sent. Dr. Horn wished also to lay stress on the fact that severe epidemics of cerebro-spinal meningitis, such as had occurred in West Africa for certainly the last three years, could not be considered apart from the grave epidemics of the same disease which had occurred so recently in many parts of Europe, including the United Kingdom. Amongst the civilised peoples of Europe every step could be taken to arrest the progress of the disease, but it must be admitted that it was at least possible that the disease in West Africa, similar as it was in cause and effect, might act as a "feeder" to that in Europe and so tend to prolong its presence there. There was direct or indirect communication by means of caravans which might convey the infection between West Africa and many parts of North Africa from which the disease might be carried by ships to the seaports of Europe, where it was frequently found the epidemic started. Whether the infection was also air-borne had not been determined, but the direction of its spread in West Africa—roughly that of the prevailing wind—suggested that it might be to some extent, although its main mode of conveyance was by "contacts" as described. It was therefore, he submitted, of the utmost importance that every precaution possible should be adopted to arrest the disease in West Africa so far as could be done. Dr. Horn had described the steps taken for that purpose during the present epidemic and he suggested that in any future outbreak they should be rigorously enforced, together with any other means which might appear advisable, such, for instance, as nasal disinfection, a measure which was, however, entirely impracticable at present among natives.

A discussion followed, which was taken part in by Lieutenant-Colonel A. E. WATHERSTON, Dr. F. M. SANDWITH, Dr. G. C. LOW, and the PRESIDENT, after which Dr. HORN briefly replied.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

A MEETING of this society was held on Oct. 8th, Mr. G. B. MOWER WHITE, the President, being in the chair.

The Work of the Research Defence Society.

Mr. STEPHEN PAGET read a paper on the Work of the Research Defence Society, in the course of which he said: Many of us remember the first Royal Commission appointed in 1875 to inquire into experiments on animals. The contrast is very significant between the evidence given before that Commission and the evidence before the present Royal Commission. Truly, as we turn from the one set of Blue-books to the other, we seem almost to pass into a new world. In 1875 the evidence was mainly physiological, and even in physiology there were no such triumphs to be declared as the present Royal Commission has lately heard with its own ears. As for pathology, next to nothing was said about pathology, and there was nothing said about bacteriology—nothing, at any rate, except one or two vague and splendid prophecies. Especially, that magnificent passage in Sir John Simon's evidence touching the nature of anthrax:—

> We are going through a progressive work which has many stages, and are now getting more precise knowledge of the contagium. By these experiments on sheep it has been made quite clear that the contagium of sheep-pox is something of which the habits can be studied, as the habits of a fern or a moss can be studied, and we look forward to opportunities of thus studying the contagium outside the body which it infects. This is not a thing to be done in a day or perhaps in ten years, but must extend over a long period of time. Dr. Klein's present paper represents one very important stage of a vast special study. He gives the identification of the contagium as something which he has studied to the end in the infected body, and which can now in a future stage be studied outside the body.

But, of course, a Royal Commission cannot live on prophecies. The evidence before the 1875 Commission is in great part retrospective and historical. The witnesses proved, past all possibility of doubt, the value and the necessity of experiments on animals, and with that proof the Commissioners were content. They sat for six months only, they examined 53 witnesses and no more, and the total number of questions and answers attains the comparatively moderate figure of 6551. The Act founded on their recommendations was passed in 1876. If prophecy be out of place before a Royal Commission it is even more out of place in an Act of Parliament. Therefore ever since 1876 we have seen the Act strained and pulled this way and that, so that it may somehow be applied to the growing needs of science. For example, there is even now no special certificate for inoculations, yet inoculations, with a few experiments of the nature of inoculations, are at the present time 96·5 per cent. of all experiments on animals. Thus the public are left to believe that severe operations are performed on animals without anæsthesia, and we all know what use is made of this defect in the Act by the opponents of these experiments. In 1882, six years after the passing of the Act, some of the chief members of our profession founded the Association for the Advancement of Medicine by Research; among them were Lord Lister, Sir James Paget, Sir William Gull, Sir William Bowman, Sir Richard Quain, and Sir Andrew Clark. The purpose of this association was "to bring the legitimate influence of the medical profession more effectively to bear on the promotion of those exact researches in physiology, pathology, and therapeutics which are essential to the sound progress of the healing art." The council of this association made an offer to the Home Office "to render, within their province, such aid or advice as would tend to facilitate the administrations of the statute, without trenching upon the absolute discretion committed to the Home Secretary." This offer was immediately accepted by Sir William Harcourt, then Home Secretary, and in December, 1882, it was decided that no application under the Act should be entertained by the Home Office except on the recommendation of the council of this association. From that time till now, for more than a quarter of a century, this association has been the constant adviser of the Home Office. But we need not stay over these old facts about science and politics more than 30 years ago. The Act had hardly received the Royal Assent

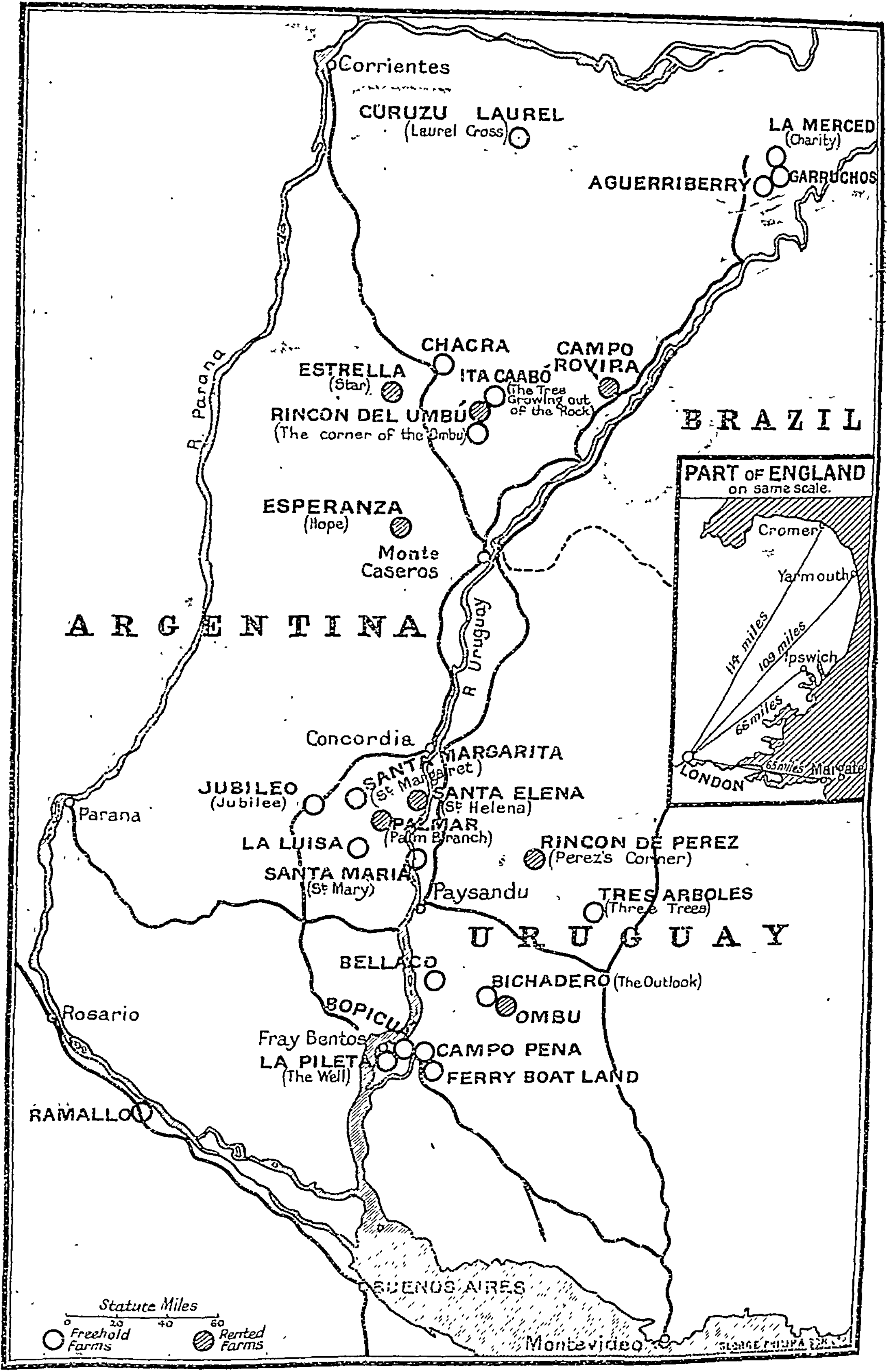

FIG. 3.—Map of the *estancias* on the Liebig Company's estates in Uruguay and Argentina.

Mr. S. Maynard Smith, and Mr. C. I. Graham.—Mr. T. Crisp English showed the following specimens: (1) A Fibro-adenoma of the Breast of great size, which was removed from a patient who was five and a half months pregnant; (2) a Malignant Growth of the Prostate Gland removed by him from a patient aged 70 years; and (3) a Twisted Calcified Fibroid of the Uterus of great size, which had caused symptoms of intestinal obstruction. The tumour was removed by operation.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first meeting of the winter session of this society was held on Oct. 14th, when an address was given by Dr. L. S. McManus, the President, on General Practitioners in Relation to Each Other, to the British Medical Association, and to the General Medical Council. A brief sketch was given of the relationship of medical men to one another in the past, illustrating by examples culled from history, art, and literature, how our predecessors suffered like medical men of to-day from evils arising out of professional rivalries and jealousies and misconceptions on the part of the public; it was pointed out how the formation of societies such as the South-West London and on a larger scale of the British Medical Association had ushered in an era of greater kindly feeling and coöperation in which much good work had been done. Owing to the failure of the British Medical Association to fulfil the objects for which it had been founded, of late years it had been found necessary to revolutionise it and to place it on a broad democratic basis with many and varied functions designed for the advantage of every individual member as well as of the profession as a body. The General Medical Council was instituted for the protection of the public, and its main function, which had been adequately performed, was the supervision of the mental equipment of every student. The Council, however, lamentably failed to afford any protection to the practitioner when once qualified, a failure due to the insufficient representation of the general practitioners. In conclusion, the President urged on all practitioners the necessity of combination if the profession were to maintain its rightful position.

Reviews and Notices of Books.

Applied Physiology: A Handbook for Students of Medicine. By ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond. London: Edward Arnold. 1908. Pp. 298. Price 7*s.* 6*d.* net.

THIS is an attempt, and a successful attempt, to apply physiology to medicine in the same way as anatomy has long been applied to surgery. It is intended to be a companion to, and not a substitute for, physiological text-books. An account of method is omitted: the chief emphasis is laid upon facts which have a direct bearing upon clinical work. There is no chapter on muscle, nerves, or the special senses. What is included is physiology as applied to metabolism (pp. 48), body heat (pp. 22), blood and hæmopoietic organs (pp. 34), heart and circulation (pp. 72), respiration (pp. 48), digestion (pp. 53), and excretion (pp. 20).

In connexion with the question of the metabolism of proteins, Chittenden's estimate of 60 grammes per day instead of 118 is mentioned and the author remarks, "it would be well for the physician to be cautious in applying these results in practice." Experience has shown the value of a liberal meat diet in tuberculosis, while the Japanese have found that a liberal meat diet given to their sailors is a prophylactic against beri-beri. A person cannot be made strong by a liberal protein diet, exercise must be taken at the same time. Massage has no appreciable influence on metabolism and is therefore in no real sense a substitute for exercise. Metabolism is treated from the quantitative point of view, expenditure and income of energy, storage of surplus energy, and then is set forth the influence of age, sex, build of the body, work and rest, season, period of day and weather, nervous system, internal secretions, and personal peculiarity on metabolism. Qualitative metabolism is then dealt with, including proteins, fats, and carbohydrates, which leads up to the consideration of diabetes and the metabolism of uric acid.

Sometimes the temperature is given in degrees Fahrenheit, sometimes in degrees Centigrade. The blood itself is considered not only as a medium of exchange and as a tissue, but also as a means of defence, and hence the importance of its antitoxic and bactericidal properties; and for this reason "hæmatology" has assumed a very important place in latter-day medicine. The term "apex beat" is retained for cardiac impulse. The nervous mechanism of the heart apparatus is carefully considered in relation to disease, while a general account of the chief facts of the circulation on which physiologists are agreed is supplemented by clinical facts. The capillary pressure is stated, on the authority of Hill, as being often above 100 millimetres of Hg. "Cold contracts the peripheral arteries and raises the blood pressure, so that the first onset of cold weather in winter is apt to be attended by a crop of apoplexies" (p. 165). The splanchnic nervous system is the "resistance box" of the circulation. Ludwig long ago pointed out the importance of the portal system in the regulation of the arterial blood pressure.

Special emphasis is laid on nose-breathing and the whole treatment of the respiratory processes is eminently scientific as well as practical. The treatment of certain conditions by inhalation of oxygen has justified itself in practice (p. 213), and the author quotes French writers on the effects of decompression in "caisson disease," when they say "payment is only made on coming out." Deep breathing is no substitute for exercise, this alone can really increase the oxidation processes in the body. The researches of Pawlow, of Cannon, and Hertz are woven into the story of the digestive processes and their practical applications are fully stated.

We feel sure that this work will prove useful not only to the student beginning his clinical work but also to the practitioner who has long since "walked the hospitals." It is written in a style at once simple and attractive which makes the assimilation of the facts both easy and effective. The salient facts of physiology find their appropriate application in the study of the phenomena of disease.

Atlas Chirurgisch-pathologischer Rontgenbilder. Mit 240 autotypischen, 105 photographischen Bildern, 66 Skizzen und erläuternden Text. (*Atlas of Radiograms of Surgical Diseases.* With 240 autotype and 105 photographic figures and 66 sketches and explanatory text.) By Dr. RUDOLF GRASHEY, Assistenzarzt der K. chirurgischen Klinik zu München. Lehmann's Medizinische Atlanten, Band vi. Munich: J. F. Lehmann. 1908. Pp. 152. Price M.22.

THE above work, as the title infers, is confined solely to the consideration of surgical diseases. It is divided into two parts. The first consists of 49 pages devoted to a short consideration of the following subjects: foreign bodies, concretions, diseases of bone, diseases of joints, deformities, tumours, pathological changes in the soft parts, dislocations, and fractures. The chapters on the location of foreign bodies and on the diseases of bone are by far the best; the others are a little disappointing, especially the scanty notice given to renal calculi.

The second part consists of numerous reproductions of typical radiograms with very full descriptions of each plate. Here there can be nothing but praise for the excellent reproductions of the prints. The difficult problem of bringing out the minute texture of the bones in book prints seems to have been solved most satisfactorily. In fact, the reproductions are as good as successful positives. In the

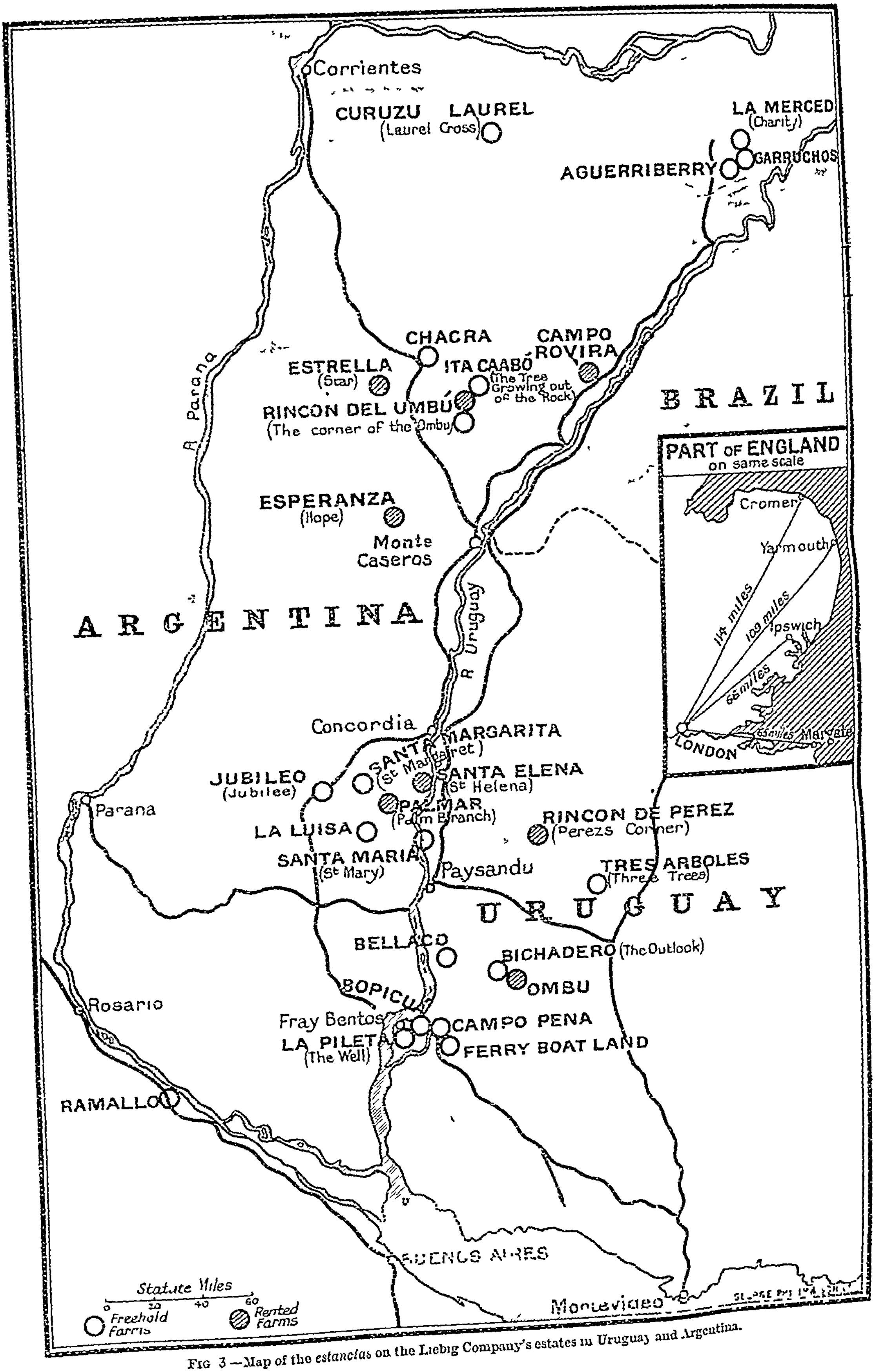

FIG 3.—Map of the *estancias* on the Liebig Company's estates in Uruguay and Argentina.

connective tissue that would take place between the testicle and the skin, through its power of contraction, would have a bad effect upon the functional capacity of the organ." We believe this idea to be entirely imaginary. The book is fully illustrated and we may specially mention an excellent plate showing a skiagram of a patient who had a double ureter on one side. All the three ureters have been catheterised through their length with catheters giving an x-ray shadow and the result is very striking.

Gonorrhœa: Its Diagnosis and Treatment. By FREDERICK BAUMANN, Ph.D., M.D., Professor of Genito-urinary Diseases in the Reliance Medical College, and Instructor in Dermatology and Venereal Diseases in the College of Physicians and Surgeons, Chicago. With 52 illustrations in the text. London: Sidney Appleton. 1908.—Gonorrhœa is now considered to be a much more serious disease than formerly, for it is recognised that diseases of many distant structures may be among its manifestations. This work, however, deals almost entirely with gonorrhœa as it affects the lower genito-urinary passages. A brief account is given of the anatomy of the urethra but no illustration is supplied. The description of the pathology of the disease is based on the work of Oberländer and Kollmann, and it is therefore very satisfactory. The treatment of the disease is naturally of the greatest importance and this is given at great length. The author has no very high opinion of internal treatment; he says that it may be used particularly in cases in which there is a marked purulent discharge, but he adds that it is that part of the treatment which may be omitted. He considers of much greater importance the local application of germicides and he discusses the relative value of the more commonly used urethral germicides. He has a low opinion of the organic preparations of silver but his objection to them appears to be, in part at least, theoretical. In the treatment of acute gonorrhœa he considers that the best results are obtained by daily irrigation with a warm potassium permanganate or nitric acid solution in increasing strength and given with a hand syringe without the use of an injector. The first injection should consist of one or two quarts of a 1 in 10,000 or 1 in 20,000 aqueous solution at a temperature of 40° to 45° C. The account of gonorrhœal metastases is very brief. On the whole, we consider that this book is likely to be useful as an introduction to the study of gonorrhœa.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—An interesting article upon osseous new growth at the elbow following backward dislocation of the bones of the forearm is contributed to the October number of this magazine by Mr. David M. Greig. The condition is of importance as accounting for some failures to produce a mobile joint after accidents of this nature which may bring discredit upon the surgeon. The author objects to the view that the ossification is to be regarded as a traumatic myositis ossificans and holds that the new bone is formed in effused blood clot. Dr. Claude B. Ker writes on the treatment of cerebro-spinal meningitis by Flexner's serum which he regards as a valuable remedy, and Dr. F. Parkes Weber raises a theoretical objection to the employment of Calmette's ophthalmic reaction in tuberculosis, in that it may set up recurring attacks of conjunctivitis due to subsequent auto-inoculations with tuberculous toxins.

The Medical Chronicle.—In the October issue of this journal Dr. Robert Ollerenshaw records some valuable investigations as to the nature and use of some of the newer hypnotic and analgesic drugs. Thus chloretone is valuable in sea-sickness and chorea, also as a preventive of post-anæsthetic vomiting, but useless as a local anæsthetic and of little value as a hypnotic; brometone is of value in some cases of epilepsy and has some hypnotic power; phenalgin is toxic and its advantages as an antipyretic are outweighed by its depressing action on the heart. Veronal is a valuable hypnotic and has the peculiar property of counteracting the unpleasant effects of morphine; bromural is also a useful and safe hypnotic; isopral acts similarly and can be administered by rubbing it into the skin. Neuronal has some power of inducing sleep but is unduly depressing. Mesotan is useful as a local application to rheumatic joints. Dr. J. Dixon Mann discusses the fallacies inherent in Fehling's test for sugar in the urine and shows that they are not serious in actual practice.

West London Medical Journal.—The October number of this journal opens with an interesting address by Colonel T. Holbein Hendley, I.M.S. Bengal (retired), upon the identity of the problems, aims, and interests of the medical man at home and abroad, with special reference to India. Dr. A. Elliott and Dr. A. E. Russell discuss some of the causes of unconsciousness and their diagnosis; and some interesting cases are recorded—two of purpura hæmorrhagica successfully treated by Dr. J. A. Coutts with antistreptococcic serum, and one of pancreatic hæmorrhage by Mr. Herbert W. Chambers.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 15th, Mr. HENRY MORRIS, the President, being in the chair.

Mr. EDMUND OWEN, on behalf of the Committee on the Annual Report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 19th. The report was approved.

Mr. Ernest Harries Walker, lately a student at Epsom College and now at St. Thomas's Hospital, was appointed the sixteenth Jenks scholar.

Sir W. Watson Cheyne was appointed a member of the committee of management in the vacancy occasioned by the retirement of Mr. Edmund Owen, to whom the thanks of the Council were given for his services on that committee.

Mr. P. Sidney Spokes was re-elected a member of the Board of Examiners in Dental Surgery.

Dr. Benjamin Moore, professor of bio-chemistry in the University of Liverpool, was elected examiner in physiology for the Second Examination of the Conjoint Examining Board in the vacancy occasioned by the death of Dr. Bertram Abrahams.

A letter was read from Mr. Henry T. Butlin, resigning his membership of the Senate of the University of London as one of the representatives of the College. A vote of thanks was given to Mr. Butlin for his services and Mr. H. H Clutton was appointed a representative of the College in his stead.

Mr. Clutton was also appointed an additional delegate on the joint committee with the Royal College of Physicians of London on the proposed combination with the University of London.

Mr. CLINTON T. DENT proposed the following motions which were carried:—

1. That steps be forthwith taken to admit women to the examinations of the Conjoint Examining Board in England and to the examination for the Diploma in Public Health.
2. That women be admitted to the examinations for the Fellowship of the Royal College of Surgeons and to the examinations for the Licence in Dental Surgery.

A committee was appointed to prepare a *formula* for the necessary alterations in the by-laws.

A BATH CENTENARIAN.—Miss Marianne Hensley of 4, Bloomfield-place, Bath, attained the 103rd anniversary of her birthday on Oct. 15th. The King sent a telegram of congratulation to Miss Hensley.

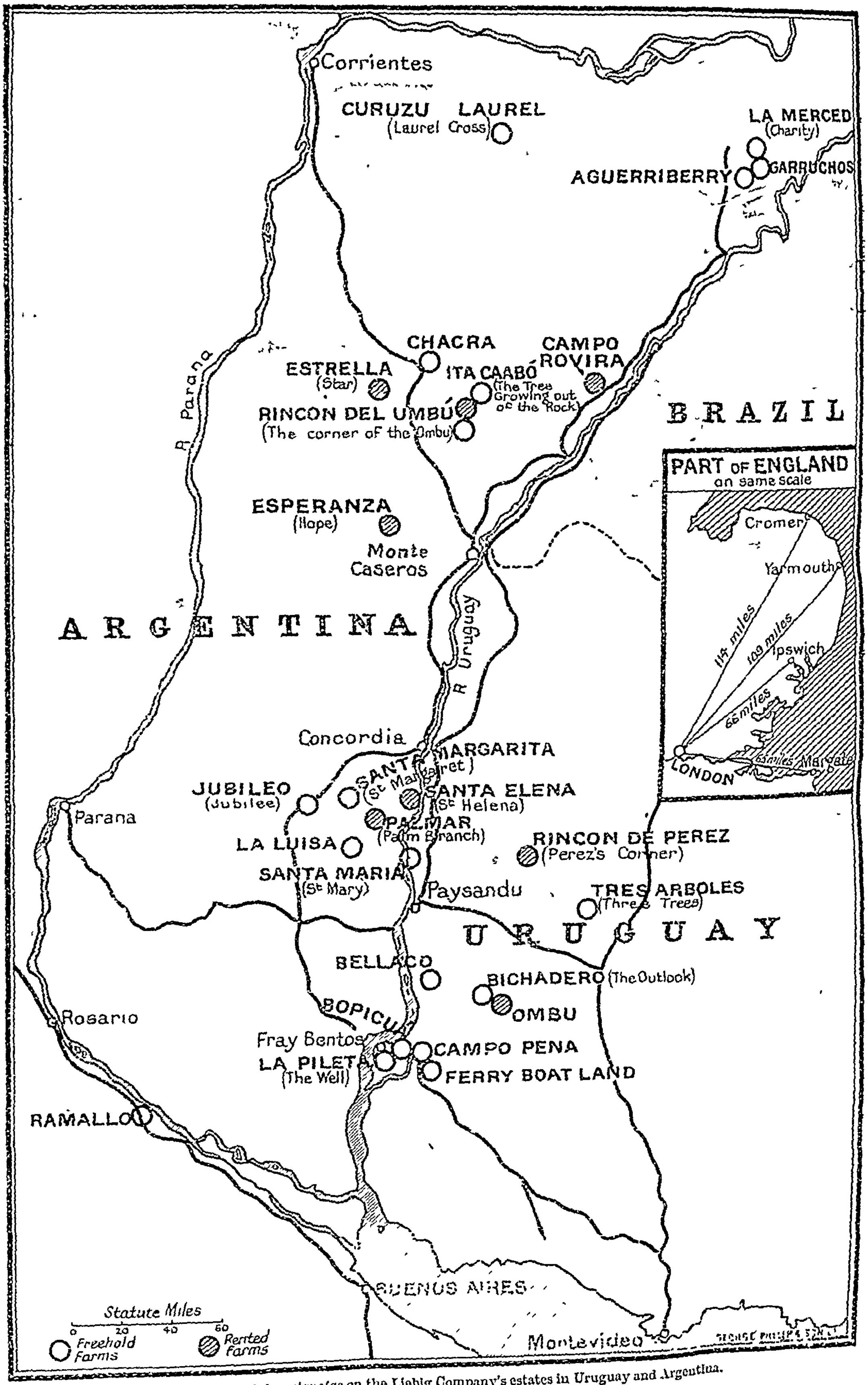

Fig. 3.—Map of the *estancias* on the Liebig Company's estates in Uruguay and Argentina.

defeat of the intentions of the legislature. Moreover, by a curious perversion of argument, the statement of the Poor-law medical officers that their appointments are in many cases held for the sake of the vaccination fees has been used by professional anti-vaccinationists to show that either these fees are excessive or that medical men who do not believe in vaccination are seduced by them into accepting the offices to which they are attached. The imputation of motives is a weapon which can scarcely fail to wound the hands which wield it. Mankind only impute to others motives analogous to those which they recognise as the springs of their own conduct.

Indications have not been wanting of late years that there are forces in operation at the Local Government Board which tend to look with less benevolence upon fees paid to medical men than upon those paid to the members of other callings. Notwithstanding this it is manifest that the Board has now fallen under the control of very strong hands and that the President is fully alive to the importance of the great sanitary work which is committed to his control. To this work the Poor-law medical service contributes in a degree which it would be difficult to exaggerate, and which will soon be materially increased by the Order by which the President is about to impose upon its members the duty of notifying to the local medical officer of health all cases of pulmonary tuberculosis which fall under their official cognizance. It is manifest that in this, as in all other departments of its work, the service is likely to be more effective in proportion as its position in the State is rightly recognised and rewarded. The conditions of different districts, of different forms of industry, and of different populations are so different that nothing like uniformity of those of the service itself can be expected; and such uniformity, if it were obtained, would soon be changed into diversity by the growth and the movements of populations. But the great difficulty of poor-law medical officers arises from the extent to which skill and knowledge have been placed under the control of ignorance and prejudice. Politicians have been eager for what they have described as popular local government, and they have not realised that good government requires a degree of knowledge which is never too abundant, which they have taken no pains to secure, and which in many districts is conspicuous only by its absence. There are scores of boards of guardians who have no other object than the accomplishment of any sort of little saving which the letter of the law may permit. Such bodies are wholly unfit to be intrusted with the control of an important branch of sanitary administration and their unfitness is nowhere more thoroughly known or more completely appreciated than at the Local Government Board. It is probable that no important changes can even be expected until the report of the Royal Commission on the Poor-law has been issued; but that report will almost certainly lead to legislation and will probably afford Mr. BURNS an opportunity, of which we believe he would not be slow to avail himself, of making changes in the system of medical relief by which the more serious grievances of the service would be removed. The public conscience is awakening to a recognition of the importance of the health of the poor as a factor in the general prosperity of the nation, and it is not likely that the officials to whom the care of that health is mainly committed will be left permanently under the control of bodies whose unfitness for the responsibilities imposed upon them is too often beyond the reach of doubt.

Francis Bacon of Verulam.

THESE are the days of tercentenaries and quatercentenaries, the homage paid by posterity to the master-builders of its platform and "coign of vantage." Of these "makers of empire" in the intellectual as well as material world none has stronger claims to present-day gratitude than the author of the "Novum Organum," that Magna Charta of inductive research to which experimental science owes a palingenesis, a new departure, justified, like Wisdom, of all her children. True, as a manual of method, it contains nothing that may not be elicited from the Organon of ARISTOTLE; its errors of omission and commission are patent to less competent critics than HUMBOLDT or LIEBIG; nay, it is demonstrable that not one single discovery or invention has been made upon its special lines. All the same, nothing can rob it of its distinctive merit—that of disenthralling the post-Renaissance mind from the fetters and manacles of tradition—tradition based upon an "Aristotelianism" which ARISTOTLE would have been the first to disown, tradition elaborated by the mediæval Church for ends no doubt laudable in their promoters' eyes, but fatal, in the sheer selfishness of their "objective" and in their very *modus operandi*, to the consummation which they professed to have in view. And yet BACON was, *toto cælo*, removed from the materialist, in whose hands—

> "Philosophy, that leaned on Heaven before,
> Sinks to her second cause, and is no more."

"I would rather," he says, "believe all the fables in the Talmud than that this mighty frame was without a Mind." From the beginning to the end of his philosophic writings there is audible but one note, that of reverence; there is present but one attitude, that of humility. In this spirit and with this demeanour he is content, nay, inspired, to think and to act as what he calls the "Naturæ minister et interpres," as one who wooes and wins Nature only by obeying her, and that implicitly and unreservedly. By such an address and by such a service, and by no other means, is the Truth, signifying the life of Nature, to be reached, and that not by the individual man or by any generation of mankind, but by Humanity itself coöperating through the ages. "Veritas temporis filia," he devoutly says, improving on the adage of the great Greek lyric poet:—

> ἀμέραι ἐπίλοιποι
> μάρτυρες σοφώτατοι.

Indeed, in the service of Truth one supreme virtue must be practised, that of patience. Having put her to the question, we must not, as he says of PILATE, refuse "to wait for an answer."

The Honourable Society of Gray's Inn, in its celebration of the third centenary of BACON's official connexion with its House, did well to invite the representatives of other professions besides that of the Law. Divinity and Medicine, as well as Affairs Imperial and Municipal, were equally in evidence at the ceremonial banquet—thereby attesting the universality of interests, the essential month and to see that only such carcasses as are free from all disease are allowed to be converted into food products. He further is bound to certify that every carcass showing any indication of disease whatever has been entirely disposed of for manurial purposes and in a way which prevents their consumption by human individuals. The regulations enforced in the slaughter-house in regard to the workpeople are modelled on similar sanitary demands. It is the duty of the foreman to report to the management any breach of the factory regulations on the part of any of the workpeople. He further must satisfy himself by inspection that the hands of the workpeople are absolutely clean and that no person suffering from any cutaneous disease is allowed to enter any department of the factory of which he is in charge. Finally, the medical inspector is authorised to inspect the workpeople employed at any time he may choose in order to convince himself that no breach of sanitary rule is committed. Our Commissioner made continual tours of the slaughter-houses, and at no time, he reports, was there any evidence other than that the sanitary regulations were being properly and rigidly enforced.

In the ultimate disposal of the various parts of the carcass of the freshly slaughtered animal there is nothing left to waste. At every stage utilisation is aimed at and every part is resolved into a material which is applied in one way or another to a useful purpose. This is one of the facts about this particular industry which invariably impresses the visitor. The metamorphosis of grass, to revert to an expression already used, is indeed a wonderful process, culminating as it does in the harvesting of such a variety of products. First may be mentioned the hides which with due skill and care bestowed on their preparation are an obviously valuable asset; then come the fatty portions, a proportionally big yield which may be directly consigned for food purposes (butter substitutes, for example), or for the manufacture of soap, glycerine, and so forth; next the bones for the preparation of bone meal, or the smaller ones which are used for preserving the shape of certain garments—e.g., corsets—then the sinews a source of glue of various grades, the scraped and cleaned intestine for sausage skins, the blood for producing a fine dry powder which supplies the elements essential in a fertilising material for agricultural purposes, and so forth. Incidentally there are residues necessarily accumulated in many of the processes carried out which nevertheless provide, when suitably treated, a material of value, and hence is returned to the soil in the form of a fertilising agent to complete the cycle of adaptation and usefulness. Separately treated are the various portions of meat which reach the public in the shape of corned beef, the processes involved being conducted with every regard to wholesome requirements, and then there are the tongues preserved in jelly which provide, in the view of a very large class of consumers, an excellent, sound, and appetising food. In connexion again with this class of food a periodical system of examination is kept in force and monthly reports are issued certifying that all the meat and tongues entering the factory are carefully examined and nothing is passed except such as is of good fresh quality. A similar inspection is made by the veterinary surgeon who periodically certifies that only sound good meat is allowed to be converted into food products and that in the event of carcasses or organs showing any disease they are at once consigned to the manure works where, it need hardly be said, the processes are drastic enough to destroy all germs of disease.

WATER-SUPPLY.

We have incidentally referred in the above account of the slaughter-houses and the processes conducted there to the great importance of a pure and plentiful water-supply being at hand. The meat-rearing industry would be completely paralysed without a generous supply of water at hand. Apart altogether from the question of rainfall which drops fatness on the land, furnishing thereby a plentiful pasturage, water is a first necessity in connexion with manufacture and particularly with a manufacture which deals exclusively with the preparation of animal foods from raw animal materials. A plentiful and trustworthy water-supply spells success but a shortage means disaster. The unfailing water resources of the Argentine and neighbouring States are the magnificent asset of these countries, which not only renders agricultural enterprise a commercial success but adds to this success by qualifying it by the application of hygienic standards. The supply of water is practically illimitable, but a question of equal importance, and which may be discussed next, is obviously that of its quality. Before giving the results of the analysis of samples taken by our Commissioner at both factories of the raw river water and the water after filtration, it may be pointed out that the company itself causes periodical analysis to be made, and every month a certificate is issued which insures that the quality is pure and good and fit for human consumption and for the preparation of the various food products. The filters are constructed on approved lines and are of large

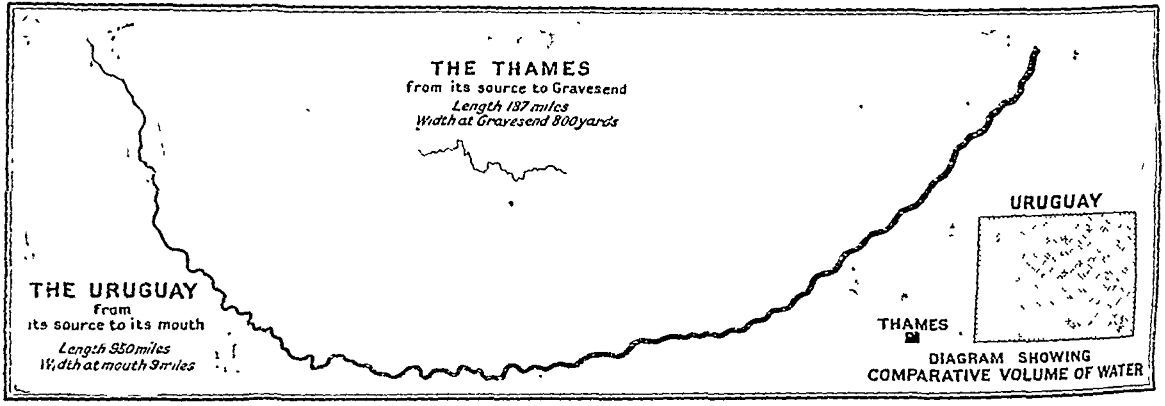

FIG. 6.—Diagram comparing volume of water in the River Uruguay and the Thames.

WATERS FROM COLON.

	Grains per gallon.		
	Filtered.		Unfiltered.
Free ammonia	Trace.	......	*Nil.*
Albuminoid ammonia	0·0056	......	0·0056
Nitrogen in nitrates	0·0056	......	0 0196
Chlorine in chlorides	0·2800	......	0·2800
Equal to sodium chloride	0·4600	......	0·4600
Oxygen absorbed	0·0330	......	0 0330
Total dissolved solids	4·4800	......	5·3200
Suspended matter	0·2590	......	1·0500
Inorganic ,, ...	0·1820	......	0 8050
Organic ,, ...	0·0770	......	0·2450
Phosphoric acid (P_2O_5)	Traces *only.*	......	*Traces only.*

WATERS FROM FRAY BENTOS.

	Grains per gallon.		
	Filtered.		Unfiltered.
Free ammonia	Trace	......	0 0028
Albuminoid ammonia	0·0056	......	0 0070
Nitrogen in nitrates	0·0280	......	0·0280
Chlorine in chlorides	0 2800	......	0·2800
Equal to sodium chloride	0 4600	......	0·4600
Oxygen absorbed	0·0380	......	0 0460
Total dissolved solids	5·0000	......	5·4000
Suspended matter	0·3640	......	0·4900
Inorganic ,, ...	0·2170	......	0·2380
Organic ,, ...	0·147		

defeat of the intentions of the legislature. Moreover, by a curious perversion of argument, the statement of the Poor-law medical officers that their appointments are in many cases held for the sake of the vaccination fees has been used by professional anti-vaccinationists to show that either these fees are excessive or that medical men who do not believe in vaccination are seduced by them into accepting the offices to which they are attached. The imputation of motives is a weapon which can scarcely fail to wound the hands which wield it. Mankind only impute to others motives analogous to those which they recognise as the springs of their own conduct.

Indications have not been wanting of late years that there are forces in operation at the Local Government Board which tend to look with less benevolence upon fees paid to medical men than upon those paid to the members of other callings. Notwithstanding this it is manifest that the Board has now fallen under the control of very strong hands and that the President is fully alive to the importance of the great sanitary work which is committed to his control. To this work the Poor-law medical service contributes in a degree which it would be difficult to exaggerate, and which will soon be materially increased by the Order by which the President is about to impose upon its members the duty of notifying to the local medical officer of health all cases of pulmonary tuberculosis which fall under their official cognizance. It is manifest that in this, as in all other departments of its work, the service is likely to be more effective in proportion as its position in the State is rightly recognised and rewarded. The conditions of different districts, of different forms of industry, and of different populations are so different that nothing like uniformity of those of the service itself can be expected; and such uniformity, if it were obtained, would soon be changed into diversity by the growth and the movements of populations. But the great difficulty of poor-law medical officers arises from the extent to which skill and knowledge have been placed under the control of ignorance and prejudice. Politicians have been eager for what they have described as popular local government, and they have not realised that good government requires a degree of knowledge which is never too abundant, which they have taken no pains to secure, and which in many districts is conspicuous only by its absence. There are scores of boards of guardians who have no other object than the accomplishment of any sort of little saving which the letter of the law may permit. Such bodies are wholly unfit to be intrusted with the control of an important branch of sanitary administration and their unfitness is nowhere more thoroughly known or more completely appreciated than at the Local Government Board. It is probable that no important changes can even be expected until the report of the Royal Commission on the Poor-law has been issued; but that report will almost certainly lead to legislation and will probably afford Mr. BURNS an opportunity, of which we believe he would not be slow to avail himself, of making changes in the system of medical relief by which the more serious grievances of the service would be removed. The public conscience is awakening to a recognition of the importance of the health of the poor as a factor in the general prosperity of the nation, and it is not likely that the officials to whom the care of that health is mainly committed will be left permanently under the control of bodies whose unfitness for the responsibilities imposed upon them is too often beyond the reach of doubt.

Francis Bacon of Verulam.

THESE are the days of tercentenaries and quatercentenaries, the homage paid by posterity to the master-builders of its platform and "coign of vantage." Of these "makers of empire" in the intellectual as well as material world none has stronger claims to present-day gratitude than the author of the "Novum Organum," that Magna Charta of inductive research to which experimental science owes a palingenesis, a new departure, justified, like Wisdom, of all her children. True, as a manual of method, it contains nothing that may not be elicited from the Organon of ARISTOTLE; its errors of omission and commission are patent to less competent critics than HUMBOLDT or LIEBIG; nay, it is demonstrable that not one single discovery or invention has been made upon its special lines. All the same, nothing can rob it of its distinctive merit—that of disenthralling the post-Renaissance mind from the fetters and manacles of tradition—tradition based upon an "Aristotelianism" which ARISTOTLE would have been the first to disown, tradition elaborated by the mediæval Church for ends no doubt laudable in their promoters' eyes, but fatal in the sheer selfishness of their "objective" and in their very *modus operandi*, to the consummation which they professed to have in view. And yet BACON was, *toto caelo*, removed from the materialist, in whose hands—

> "Philosophy, that leaned on Heaven before,
> Sinks to her second cause, and is no more."

"I would rather," he says, "believe all the fables in the Talmud than that this mighty frame was without a Mind." From the beginning to the end of his philosophic writings there is audible but one note, that of reverence; there is present but one attitude, that of humility. In this spirit and with this demeanour he is content, nay, inspired, to think and to act as what he calls the "Naturæ minister et interpres," as one who wooes and wins Nature only by obeying her, and that implicitly and unreservedly. By such an address and by such a service, and by no other means, is the Truth, signifying the life of Nature, to be reached, and that not by the individual man or by any generation of mankind, but by Humanity itself coöperating through the ages. "Veritas temporis filia," he devoutly says, improving on the adage of the great Greek lyric poet:—

> *ἁμέραι ἐπίλοιποι*
> *μάρτυρες σοφώτατοι.*

Indeed, in the service of Truth one supreme virtue must be practised, that of patience. Having put her to the question, we must not, as he says of PILATE, refuse "to wait for an answer."

The Honourable Society of Gray's Inn, in its celebration of the third centenary of BACON'S official connexion with its House, did well to invite the representatives of other professions besides that of the Law. Divinity and Medicine, as well as Affairs Imperial and Municipal, were equally in evidence at the ceremonial banquet—thereby attesting the universality of interests, the essential

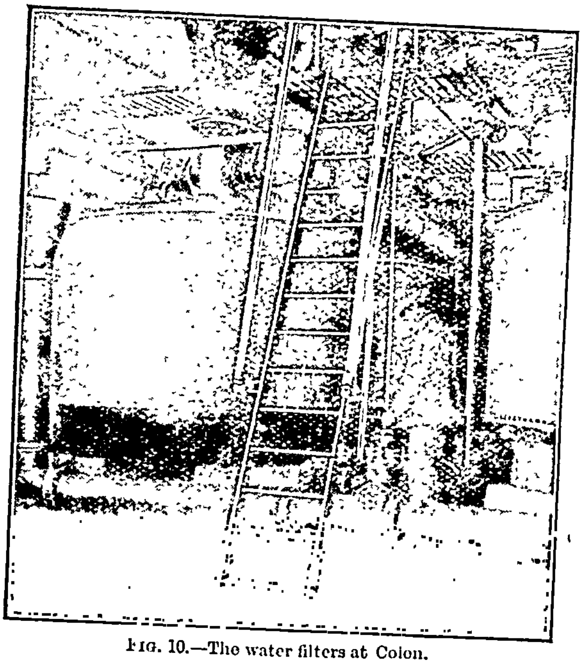

FIG. 10.—The water filters at Colon.

capacity, having regard to the enormous quantities of water required for cleansing and manufacturing purposes. A picture of one of the filters at Colon is given in Fig. 10. The filtering material is crushed pebble and sand. Subjoined are the analyses of No. 1 water from Colon (*a*) unfiltered, (*b*) (filtered); and No. 2 water from Fray Bentos, (*a*) unfiltered, (*b*) filtered.

As already stated, both factories derive their supplies from the Uruguay river which pours a colossal volume of water into the River Plate, Fray Bentos being about 100 miles from the estuary and Colon about 80 miles higher up. The unfiltered water in each case represents raw river water taken from a spot in the river near the intakes. It will be seen that the samples, though taken at spots many miles apart, show very little variation in regard to their composition or quality. The water is remarkably soft, the total dissolved mineral matter amounting to approximately five grains per gallon. As to evidences of organic impurity there are none, the total nitrogen contained in free ammonia, the albuminoid ammonia, and the nitrates respectively being a quite negligible quantity. Again, the oxygen consumed is very microscopic and the figure recorded is probably due entirely to a minute amount of plant débris. In short, the water is of excellent quality for all purposes, not excluding the refined requirements of human consumption. For manufacturing purposes it is splendidly adapted and must smooth the way very considerably for all the engineering methods employed in the factory. The water is slightly opalescent which is due to very finely divided particles of clay. We have pointed out that the quantity of water for general purposes is illimitable and to this may now be added the fact that its quality leaves nothing to be desired, even having regard to the delicate purposes for which, as we shall next point out, it is required.

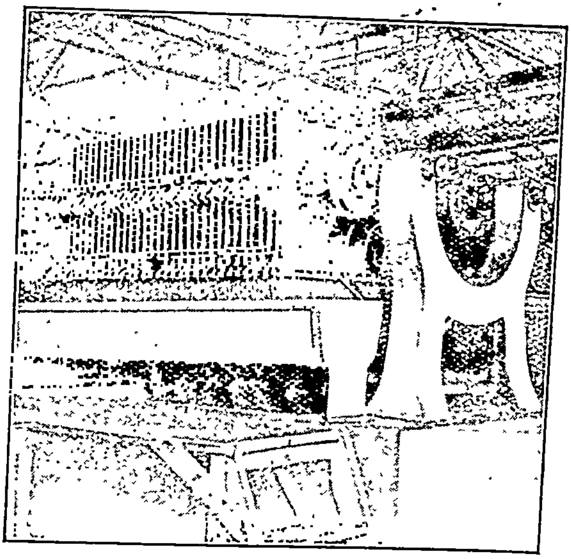

FIG. 11.—An extract filter.

LIEBIG'S EXTRACT OF MEAT (LEMCO).

Interesting and important as is the utilisation of the various animal products and foods enumerated in a preceding paragraph and the processes by which they are rendered valuable, we come next to consider the methods by which the extract of meat, as originally directed by Liebig, is made. In view of the immense popularity of this preparation and of the still increasing demand for it there can be little doubt that extract of meat fills an important gap in the common dietetic wants of the present day. In approaching, therefore, the questions which a consideration of the methods of its preparation and of its composition and physiological action raises we are dealing with perhaps the most important branch of the subject of the present inquiry. First, then, in regard to the preparation of the extract. In principle the lines first laid down by Liebig which he considered essential to success are still followed by the Liebig Company, who to secure to the consumer an article produced in accordance with his directions have distinguished it by the name of "Lemco," but it is obvious that an experience of nearly 50 years would lead to sundry improvements in the manufacture being introduced, and certain details have, as a matter of fact, been modified with the view, and with the actual result, it may be added, of producing what may be regarded as finality in regard to the quality of the product. Nevertheless, the process is perfectly simple. In the first place, the finest portions of meat are selected and these are reduced to the condition of mince-meat by machines especially constructed for the purpose. The meat mass is then transferred to large pans or kettles, each capable of holding four tons, in which it is left with its own weight of pure filtered water. After the addition of more water the mixture is carried to a temperature by means of steam jackets, the exact degree being determined by a consideration of the condition of the meat. Generally the temperature is between 80° and 94° C., but it is never allowed to exceed the last figure as otherwise the extract would contain gelatin. During this time fat continuously rises and is skimmed off. The more or less clear liquor is then run off and the work of concentration is commenced. Fat is again skimmed off until at length the watery extract or soup is practically free. The fat so skimmed off is of the very finest description, being that which occurs in the interstices of the meat cells. Concentration proceeds again in a vacuum vessel and at a certain point the liquor is filtered, concentrated again, and filtered again through a battery of filters known as a filter press, an illustration of which in given in Fig. 11. The final stage is reached when the now

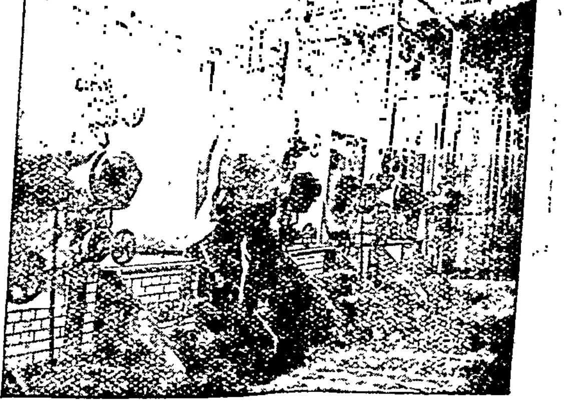

FIG. 12.—Series of mixers, each capable of dealing with 1 ton of extract mixture.

drained cowsheds in aiding the pollution of milk. The dust raised during sweeping or bedding the cows is loaded with organisms which may include the bacillus tuberculosis and the bacillus coli, or the bacillus of slimy milk. The practice of milking cows in the stalls where they are fed and housed is undesirable: the coming and going of cowkeepers, the traffic, and the movement of animals stir up a considerable amount of polluting material which finds ready access to the open milk pail. The use of milk-cans with large open tops and badly fitting covers and the system of keeping the dipping utensils suspended inside the milk-cans are practices which promote further contamination. Cans which are battered or the internal tin plating of which is worn off in patches are difficult to cleanse effectually; they enable a thin layer of bacteria to survive from one emptying to the next filling, ready to develop and to multiply in the fresh supply of milk. Cans insufficiently steamed or "cleansed" in polluted water, the use of dirty or infected cloths for cleansing purposes,—all these are fruitful sources of contamination. Milk utensils must not merely be "cleansed," they must be made bacteriologically or surgically clean. It no longer holds that "anything is good enough to clean a milk-can with"; the work requires care and consideration, which can only be appreciated by those who have received adequate instruction and training.

In the year 1906 the public analyst of Chester was requested, in forwarding analyses of samples of milk, to report on the nature of the sediment present, its amount, and its constituents. Later, the analyst reported that some of the samples contained a sediment consisting partly of cowdung, whereupon a general warning was issued against uncleanliness in milking, as well as in stabling and grooming cows, with an intimation that neglect of such precautions would lead to prosecution in future. Since that time several prosecutions have been instituted in respect of cowdung in milk and in five of them fines were inflicted. The effect of these legal proceedings upon the cleanliness of the milk has been marked, for whereas in former times it was not uncommon to find a slight brownish sediment at the bottom of the milk-jug, visible to the naked eye, such a sediment, although still present in the milk of large towns, is becoming rare in Chester. It will be generally conceded that any sample of milk obviously contaminated with cowdung should be unhesitatingly seized and destroyed, and, indeed, that contamination of milk with filth of any kind should be visited with severe penalty, if not with actual imprisonment of the offender.

The following are some of the chief suggestions offered by Dr. THOMAS for the improvement of the conditions commonly prevalent in farmhouses and dairies. The milker should be furnished with soap, towel, and nail-brush for use before each milking; he must be compelled to keep himself clean, for he has commonly as much aversion to cleanliness as has the tramp in the casual ward; a clean white overall should be worn during milking; and the cows should be kept well groomed and brushed—in fact, should be kept as clean as the horse. At present there is probably no animal in a farm, not even the pig, which is allowed to remain in such a filthy condition as is the cow. The hairs about the flanks, around the udders, the hindquarters, and the tip of the tail should be kept short. Clean bedding should be provided daily and the cow-byre should be cleansed at least an hour before the time of milking. The herd of cows should be periodically examined by a veterinary surgeon and any animal with diseased udder should be stopped at once from contributing to the milk-supply. As regards the storage of milk in milk-shops it is recommended that the milk should be kept in clean glazed porcelain vessels covered with muslin; it should be kept in a cool place at a temperature if possible below 40° F. The question of purity in our milk-supply is a vital one. The desire for pure milk is not a fad, a mere passing whim, though it is doubtful whether a large number of people even know the taste of "clean milk." Meantime, the demand is urgent for clean milk—milk that is free from pus and manure; milk that is fit for suckling children, nutritious, and free from disease germs—in short, milk that is milk, and nothing but milk. Unless this is to be obtained clean, wholesome, and satisfying, the time may, in Dr. THOMAS's opinion, come when its municipalisation or nationalisation may have to be considered seriously.

Annotations.

"Ne quid nimis."

ROYAL COLLEGE OF SURGEONS OF ENGLAND AND WOMEN CANDIDATES.

IN 1876 a law was passed by which examining bodies granting diplomas or degrees qualifying for the practice of medicine were enabled to admit women candidates to their examinations. Many of the Universities and other medical examining bodies opened their doors to women candidates by virtue of this Act, but the Universities of Oxford and Cambridge and the Royal College of Physicians of London and the Royal College of Surgeons of England declined to follow the example of the rest. In 1895 a petition from the officers and teachers of the London School of Medicine for Women and the staff of the Royal Free Hospital and others interested in the matter was presented to the two Royal Colleges; it requested that the examinations of the Colleges should be thrown open to women candidates. At the Royal College of Physicians of London it was considered at an extraordinary Comitia of the Fellows and it was rejected by nine votes, 59 voting against the granting of the petition and 50 in favour of it. At the Royal College of Surgeons of England it met with a slightly different reception. It was considered by the Council advisable to refer it to the annual meeting of Fellows and Members and there it was resolved to reject the petition by 58 votes to 39. The Council of the College subsequently considered the petition and passed this resolution:—

> The Council of the Royal College of Surgeons of England, although in favour of granting the petition of the officers and teachers of the London School of Medicine for Women, do not see their way to admit women to the Conjoint Examination in face of the adverse vote of the meeting of the Fellows and Members of this College and the expressed opinion of the Royal College of Physicians.

There the matter rested for 12 years, till in the early part of last year a petition signed by a large number of medical men was presented to the two Royal Colleges asking for the admission of women candidates. In May, 1907, the Council of the Royal College of Surgeons passed the resolution that "in the opinion of the Council it is desirable that women be admitted to examination for the Diploma of Member," and it was resolved to approach the Royal College of Physicians on the matter. An extraordinary Comitia of the Fellows of the Royal College of that the extract reaches the public identical in composition and quality with that of the sample obtained directly from the distributing factory. The ranges in composition are as follows :—

Moisture	From	17·12	per cent. to	21·50	per cent.
Mineral salts	„	18·35	„	26·30	„
Organic matter	„	55·34	„	62·43	„
Total nitrogen	„	9·48	„	11·62	„
Albumose	„	8·52	„	14·26	„
Peptone	„	3·34	„	5·60	„
Total proteins	„	14·12	„	19·34	„
Creatine and creatinine...	„	9·00	„	12·50	„
Insoluble matter	„	0·25	„	0·88	„
Sodium chloride	„	2·68	„	5·69	„
Phosphoric acid (P_2O_5) ...	„	3·06	„	6·70	„

As a rule the samples taken directly from the producing factories are, it will be noted, slightly more concentrated than the market samples. Extract of meat will readily absorb moisture during transit in a damp atmosphere. In addition, the raw material itself, that is to say the meat, is seldom absolutely constant in regard to the amounts of its individual constituents. Perhaps the most constant figures in regard to the analysis of meat extract are the nitrogen, 10 per cent., and the creatine and creatinine, which amount to 10 per cent. also. It may be pointed out that the moisture in the above table represents in reality the loss sustained on drying at 120° C. This loss probably includes a small percentage of volatile organic matters.

Before proceeding to discuss the value of extract of meat from a nutritive point of view we may refer to a modified product called "Oxo," which is extract of meat or "Lemco" plus an addition of fine dry beef powder. The preparation of this powder is conducted with special care, particularly as regards reducing the meat to a very finely divided state. The best lean parts from the loins are cut up, minced, and slowly dried on steam-jacketed drying tables, after which the dry beef is ground and passed through exceedingly fine sieves and mixed ultimately with a definite proportion of extract. Our analysis of the powder was as follows :—

BEEF POWDER USED IN "OXO."

	Per cent.
Moisture...	9·20
Mineral salts	4·00
Organic matter	86·80
Total	100·00
Nitrogen	14·00
Fat	8·00
Sodium chloride	0·02
Phosphoric acid (P_2O_5)	2·90

In regard to this analysis, it is important to note that the powder represents about four times its weight of raw meat, because raw meat contains generally more than three-fourths of its weight of water. A definite quantity of this powder when incorporated with the extract of meat forms what is known as "Oxo," Fig. 12 illustrating a series of mixers for the purpose, each capable of dealing with one ton. As to the quantity so added, this appears from the analyses made in THE LANCET Laboratory (Table IV.) of a number of samples of "Oxo" which were purchased in the open market, as with the "Lemco" samples. The insoluble matters there shown practically represent, except for a small quantity of insoluble flavouring agents present, the amount of dry beef powder added. It lies between 4·91 and 7·24 per cent. This represents the addition of 19·64 and 28·96 per cent. respectively of fresh raw meat.

TABLE IV.—*Analyses of "Oxo" Purchased on the Open Market.*

—	*1*	*2*	*3*	*4*	*5*	*6*		*8*	*9*	*10*
	%	%	%	%	%	%	%	%	%	%
Moisture	42·25	40·40	40·28	40·49	40·28	41·83	40·98	42·10	41·79	42·46
Mineral salts	17·25	18·31	18·00	18·12	16·52	17·85	18·71	18·53	18·46	16 53
Organic matter	50·50	41·29	41·72	41·39	43·20	40·27	40·31	39·37	39·75	41·01
Total...	100·00	100·00	100·00	100·00	100·00	100 00	100 00	100 00	100·00	100·00
Total nitrogen	6·52	6·40	6·44	6·79	6·51	6·58	6·66	6·88	6·51	5·40
Albumose	10·58	11·74	11·28	11·42	10·19	11·83	13·48	9·77	10 01	10·30
Peptone	2·31	0·68	1·28	1·30	1·76	2·38	0·78	2·37	2·00	1·08
Total protein...	12·89	12·42	12·56	12·72	11·95	14·21	14·26	12·14	12 01	11·38
Creatine and creatinine	5·00	4·00	5·00	5·00	4·00	5·00	4·00	5·00	4·60	5·00
Insoluble matter (fibrin, albumin, and fat)	4·91	5·03	7·24	5·19	6·54	5·21	6·52	5·98	5·64	8·32
Sodium chloride	7·70	8·90	8·74	8·90	8·75	8·48	9·72	8·60	9·12	7·38
Phosphoric acid (P_2O_5)	2·80	3·55	2·46	2·65	4·05	2·81	3·55	3·28	3·12	4 05

It is interesting to compare the foregoing results with the analysis made of a sample of "Oxo" obtained by our Commissioner at the distributing factory directly from the filling machine :—

TABLE V.—*Analysis of "Oxo" obtained from the Distributing Factory.*

	Per cent.
Moisture	39·71
Mineral salts	18·04
Organic matter	42·25
Total	100·00
Total nitrogen...	6·63
Albumose	11·32
Peptone	2·18
Total protein	13·50
Creatine and creatinine	4·70
Insoluble matters	4·61
Fat	Traces.
Sodium chloride	8·46
Phosphoric acid (P_2O_5)...	4·88

There is further a preparation known as "Nursing Oxo," which is particularly intended for use in the sick room and contains, as our analysis given below shows, a comparatively high proportion of proteins derived from the peptonisation of meat. For the preparation of this adjunct pure beef is cut up and put into jacketed cylinders with about 30 per cent. of water. The cylinders are then closed and steam is admitted into the outer jackets. The liquid after being treated in this way for some time is then run off, filtered, and concentrated. It is rich in albumose, as the following analysis shows :—

ANALYSIS OF PEPTONE.

	Per cent.
Moisture	29·82
Mineral salts	8·33
Organic matter	61·85
Total	100·00

shown a very similar decline. The figures quoted above make it more than doubtful, however, whether there has been any decline in the number of occurring cases at all commensurate with the decrease of fatal cases, although the individual cases are without doubt very generally and steadily becoming slighter and milder in type. It would be interesting to know whether there is any connexion between this change in the type of the disease and the systematic notification and isolation of the cases, which have been increasingly adopted in recent years. Dr. Niven holds the opinion that the type of the disease would again become more severe if the proportional treatment in hospital were to be reduced. The case-mortality of scarlet fever treated in the hospitals of the Metropolitan Asylums Board did not exceed 2·94 per cent. in 1906 and 2·80 in 1907; and in Manchester the mortality of cases treated in hospital was 3·6 per cent. in each of those years. These percentages showed, both in London and in Manchester, a marked decline from the rates of case-mortality of this disease in former years. Dr. Niven gives in his report some elaborate and valuable statistics respecting "return" cases of scarlet fever arising from discharged hospital patients and concludes that the number of such cases, speaking generally, is insufficient to prevent hospital isolation being credited with a wide beneficial influence. Whatever may be the true explanation of the persistent prevalence of mild cases of scarlet fever it seems impossible to suppose that decrease of hospital isolation of cases of this disease could tend to reduce its general prevalence.

THERAPEUTICS BY RAIL.

CROSS-COUNTER consultations, followed by prescriptions, "sharp, short, and decisive," may be favoured by the "man in the street," but for the invalid at the continental health resort or the Mediterranean sun-trap there is the "table d'hôte clinique" and the "winter garden practice," no less irregular and deplorable. Satire, indeed, on the stage and in the novel, has revelled in the exposure of the valetudinarian dupe who confides his symptoms to some amateur adviser at the hotel or *pension* and who reaps the reward of his credulity by having at last to call in the practitioner whose visits would have been fewer and the sum total of whose fees would have been lighter had he seen the case *ab initio*. But, in the words of the philosopher Hume, "the fools of this world are a large and influential majority," and so long as the 'populus vult decipi" there will always be the cynic to add "decipiatur." A new accession to the resources of irregular practice has made itself prominent of late years, and that is the appeal addressed to the railway passenger by the advertisements that stud his line of route, inviting him to try this "pill" or that "tonic" or the other "mineral water" if he would rid himself of the many maladies which he is presumed to harbour. Within a few score yards of each other—recurring far more frequently than milestones—the wooden hoarding or the painted placard assures him that a remedy has at last been found for his "nervous trouble" or his "bilious headache" or his "chronic dyspepsia," and that he has only to invest in the special pill-box or bottled liquid to regain the health which he has vainly sought from the "faculty." So largely have the British railway lines been utilised for these manifestoes that the "foreigner," more or less "intelligent," after a short experience of travel in these islands, has described them to his compatriots as another of the many proofs of "Anglo-Saxon gullibility." Following up his observations, he is humorously concerned at what the British public can—in every sense—be made to "swallow," and, basing his remarks on a recent article in THE LANCET on the sale of "patent medicines" he astounds his audience with the calculation that last year the "medicinali brevettati" consumed in Great Britain amounted to 65,500,000. The *Gazzetta del Popolo* of Turin—a journal widely diffused throughout Italy—comments facetiously on the childlike faith of the "buoni Inglesi" who have made the fortunes of so many millionaires by their consumption of medicines professing to cure "qualsiasi morbo, dal coléra ad un semplice raffreddore" (any ailment whatever, from cholera to a simple cold in the head); and between the lines it holds out an inducement to the would-be millionaires of Italy to profit by similar methods at the expense of Italians. All this makes rather melancholy reading—fraught as it is with proof of the immense leeway that has yet to be made up at home and abroad by education, confirming, as it does, moreover, the pathetic, if not despairing, cry of Shelley—

> "How 'green' is this grey world!"

THE INVALID CHILDREN'S AID ASSOCIATION.

WE have received an appeal from the officers of this association stating that unless further funds are forthcoming it will be obliged to suspend its operations. This would be a great pity as the association is doing work of a very useful class in relieving children suffering from chronic diseases such as tuberculosis, rickets, chorea, and prolonged debility who cannot be kept in hospital sufficiently long to effect their cure and whose home circumstances render it impossible. The association has no buildings of its own but supports its beneficiaries in suitable nursing or convalescent homes in the country or by the sea until the medical man in charge pronounces the patient to be well enough to return home. Some cases have been treated thus for two years. It is in guaranteeing the cost of the weekly payments for these children that the association needs help, and it is thought that medical men might make its methods known to their well-to-do patients who are interested in children's charities. Another useful service that may be undertaken is that of visiting and keeping in touch with the association's children after their return to their homes and supervising the use of any surgical appliances or invalid carriages that may be supplied to them. This branch of the work was the original purpose of the association. We are asked to state that the secretary's office is at 69, Denison House, Vauxhall Bridge-road, London, S.W.

GANGRENE OF THE SKIN OF THE FOOT AFTER STOVAINE-ADRENALIN SPINAL ANÆSTHESIA.

FROM time to time untoward effects are recorded after spinal anæsthesia. The chapter of the dangers of this method has yet to be written. In the *Intercolonial Medical Journal of Australasia* for July Dr. D. Murray Morton has reported an unusual sequel—gangrene of the skin of the foot—which he describes as "unique amongst a very considerable number of administrations of stovaine-adrenalin during the last three years at St. Vincent's Hospital" (Melbourne). A debilitated man, aged 65 years, was admitted on Feb. 27th last suffering from two chronic ulcers in the lower part of the left leg. One began after a slight injury two years previously and the other spontaneously. There were no varicose veins and there was a doubtful history of syphilis. The urine did not contain albumin or sugar and the knee-jerks were present. On March 13th, under stovaine-adrenalin spinal anæsthesia, the ulcers were excised and Thiersch skin grafts were applied. Two-thirds of a cubic centimetre of a 10 per cent. solution of stovaine with half a cubic centimetre of adrenalin solution were injected into the spinal canal. There was no difficulty in the injection but a few minutes afterwards the patient showed symptoms of collapse. He vomited, the pulse became small, the face became pallid, and the respirations became very by restoring a tired muscle to activity. The chemistry of meat extract has by no means even now been exhausted, and there are still many constituents present in it which have not been definitely recognised and yet to which it may owe in part its valuable dietetic properties. Hence the arguments which have been put forward against the dietetic use of extract of meat have often received a crushing reply from the favourable results gained in actual practice. The fact, at all events, cannot be ignored that beef extract supplies a distinct human need, as is evidenced by its continued popularity for dietetic purposes for both the sick and the healthy and by the increased demand which has taken place for it during recent years. In view of this demand it is all the more satisfactory that, coming back to the chief purpose and aim of the present inquiry, our Commissioner as the result of his visit is able to report that the concentrated meat products of the Liebig Extract of Meat Company are prepared in strict pursuance of a policy which requires that every process from beginning to end shall be placed under scientific control and be made to comply with a hygienic *régime* which leaves no room for adverse criticism. The confidence of the management in the adequacy of the scientific and sanitary measures adopted at both factory and farm is such that invitations are cordially extended to medical men who may be visiting the Argentine to include in their travels an inspection of the arena of this great and important industry.

MEDICINE AND THE LAW.

The Use of Cocaine in the Extraction of Teeth.

A CASE of considerable importance to the dental profession was tried before Judge Ingham at Evesham county court on Oct. 17th. Thomas Abbott Stanley, auctioneer's clerk of Pershore-road, Hampton, Evesham, claimed from Walter Joseph Craven, druggist, Bengeworth, Evesham, £20 damages for injury to the plaintiff through the negligence of the defendant, his servant or assistant, in the extraction of a tooth and in the application to the gums of the plaintiff of cocaine. Mr. Hosgood appeared for the plaintiff and Mr. G. New for the defendant. It appeared that the plaintiff had a tooth extracted by the defendant's assistant who administered cocaine. Shortly afterwards the plaintiff was taken very ill indeed and was confined to his bed for over a week. He wrote to the defendant, who advertised "teeth painlessly extracted," that his cocaine had made him very ill and but for the attention paid to him by his mother and sister he (the defendant) would have had to answer a very serious charge before the court, and that Dr. D. Gordon-Evans, who had attended him, had said that if he had had a tenth of a grain more cocaine it would have killed him. The plaintiff said that the defendant's assistant Munslow poured the cocaine into a medicine glass and injected it into the gums with a syringe. He then commenced to extract the tooth but in doing so broke it in two. The witness suffered terrible pain. The assistant injected more cocaine and ultimately got the tooth out. Shortly afterwards the witness was taken ill and had to go to his mother's house where he was sick and shivered a lot. He was put to bed and a medical man was fetched, and in the meantime the witness became unconscious. He had since not been able to do his work so well as formerly and he had lost over a stone in weight. He had consulted a Worcester specialist and his nerves were still very much upset. He was charged 2*s.* for the "painless extraction." Dr. Gordon-Evans said that he found the plaintiff in a more or less insensible condition and in an extremely dangerous state and if it had gone on an hour or so more the plaintiff would have died. He was as near death as could be. The witness produced cocaine in tubes, saying that was the proper way to administer the drug and these contained the proper dose. It was not safe even for a fully qualified man to administer cocaine from an open glass, and Munslow was not qualified. It was a most dangerous and deadly drug. He thought that the plaintiff's condition was entirely due to cocaine. The plaintiff was formerly a strong, healthy man. Mr. Craven said that his assistant Munslow was a perfectly competent extractor of teeth and that he had extracted 487 teeth between Jan. 1st and August 17th. All these were "painless extracts," where cocaine was applied without a single complaint. Dr. Charles Pollard of Worcester said that cocaine was a proper drug to use in the extraction of teeth and to deaden the pain in the gums. He admitted that it was not a safe drug for an unqualified man to administer. The assistant, John S. Munslow, said that he had extracted teeth for over 20 years and had had frequent cases of "painless extraction." He only used 10 minims of cocaine in this particular case and never used more, and gave four injections. The plaintiff was in a very nervous and excited state. He had used the same glass for administering cocaine for the past year. He had always administered cocaine in the old-fashioned way and always should do so. Mr. Malven, chemist in the employ of Messrs. Parke, Davis and Co. manufacturing chemists, London, gave evidence as to the common use of the drug for extracting teeth all over the country and said he had often heard that cases of sickness arose from it. Mr. New said that the decision was of great importance to dental surgeons and others all over the country. The question was whether the administering of the drug for the purpose of "cheap painless extractions" was right and they wished the case to come before that court. His honour said that he came to the conclusion that the cocaine was negligently administered. He gave judgment for 10 guineas.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8317 births and 4312 deaths were registered during the week ending Oct. 17th The annual rate of mortality in these towns, which had been equal to 13·3 and 12·8 per 1000 in the two preceding weeks, rose again to 13·9 in the week under notice. During the first three weeks of the current quarter the annual death-rate in these towns averaged 13·3 per 1000, and in London the mean rate in the same period did not exceed 12·1. The lowest annual death-rates in these towns last week were 3·4 in Hornsey, 5·0 in Leyton, 6·0 in King's Norton, and 6·9 in East Ham, all being suburban districts; the rates in the other towns ranged upwards, however, to 22·0 in Huddersfield, 22·4 in Swansea, 22·9 in Rochdale, and 27·4 in Bury. In London the death-rate during the week did not exceed 11·9 per 1000. The 4312 deaths from all causes in the 76 towns showed an increase of 333 upon the low number in the previous week, and included 613 which were referred to the principal epidemic diseases, against numbers declining from 1343 to 514 in the seven preceding weeks; of these 613 deaths, 430 resulted from diarrhœa, 55 from measles, 40 from "fever" (principally enteric), 32 from diphtheria, 31 from whooping-cough, and 25 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 2·0 per 1000, against a rate of 1·7 in each of the three preceding weeks; in London the death-rate from these diseases last week did not exceed 1·2. No death from any of these epidemic diseases was registered last week in Cardiff, Croydon, Hornsey, Newport, Ipswich, Bournemouth, Hanley, Hastings, or Great Yarmouth; whereas the annual death-rate therefrom ranged upwards in the other large towns to 6·5 in Grimsby, 6·6 in Warrington, and 8·2 in Rotherham. The deaths attributed to diarrhœa in the 76 towns, which had ranged in the eight preceding weeks from 1134 to 347, rose again last week under the influence of higher temperature to 430; the highest annual death-rates from this cause during last week were 3·7 in Aston Manor 3·8 in Hull, 4·0 in Middlesbrough, 4·4 in Preston, 4·6 in Stockport, and 6·5 in Grimsby. The deaths referred to "fever," which had been 35, 23, and 16 in the three preceding weeks, rose last week to 40, and exceeded the number returned in any previous week of this year; they included 11 in London, three in Liverpool, three in Leeds, and two each in Birmingham, Sheffield, and Hull. The 55 fatal cases of measles showed a further increase upon recent weekly numbers, and caused annual rates equal to 1·5 in Stockport and Warrington, 1·8 in Rochdale, and 2·5 in Rotherham. The 32 deaths from diphtheria exceeded the number in the previous week by four, and included 11 in London and two in Gateshead. The 31 fatal cases of whooping-cough showed a further decline, and were fewer than in any previous week of this year;

method of treatment is now nearly abandoned. Professor Tillmanns in his paper describes the technique of the operation and discusses the methods to be employed. When due care is taken harmful results are rare and in many cases multiple puncture has been performed without any ill effect. It seems clear that puncture of the brain will before long take a recognised place in surgery, both for diagnostic and therapeutic purposes, and Professor Tillmanns's article should give an impulse to the spread of the operation.

A POINT UNDER THE WORKMEN'S COMPENSATION ACT, 1906.

A CORRESPONDENT calls attention in a letter published on p. 1248 to a question which may arise at any time under the Workmen's Compensation Act when a nurse claims to have been injured by an accident in the performance of his or her duties and when there may be a difficulty in ascertaining who, if anyone, is liable to pay the compensation ordered by the Act. The question is not, of course, confined to occasions when nurses are injured but presents itself in many other phases of employment or alleged employment, and particularly when assistance of a more or less temporary nature is obtained by a person who is ready to pay for it but who does not thereby necessarily render himself the "employer." According to the definition in Section 13 of the Act, the word "employer" "includes any body of persons corporate or unincorporate and the legal personal representative of a deceased employer, and, where the services of a workman are temporarily lent or let on hire to another person by the person with whom the workman has entered into a contract of service or apprenticeship, the latter shall for the purposes of this Act be deemed to continue to be the employer of the workman whilst he is working for that other person." In connexion with private or domestic service instances can readily be suggested of the lending or letting on hire of workmen by employers who under this section do not thereby free themselves from liability to compensate for accidents occurring during the temporary hiring. The groom supplied by a livery stable or the waiter sent in by a refreshment contractor are examples, but in these, as in the case of the male attendant referred to by our correspondent, a claim may be made against the person for whom the work is actually done against which he will wish to defend himself, and sometimes it will be pressed all the more stubbornly because the legal employer has not insured himself and is not well provided with funds to meet his possible liability. How the law may be applicable to the instance quoted by "Cautious" it is not possible to say without further knowledge of the facts from which an inference might be drawn. Some nurses are under a contract of service to an "institution" from which they may be "sent," to quote his words, and in the case of others the institution may be merely an agency for finding employment, the contract for which may be made by the patient through them with the nurse. The description given by "Cautious" is consistent with either condition, and no doubt the question of liability under the Workmen's Compensation Act was not thought of by the attendant, by the institution, or by the patient until the injury was sustained by the first mentioned. In this particular case a solution occurs to us which may meet the difficulty, but as it is not suggested by our correspondent we merely advance it as a possible one. The patient, a chronic invalid usually under the care of a permanent attendant, may have insured the latter under the Act in such terms that his insurance company would be bound to compensate the temporary attendant on his behalf or to defend the claim. If the permanent attendant was away ill, or even if, though in the house, he was performing no duties, so that there was no liability possible with regard to him, the policy may be such as would cover his substitute. This, however, is a matter only affecting a particular case and the more general question as to who is to be looked to for compensation as a general rule by a nurse merits the serious consideration of patients of medical men who may be called on to find nurses for them, and last, but not least, of the nurses themselves. The most satisfactory position would appear to be obtained when the nurse and the nursing institution are at one in admitting a contract of service between them, and when the latter can furnish proof that it has insured the former. In the case of the nurse who is engaged by the patient under such conditions that the nurse becomes a "workman" and the patient an "employer" there should be insurance. We believe that many private individuals insure, not only in respect of their regular servants but also against the contingency of an accident happening to one only temporarily in their service. Such an insurance as this might be thought to apply to a nurse, but the premiums in respect of it are usually on a scale more consistent with the compensation of charwomen or caretakers engaged for a season than of nurses for the sick, and we have little doubt than when these are to be insured the insurance company would expect a special contract with premiums fixed after consideration of the extent not only of the pecuniary liability but of the peculiar risks involved.

THE TRYPSIN TREATMENT OF CANCER.

A LITTLE over a year ago in a leading article[1] we discussed the trypsin treatment of cancer at considerable length, and while keeping an open mind as to the possibility of its being proved of value concluded that no evidence of this had been produced. This treatment has been much extolled in the lay press, and as a result exaggerated hopes have been entertained by the public who to some extent have forced the use of trypsin on the profession. While admitting the advantage and even the necessity of instructing the public in some medical subjects, such as hygiene, we must deprecate any attempt to bring before them questions which are *sub judice* in the profession. Only evil can result from resort to such an incompetent tribunal. False hopes are aroused and when these are dashed to the ground persons ignorant of the difficulties of medical research too often are carried by the reaction to a disbelief in medical science and fall victims to quacks. The evidence which has accumulated since the publication of our article only confirms our conclusion. At the Seventh Congress of Scandinavian Surgeons Dr. N. R. Blegvad presented a report of ten cases of malignant growths treated by trypsin injections in Professor Rovsing's clinic at Copenhagen.[2] In only one case was there possible benefit (diminution of the quantity and fœtor of the discharge). In the *New York Medical Journal* of August 29th Dr. J. E. Weinstein has reported ten cases of carcinoma of the digestive organs in which there was no doubt as to the diagnosis and this treatment was tried. All the cases were treated by subcutaneous injections of trypsin and amylopsin. The amylopsin was used on the theory that the trypsin in acting on the cancer albumins produces poisonous compounds which the amylopsin digests. The preparation used (a glycerine extract of the pancreas) was prepared by Messrs. Fairchild Brothers and Foster. Some aching in the bones and backache were produced but therapeutic effects were entirely negative. There were some periods of improvement and at times the symptoms were temporarily lulled, but these were no more than occur spontaneously in any illness. Only one good result was observed—the soothing moral

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[1] THE LANCET, July 27th, 1907, p. 238.

[2] Ibid., Sept. 21st, 1907, p. 862.

Mackay, from the Yorkshire Dragoons (Queen's Own) Imperial Yeomanry, to be Surgeon-Major, with precedence as in the Imperial Yeomanry (dated April 1st, 1908). Yorkshire Hussars (Alexandra, Princess of Wales's Own): Surgeon-Captain Walter Henry Cheetham, from the Yorkshire Hussars (Alexandra, Princess of Wales's Own) Imperial Yeomanry, to be Surgeon-Captain, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Garrison Artillery.

Devonshire: Surgeon-Captain James P. S. Ward to be Surgeon-Major (dated April 6th, 1908).

Infantry.

7th Battalion, Northumberland Fusiliers: The undermentioned officers, from the 1st Volunteer Battalion, The Northumberland Fusiliers, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Major William Bertie Mackay and Surgeon-Lieutenant Charles George Maclagan. 5th and 6th Battalions, Royal Warwickshire Regiment: Surgeon-Major Richard Arthur Newton, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Surgeon-Major, with precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain George Henry Ernest Bekenn, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 7th Battalion, Worcestershire Regiment: The undermentioned officers from the 1st Volunteer Battalion, The Worcestershire Regiment, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Major Joseph Robinson and Surgeon-Captain Bertram Addenbrooke. 8th Battalion, Worcestershire Regiment: Surgeon-Lieutenant Hubert Rodney Ross Fowler, from the 2nd Volunteer Battalion, The Worcestershire Regiment, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). 5th Battalion (Cinque Ports), Royal Sussex Regiment: The undermentioned officers, from the 1st Cinque Ports Volunteer Rifle Corps, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant Alfred Alexander and Surgeon-Lieutenant Peter Millar Waugh. 4th Battalion, Oxfordshire Light Infantry: The undermentioned officers, from the 2nd Volunteer Battalion, The Oxfordshire Light Infantry, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Major Julius Ottaway Sankey and Surgeon-Lieutenant Hubert de Burghe Dwyer. The Buckinghamshire Battalion, The Oxfordshire Light Infantry: Surgeon-Captain John Charles Baker, from the 1st Bucks Volunteer Rifle Corps, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 26th Battalion, City of London Regiment (Honourable Artillery Company): The undermentioned officer from the Honourable Artillery Company of London is appointed to the battalion, with rank and precedence as in the Honourable Artillery Company of London (dated April 1st, 1908): Surgeon-Captain Edward Herbert Myddelton-Gavey.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Ayrshire and Galloway: Surgeon-Lieutenant-Colonel Robert Allan is granted the honorary rank of Surgeon-Colonel (dated March 30th, 1908). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Robert Allan resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908).

Royal Engineers (Volunteers): 1st Lanarkshire: Surgeon-Captain John H. Teacher resigns his commission (dated March 31st, 1908).

Rifle: 6th Volunteer Battalion, The Royal Scots (Lothian Regiment): Surgeon-Lieutenant Harold S. Ballantyne resigns his commission (dated March 31st, 1908). 4th Volunteer Battalion, The Queen's (Royal West Surrey Regiment): The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Lieutenant Charles S. Palmer. 2nd (Berwickshire) Volunteer Battalion, The King's Own Scottish Borderers: Surgeon-Major Samuel Macvie resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908). The undermentioned officers resign their commissions (dated March 31st, 1908): Surgeon-Lieutenant Alexander J. Campbell and Surgeon-Lieutenant John Paxton. 5th (Deeside Highland) Volunteer Battalion, The Gordon Highlanders: The undermentioned Honorary Assistant Surgeons are retired, under the conditions of paragraph 103, Volunteer Regulations (dated March 31st, 1908): James McHardy and Alexander D. Keith.

Correspondence.

"Audi alteram partem."

SYPHILIS IN UGANDA.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to an article in your issue of Oct. 3rd on "Syphilis in Uganda" and to certain statements therein contained as to the bearing of Christian teaching upon the tribal laws and customs of the Baganda and the disastrous consequences which, it is alleged, have resulted therefrom. May I be permitted to say that I disagree altogether with the assumption from which the conclusion is drawn.

The state of the case in my opinion is simply this. For ages the social restraints in the national life of the Baganda have been due entirely to the existence of a very complete system of feudal ties. The land was held on a service tenure terminable at the will of the king or chief. There was no fixity of tenure. Without such fixity of tenure it had come to be realised by those in authority that there could be no proper development of the country. Consequently the tendency of all legislation in Uganda in recent years has been towards the creation of a class of landed proprietors with the freehold of their lands. The result has been the abolition of the service tenure, the imposition of rent, and the complete break up of that feudal system which with all its restraints, wholesome and unwholesome, has yet, I believe, done good service in the making of Uganda. With this sweeping away of the feudal system has come in not liberty merely but licence, and the result we have stated for us in Colonel Lambkin's paper. Christianity, in my opinion, has had nothing whatever to do with these lamentable consequences. It is a fundamental principle of our work to interfere as little as possible with tribal laws and customs. The breakdown of the feudal system has been due not to Christian teaching—for Christian teaching had no controversy with it—but to Government legislation. In saying this I do not wish in the very least to reflect upon the policy of the administration, which I am sure has been actuated by the highest and best motives. But it is well, I think, that we should be clear in our minds in a case like this as to the causes to which such results as these set forth by Colonel Lambkin are traceable.

With regard to Christian teaching and its bearing on this great question may I quote the words of no less an authority than Sir Harry Johnston? In his great work, "The Uganda Protectorate," p. 642, he thus writes on the two points alluded to in your article—viz., the presumed moribund condition of the Baganda as a race and the introduction of monogamy: "If the Baganda are to be saved from dying out as a race —and I cannot but believe and hope they will—it will be entirely through the introduction of Christianity and the teaching of the missionaries, both Roman and Anglican. The introduction of monogamy as a universally recognised principle now amongst all people who desire to conform to mission teaching may be the salvation of Uganda, strange to say. The people through this teaching are now becoming ashamed of marrying girls who have led a bad life before marriage. The appreciation of female chastity is distinctly rising, while at the same time young men find debauchery no longer fashionable and endeavour to marry early and become the fathers of families. If ever a race needed a puritan revival to save it from extinction it is the Baganda, and if ever Christian missions did positive and unqualified good among a negro race this good has been accomplished in Uganda, where their teaching has turned the current of the more intelligent people's thoughts towards the physical advantages of chastity."

I think that after such an expression of opinion from

The Lancet Special Commission

ON

THE ORIGIN, MANUFACTURE, AND USES OF EXTRACT OF MEAT.

INTRODUCTORY.

FROM time to time we think it of interest to give an account of the processes involved in the manufacture of various foods which are well known to, and largely consumed by, the public. It is obviously impossible in very many instances for the medical profession or the public to ascertain for themselves the conditions under which these food products are manufactured, and yet it is very desirable that some assurance should be obtainable that not only are the foods themselves of excellent quality and in sound condition but that they are manufactured under the strictest demands of hygienic practice. It is, of course, open to our health authorities or the public itself to have samples of foods as they reach the consumer submitted to analysis, but this precaution, admirable as it is, leaves the question of the kind of sanitary *régime* under which they are prepared untouched. This is especially the case with imported foods of animal origin such as, for example, extracts of meat in various forms. We believe that the following account, which relates to the leading and oldest established industry of this type, which breeds and rears its own cattle under the personal supervision of its officials, and which had for its patron and founder a man who was a very distinguished physiologist and chemist in his time (1803–1873), will be read with interest. The materials for this account have been collected entirely by our Special Commissioner who was appointed to visit the very interesting scene of the operations concerned in the great industry early in the present year and in the height of the busy season. The facts are recorded exactly as he found them, and in the course of the article appears a number of analyses made in THE LANCET Laboratory of the products taken by him fresh from the factory and of samples collected at random in the open market at home. Finally, a section is added in which the dietetic value of these products is considered in the light of modern analytical methods.

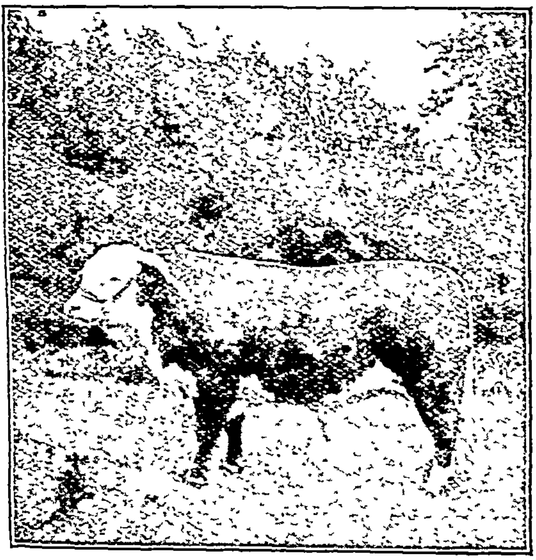

FIG. 1.—Pure-bred Hereford.

HISTORY AND PROGRESS OF THE MANUFACTURE OF MEAT EXTRACT.

Only those who have actually travelled over the vast grassy plains of Argentina, Uruguay, and Paraguay in South America can realise with any force at all how great have been the growth and progress of the cattle industry there since the year 1850 when Baron Justus von Liebig suggested the preparation of an extract of meat in countries where the breeding and rearing of cattle could be economically carried out. It was not, however, until 1865 that any serious attempt was made to put the suggestion into practice. "In 1862," wrote Baron Liebig, "I received a visit from Herr Giebert, an engineer of Hamburg, who had spent many years in South America and Uruguay where hundreds of thousands of sheep and oxen are killed solely for the hides and fat. He told me that directly he saw my account of the preparation of this extract he came to Munich with the intention of learning the process and then returning to South America in order to undertake its manufacture on a large scale. I therefore recommended Herr Giebert to Professor Pettenkofer, who willingly made him familiar with every detail of the process. He then returned to Uruguay in the summer of 1863, but owing to many difficulties which generally hinder the introduction and management of a new business, it was almost a year before he could actually commence the manufacture. Herr Giebert requested permission to call his extract by my name, which I granted, telling him, however, beforehand that if it contained the least trace of fat, which causes it to become rancid, or the gluey substance which the ordinary solid broth or consommé contains, which predisposes it to become mouldy, and entirely deprives the product of the unalterability of the pure extract, I should be the first to publicly assert its inferiority. In return Dr. Pettenkofer and myself promised to submit each to analysis free of cost and if found genuine to testify to the fact on condition that he would bring it into commerce at not more than a third of its present price. The arrangement, of course, relates only to the commencement of the importation, as the testimony of chemists will be no longer necessary when the public are once acquainted with the characteristics of the pure extract. Herr Giebert proposes to produce from five to six thousand pounds per month. The first sample, of about eighty pounds extract from beef and thirty pounds from mutton, arrived a few days ago in Munich, and we have the satisfaction of being able to say that for a product from the flesh of half-wild animals its quality is excellent; and we believe that the other condition—i.e., the price—will also meet our expectations."

The publication of this interesting statement in THE LANCET of Jan. 28th, 1865, drew some inquiries from our readers as to whether the extract could be obtained in quantity sufficient for practical purposes. On our own authority we replied in THE LANCET of March 18th, 1865, that "we believe that it is not at present a commercial article in this country but is likely to be so," and referred the writers to Baron Liebig himself. Later we received a letter from Mr. G. Van Abbott,[1] in which he wrote that "through the kindness of Baron Justus von Liebig I have arranged to have the first supply that can reach this country, and the moment it arrives I shall, with your permission, make it known through your columns." From a paragraph published in THE LANCET of April 29th, 1865, p. 467, it is made evident that Liebig's extractum carnis became for the first time a commercial commodity, for we then wrote: "We have learned that Mr. Van Abbott has just received a supply of the extractum carnis of Liebig, the merits of which have been of late so much discussed and a sample of which has been forwarded to us." These small consignments are now of historic interest, but they represented the beginnings of an industry which is at the present time of considerable importance in connexion with the problem of the food-supply of the world.

Liebig spoke of the first sample which he had received as being about 80 pounds, its quality, he added, being excellent, especially considering the fact that it was "a product from the flesh of half-wild animals." Nearly 50 years have come and gone since Liebig thus pronounced on the fruits of a pet project of his own, and, pleased as he was with the prospects of the comparatively new industry, he would have viewed with the liveliest satisfaction if he had lived its superstructure grown to its present enormous dimensions. Take, for example, some facts connected with the enterprising company to which he gave permission to bear his name. The Liebig

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[1] THE LANCET, March 25th, 1865, p. 330

(2) infection, and (3) degeneration—diet seems to have the least to do with the decay of the teeth. Has anyone ever seen satisfactory results from wholemeal bread, "jaw drill," vegetable diet, or the score of other diet treatments? Dentists seldom look beyond their patients' teeth, so their theory that decay is due to neglect of the teeth is not worth much. Moreover, decay still goes on when the dentist has complete control.

I think it not unlikely that the improvement in dentistry has something to do with the increase of dental decay. When loss of teeth meant loss of health and life natural selection kept the teeth strong. Even a generation or two ago a woman with defective teeth had less chance of marriage, and so sexual selection also tended to preserve a disease-resisting type. But now the dentist has altered all this, and a complete set of false teeth is no detriment to a young woman; American women are even said to pride themselves on their gold stopping. I think you find the worst cases of infant dental caries in the offspring of mothers with decaying teeth, suggesting that decay may be due to direct infection. Infection acting upon degenerate teeth seems to me the only feasible theory, but the question can only be answered by the careful collection of facts.

I am, Sir, yours faithfully,

Silverton, Devon, Oct. 19th, 1908. O. CLAYTON JONES.

CARDIAC MOTION AS REVEALED BY THE VIVISECTION OF DISEASE.

To the Editor of THE LANCET.

SIR,—In the report of the proceedings of the Æsculapian Society which appeared in THE LANCET of Oct. 17th, the energetic secretary of the society whose succinct and accurate reports you regularly publish, slightly misunderstood two points in this instance, which, with your permission, I shall correct without delay, as the matters in question may be discussed again. In the first place, the sarcomatous invasion of the right auricle and ventricle very greatly restricted the contractility of those chambers, but as there was some uninvolved muscular tissue in both there may have been a very limited movement of both. In the next place the patient I showed was the case of thoracostomy for cardiac pain, an account of which you published in THE LANCET of July 4th, 1908, and while it was the first case operated upon for this cause it was not by any means the first case of thoracostomy for heart disease.

I am, Sir, yours faithfully,

ALEXANDER MORISON, M.D. Edin.

Upper Berkeley-street, Portman-square, W., Oct. 19th, 1908.

A POINT UNDER THE WORKMEN'S COMPENSATION ACT, 1906.

To the Editor of THE LANCET.

SIR,—The Workmen's Compensation Act (1906) has laid a very serious trap into which our patients may unwittingly fall. A patient of mine, a chronic invalid, quite helpless, sent for a male attendant from an institution to act as stop-gap during the illness of a permanent attendant. When the substitute had been in the house three days he ruptured some fibres of his diaphragm and has been invalided for over six months. The institution has no insurance for its men and the patient's insurance does not cover such a claim. Heavy claims are being made against my patient and he will probably have to disprove his liability in court, as the Act is so indefinite and so badly drafted as regards this point. It behoves medical men in the interests of their patients to ascertain what nursing "institutions" are insured and to recommend those only, and it would be to every one's interest that such concerns should announce in their advertisements the fact that they do insure their nurses.

I am, Sir, yours faithfully,

Oct. 16th, 1908. CAUTIOUS

THE WATER-SUPPLY OF ST. JUST (CORNWALL).—The St. Just Urban District Council, by its neglect to provide the town with an adequate water-supply, has exhausted the patience of the Cornwall County Council, which has complained to the Local Government Board and asked for an inquiry.

THE SANITARY DEFENCE OF THE HEDJAZ RAILWAY.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

(*Illustrated with Reproductions of Photographs taken by the Author.*)

III.[1]—MEDAINI-SALIH.

ABOUT two hours after leaving Tebuk our train passed through another rocky valley, known as the Zahr-el-Akhdar, and shortly after reached the "station" of Akhdar. There is no village here, nothing but the fortress-like station building. About two kilometres further on we stopped again, at the junction of two valleys; there is here a large reservoir with pump, and in the valley to the right (west) is the ancient *kala'at* of Akhdar. Here, also, there is no village, though close to the fort were a few black tents of some wandering Bedouins. Akhdar had been mentioned as a possible site for the future lazaret. There is a fairly large flat surface here, surrounded on all sides by hills. But the site would be in many ways inferior to that at Tebuk. We did not measure it, but it is certain that it would barely suffice (if, indeed, it did suffice) to contain all the cordons and buildings that it is proposed to put up in the first instance, and would not allow of expansion in the future, should such prove necessary. Moreover, being shut in by hills, there would be a lack of free circulation of air and the heat would be great.

Here, as in many other parts of the line, there is quite a considerable amount of desert herbage to break the monotony of unending sand and stones. In the Akhdar neighbourhood the colocynth plant is found in large quantities, creeping like a low-growing vine along the ground, and shedding its mottled gourds in all directions. Here also are found any number of annuloid fossils, to which the Bedouins give the unsavoury name of "Job's worms"; believing, it would seem, that it was in this desert that Job was finally cleansed and purged of his bodily ills. The water at Akhdar is said to be abundant and it proved to be of better quality than any other examined by the Commission. The specimen analysed was taken from the well in the *kala'at* and gave the following results. The water was colourless and clear and without smell; it contained 2·6 parts of chlorine as chlorides; 0·148 total nitrogen, of which 0·139 occurred as nitrates, 0·003 as free ammonia, and 0·006 as organic nitrogen; the oxygen consumed in the permanganate process in three hours at 27° C. was 0·0955; the total hardness was 14·21, and the permanent hardness after boiling 5·29. The total solids were 37. As before, all these figures represent parts per 100,000.

After a brief stay at Akhdar the Commission went on to Medaini-Salih, a night's journey further down the line. The approach to Medaini-Salih is through a remarkable bit of scenery. The line winds down through a gorge in the sandstone mountains, known to the Arabs as the Mubrakat-el-Nakà, or the valley of the "Camel-calf." The mountains in this portion of Arabia—not merely in the gorge—have been split up into the most fantastic forms: pinnacles, towers, and shapelessly monstrous objects of every kind rise abruptly from the sand, and it is really small wonder that the pilgrims have peopled this weird passage with evil spirits, whom they try to frighten away by loud cries as they pass through the gorge on their way to Medina. At the end of the gorge, but still surrounded by groups of the weird rocks, is the place known as Medaini-Salih—the "Cities of the Prophet Salih." The station is at the 955th kilometre from Damascus, and 347 north of Medina. It lies 820 metres above sea-level. There is no village of any kind here, and the only traces of the ancient "cities" are those wonderful Nabatæan monuments and inscriptions which must for ever be associated with the names of Doughty and Rénan. The old *kala'at* in which Mr. Doughty spent so many weary weeks still stands, with its reservoir by the side; but close by the railway has built its high water-tower and other of the station buildings almost surround the fort. The number and extent of these buildings show that this place is an important administrative centre on the line. They occupy the middle of a large, sandy plain dotted with tussocks of desert herbage, here more abundant never failing. Man has simply to provide this machine, keep it fed, clean, and within control. At present he is acquainted with no other method of converting grass into meat except through the channel of an animal organisation. He is bound to employ a physiological rather than a purely chemical process, and so the sentiment which is repugnant to the notion of breeding life ultimately to destroy life must for a while receive no consideration. Milk must be produced in the same way, for as yet no chemistry has been evolved which has enabled anyone to put the elements of milk together from grass so that it should be identical with the product of the lacteal gland. As with milk, so with meat; it can only be synthetically produced by the processes involved in animal life.

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[1] Nos. I. and II. were published in THE LANCET of Sept. 26th, p. 971, and Oct. 10th, 1908, p. 1104, respectively.

We have already referred to the careful attention which the Liebig Company has given to the question of improving the breed of cattle, the greater part of which sooner or later and in some form or other are destined for human food. The results are satisfactory and they compensate amply for the expensiveness of such an admirable policy. The yield of products is not only increased but the quality of them is considerably improved—a matter of distinct importance when the supply of animal food materials is a principal object. When the total acreage of the Liebig farms is taken into account, coupled with the enormous herds feeding thereon, some conception of the grass-yielding value of the pasturage is gained. Apart from sheep the stock of cattle at the present time is about 250,000, which are distributed over 1,250,000 acres of grass. On this estimate the allotment to each animal is about five acres of pasturage. The average daily amount of grass consumed by one animal is 88 pounds; a herd of 250,000 would therefore consume per diem 22,000,000 pounds of grass, or approximately 10,000 tons. The yearly consumption of grass thus would mean not far short of 4,000,000 tons. The composition of pasture grass according to the average of a large number of analyses is as follows:—

	Per cent.
Water	80·00
Proteins with a small quantity of nitrogenous extractives*	3·50
Fat...	0·80
Carbohydrates	9·70
Fibre	4·00
Mineral salts	2·00
Total	100·00

* N × 6·25.

This means for a herd of 250,000 head of cattle per year a food yield in the form of grass of the following quantities of its individual solid constituents:—

	Tons.
Protein or flesh-forming substances	140,000
Fat	32,000
Carbohydrates	388,000
Fibre	160,000
Mineral salts	80,000
	800,000
Balance due to 80 per cent. water in grass	3,200,000
Total	4,000,000

These quantities are prodigious and they illustrate the increase which the land brings forth. Similarly, the annual amount of water consumed, based on the fact of one animal requiring 30 litres per day, would amount to 700,000,000 gallons per annum for the herd. These figures will convey some idea of the scale on which cattle farming is carried on in the Argentina and neighbouring states, but after all they refer only to the stock of one company, which, however, is the largest stock held, as it is the finest bred, by an individual concern. Altogether the cattle population of the Argentina is nearly 26,000,000 and in the Uruguay over 6,000,000 head. The Argentine, Uruguay, and Paraguay republics are, indeed, immense fodder-yielding tracts and the metamorphosis of grass proceeds steadily, surely, and uninterruptedly day by day on a colossal scale. There are occasions when the ordinary grass is supplemented by "alfalfa," a rich clover corresponding to our lucerne and containing a good proportion of nitrogenous food. It is well that every inch of this vast machinery is watched with care and that the best energy is devoted to the quality and purity of its products, for obviously the well-being and health of millions of consumers are concerned. Such is the case, at any rate, on the Liebig estates and in the factories according to the inquiries of our Commissioner, and to his account of the operations carried out on the *estancia* and in the factories of which he was an eye-witness during the season which closed last June.

THE ESTANCIA.

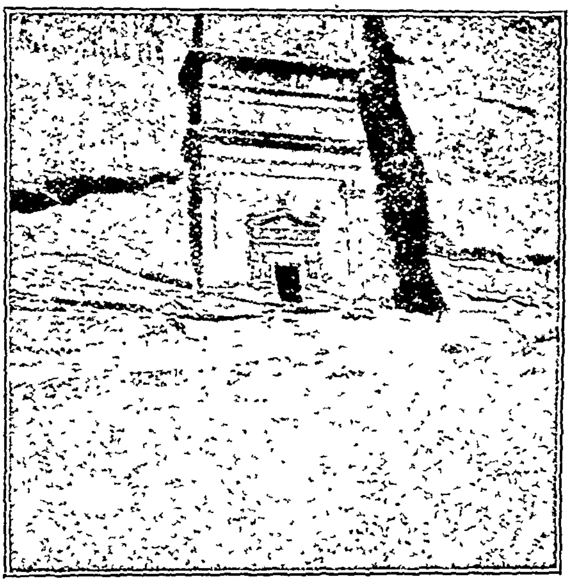
There is little to be said which can be regarded as of direct medical interest in connexion with the conduct of affairs on the *estancia*. As has already been stated, the *estancia* is a large grass farm presided over by the *estanciero* who is responsible to the company for the management and rearing of the cattle on the farm. Altogether the Liebig Company owns seven *estancias* in Uruguay, ten in Argentine, and nine in Paraguay. Besides these there are 10 others which are rented. Altogether the pasturage is spread over some 2000 square miles of country. The largest *estancias* represent an area each of from 74,000 to about 100,000 acres. In round numbers that is about 116 and 160 square miles in extent respectively. The area of some of the farms exceeds therefore that of the Isle of Wight, which is 145 square miles; others are equal in area to the whole county of London. Their topography and distribution will be seen from the large maps (Figs. 3 and 4). In Fig. 5 a diagram is given showing the area of the farms compared with Kent and Surrey. They are situated more or less on country which is contiguous to the Uruguay river which empties into the river Plate above Buenos Ayres. The soil is wonderfully fertile and the whole is an immense watershed. It has been said that the water poured into the Atlantic by the Parana and Uruguay rivers which culminate in the estuary known all over the world as the river Plate exceeds in volume that of the whole of the rivers of Europe put together. In Fig. 6 is seen a diagram comparing the volume of water in the Uruguay and Thames and also their respective lengths. The question of a pure and abundant water-supply, as well as a navigable water-way is, of course, of the first importance to the cattle-rearing industry. The existence of a wonderful water-supply and the fact of a seasonal rainfall being unfailing in the Argentine may be regarded as the chief factors which have contributed to the agricultural and farming success of the country. Later we shall deal with the question of the purity of the supply of water used in the factories of the Liebig Company, for our Commissioner secured various samples which have since been submitted to analysis.

Without entering into the precise details of *estancia* life (and they are full of interest to the student of natural history and of anthropography, as well as to the artist and the sociologist) it may be said shortly that the *estancias* supply a stock of cattle which are collected as these attain maturity and as occasion requires them for meeting the demands of the factories. The selection of the beasts for the purpose which is based upon their condition is an interesting and thrilling spectacle. The cattle scattered over an immense area of land divided into "potreros" or large fenced-in pasture tracts are brought together by the combined efforts of the gauchos, mounted peons, or peasants, until at length a "rodeo" is established—a collection of beasts, that is, averaging some thousands of head. The work of selection is then begun and it entails considerable skill and horsemanship to separate the animals judged to be ready for slaughter. The separation complete, the next step is to drive the animals to the factory. This may mean a score or even a hundred miles' journey through the country which in some parts, however, is relieved by railway transit. It is interesting to observe that on no account are the animals allowed to develop fatigue on this journey; they have ample rest in the "corrals" on the way and the daily drive never exceeds 15 miles. In Fig. 7 is seen a herd at rest. This precaution is of special importance, since it is well known that fatigue produces fatigue products which render the meat not only inferior in flavour but which may give it toxic qualities also. Besides which the animals, if unduly strained by a long journey, lose considerable weight.

THE FACTORY AND SLAUGHTER-HOUSES.

The killing season commences in January or at the end of December and ends in June. During this time the factories are in constant activity and as many as 1500 head of cattle a day are killed at each place. In 1907 the total number of animals slaughtered was 252,630 head. The Liebig factories are situated at Fray Bentos and at Colon, pictures of which appear in Figs. 8 and 9 respectively. The diameter and some 10 or 12 deep to the surface of water; it has rough masonry walls for the upper six feet, and then seems to be sunk in solid rock. In the other the masonry extends the whole way down; the bottom was of sand, with a little stagnant water in one corner. Not a few of the stones let into the walls bear inscriptions in the Nabatæan character, so that in all probability these wells, though vaguely ascribed to that race, date from a period a good deal more modern. Three similar wells are said to exist at the foot of the distant hills that bound the Medaini-Salih plain on the east. Up to the present the staff and workmen on the line have drunk the water from the station wells and it has not seriously affected their health. It has, however, a distinctly brackish taste, which is not surprising in view of the above figures, and we were told that later the railway authorities intend to import better water to Medaini-Salih either from El Oula (24 kilometres nearer Medina) or from Akhdar.

FIG. 10.



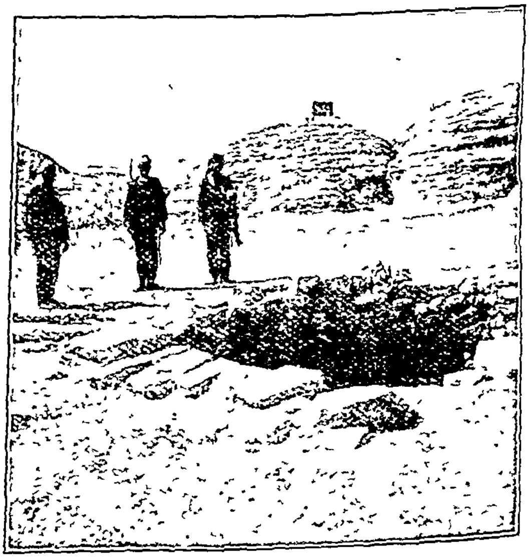
A Nabatæan monument at Medaini-Salih.

The stone found at Medaini-Salih is a sandstone of a rather friable character. It is not very suitable for permanent buildings and the railway imports a building stone of a better character from El Oula. Several truck-loads of this stone arrived while we were there. A passably good stone is also found as close as five kilometres from the station. But both these stones are said to be incomparably inferior to that found at Tebuk. The friable character of the Medaini-Salih stone is well seen in the neighbourhood of the Nabatæan monuments. Quite recently (last winter apparently) at the south end of the rocky hill known as the Kasr-el-Bint, which contains some of the best of these monuments, a large fragment of rock has fallen and been shattered to pieces at the foot of the hill, blocking up the façades of more than one of the tombs.

It is impossible to leave this brief description of what is perhaps one of the most remarkable spots in Arabia without some notice of these wonderful monuments of a forgotten civilisation, though their interest is archæological rather than in any sense medical. They have been once and for all so admirably described and illustrated by Mr. Doughty in the first volume of his "Arabia Deserta" (the original edition) that there is little left for later travellers to add. But it is impossible to stand before these stately façades (or "frontispieces," as he called them) without being profoundly impressed by their dignity, their number and size, and their "unexpectedness" in these weird desert solitudes. Many of them are 60 or 70 feet in height; yet the inner tomb chambers are curiously small in proportion to these great façades. There are many roughly hewn cells in each chamber where it may be supposed the coffins were placed; in nearly all are heaps of dead men's bones, mixed with fragments of pottery, fallen stones, bits of wood that may perhaps have formed parts of coffins, relics of a coarse cloth in which the bodies were presumably wrapped, and lumps of a resinous substance which may perhaps be some of the frankincense in which the ancient Nabatæans trafficked, or in which their bodies were rudely embalmed. Nothing is more remarkable than that no trace, save these tombs, remains of what, to judge by their number, must have been an important city. At their capital of Petra, on the other hand, there are, in addition to sepulchral monuments, innumerable façades of temples and public buildings of many kinds. But here at Medaini-Salih nothing is left but the tombs. And this is perhaps the more remarkable in that, with few exceptions, the Medaini-Salih façades are much better preserved than those at Petra, showing that the rock here, friable though it be, is more durable than that in the latter city.

The Commission did not go further than Medaini-Salih The rail head at that time was some way further on but it was impossible to proceed to it. At Medaini-Salih an escort of 50 men was provided for the Commission and it is probable that this precaution was far from being an empty form. On the day of our arrival there a serious attack was made on the head of the line and in the fight which followed some 40 Bedouins were said to have been killed. It would have been interesting to have gone on at least to El Oula, a large village or townlet in an oasis, and the most important centre in this region. There is said to be an abundant supply of water there and the water is reported of good quality; one spring alone is said to yield about 1000 tons a day. But the climate is said to be unhealthy and a form of oriental sore, akin to, or identical with, the Aleppo button, is so prevalent that practically every one suffers from it there. Perhaps it is not quite the same as the Aleppo button, as it only lasts some 30 or 35 days. It leaves pigmented scars; some people have two or more at the same time; they occur rarely on the face, more often on the exposed surface of one of the limbs. It is said to be unknown at Medaini-Salih and certainly does not occur at Tebuk.

FIG. 11



An ancient well, probably Nabatæan, at Medaini Salih.

As at other places along the line there are practically no meteorological records at Medaini-Salih. I have noted that at 1 P.M. on June 9th the thermometer stood at 39° C. in the shade and that at 4.30 P.M. it had risen to 41° C (105·8° F.). Meissner Pasha tells me that the extreme limits of temperature here are 45° C. (113° F.) in summer and − 7° C. (19·4° F.) in winter. Situated as Medaini-Salih is in a valley surrounded by rocky hills, the nights here are very hot in summer. Sandstorms of great severity are common; they are said to occur about once a fortnight; while they last they produce almost intolerable conditions Rain falls mostly in winter; sometimes in heavy downfalls, producing the inundations referred to in an earlier part of this article.

(To be concluded.)

former was the original factory of the Liebig Company. Fray Bentos is in Uruguay, on the east bank of the river of that name and about 100 miles from Buenos Ayres. Colon is about 80 miles higher up the same river, but is on the west bank, and is consequently in Argentina, in the department known as Entre Rios, a tract of country bounded on the east side by the Uruguay river and on the west and south by the Parana. The fact that the Colon factory was acquired comparatively recently, and after a considerable experience as to the requirements of the business had been accumulated at the earlier factory at Fray Bentos, necessarily rendered the former an advance on the latter in regard to accommodation, design, equipment, and machinery. In principle, however, the processes concerned in the slaughtering of the animals and their resolution into manifold products are substantially the same at both places. Before they reach the place of slaughter the cattle are carefully examined by the veterinary surgeon who is required to certify that only such animals are allowed to be killed as appear externally free from all disease. At Fray Bentos this work of inspection is carried out by an expert appointed by the company. At Colon this inspection is conducted by a representative of the Cattle Inspection Department of the Ministry of the Argentine Republic, who certifies each month that he has not allowed any animals to be killed that he did not find to be externally sound and free from all isease. The animals are killed by severing the spinal column at the back of the neck by means of a sharp two-edged knife shaped something like a bricklayer's trowel. The body is then conveyed quickly on a trolley which is placed over a gully. Here the throat is cut and the blood flows away down the gully. The blood is subsequently recovered and dried into a fine powder which is used as the basis of a valuable manure. After the animal has been so bled it is flayed. The carcass is then stripped of the organs, disembowelled, slung up, divided from end to end, and dressed. The scene can hardly be described as picturesque, especially when the rate of killing is often about two beasts per minute but the precautions taken to render it as inoffensive as possible are worthy of remark. The absolutely essential element which is required to keep such a slaughter-house clean and free from offence is here in superabundance. Hose-pipes delivering a constant and unstinting supply of the clean filtered water from the enormous river which flows by the factory are available everywhere and are continuously in use. The floors are tiled and fluted and set in such a way that flushing becomes a very effectual method of removing offensive materials. Even in the height of the season and in spite of the slaughter of, say, 1500 animals a day, the walls, floors, and surroundings present the cleanly appearance of a large model dairy. Thus, instead of a scene of carnage and shambles it is more like a well-appointed butcher's shop. Within ten minutes or so of its death the animal is divided by skilful butchers into the various parts and before the animal heat has dissipated. During these operations at the Fray Bentos (Uruguay) factories a careful inspection of the parts of the carcass is made by a staff of properly qualified men appointed by the company itself. These have to certify that a thorough examination of all the cattle killed was made and that only sound good meat was allowed to be converted into meat products and that any carcass or organ showing disease was disposed of in other ways. At the Colon (Argentine) factories, as already mentioned, an inspector is sent from the Ministry of Agriculture of the Argentine Republic who attends continuously and issues a monthly report. It is his duty to examine the carcasses of the cattle killed in the factories during each

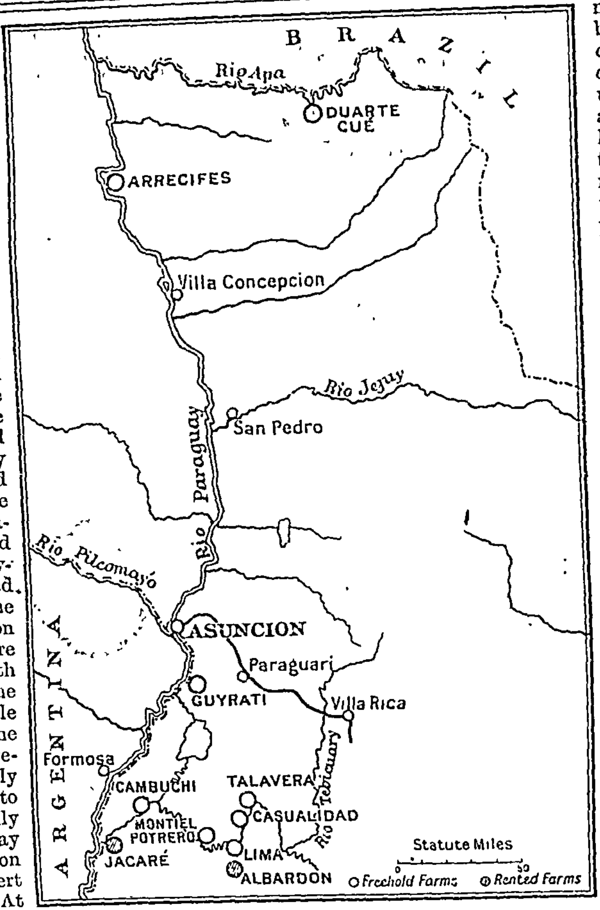


FIG. 4.—Map showing the *estancias* of the Liebig Company in Paraguay.

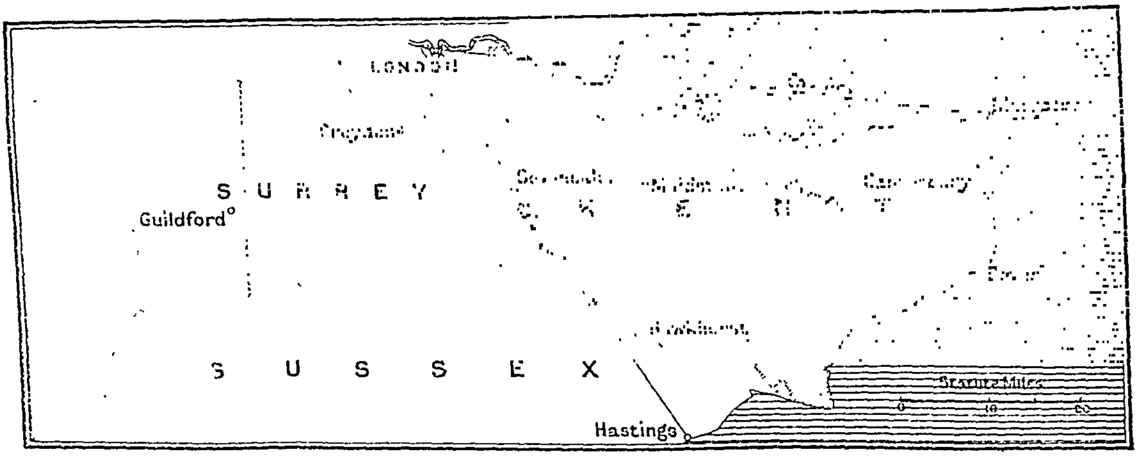


FIG. 5.—Map showing size of the Liebig Company's cattle farms compared with Kent and Surrey.

Glover was chosen because it was known that he would truly represent all that is best in the general body of medical practitioners, that he would be entirely single in his aims, that his opinions would be arrived at only after mature and impartial consideration, and that they would be expressed with courtesy and dignity. It was no secret to his friends that the results of Direct Representation have hitherto not been equal to the high hopes which he had for years entertained. But it may be very confidently affirmed that Dr. Glover's association with the General Medical Council was equally honourable to himself, grateful to his colleagues, and beneficial to the profession.

The movement for the establishment of the Metropolitan Hospital Sunday Fund was a second object in which he took the deepest interest, and for many years in our columns and elsewhere he urged the claims of this admirable institution. He was a member of the council of this Fund from its foundation to the close of his life. He took a prominent part in the work of the council and exercised a considerable influence upon its actions, while only so recently as Oct. 7th he attended a meeting of the general purposes committee. He was deeply interested in our hospitals from many points of view, but not the least from their being great voluntary charities, and year by year he did his utmost to urge the claims of Hospital Sunday upon all whom he could influence. At his instigation Sir Frederick Treves gave an address at Union Chapel, Islington, on Hospital Sunday last year, and this year he induced Sir Thomas Barlow to plead for hospitals before the same congregation. He believed that those who had spent much of their lives in the actual work of hospitals should be prepared to take their share in pleading for their support.

The third object in which he took a peculiar interest was the antiseptic system initiated by Lister. From the first he recognised the true scientific character of Lister's work and admired the sobriety and reserve with which he published his results. When too many were arrayed against the novel doctrines and their exponent, Dr. Glover lost no opportunity to advocate their soundness and to try to win for them an impartial acceptance. As an evidence of the worth of what he did we have before us a letter which Lord Lister wrote to Dr. Glover last year in acknowledging a letter from him on the occasion of Lord Lister's eightieth birthday. The letter gave unqualified pleasure to Dr. Glover and we feel that we are breaking no confidence in quoting from it these words: "In the early days of antiseptic work I had much reason for thankfulness to you, and you have always been a kind friend to me."

When the Clinical Society of London was founded in 1867 its aim appealed in a very special way to Dr. Glover, and he was elected to its membership in 1868, and for nearly 40 years he was a most constant attendant at its meetings. He often joined in the discussions, and his remarks were characterised by deep clinical insight, breadth of view, and a desire to bring into clear relief the practical issues at stake. He served on the council of the society and held office as a vice-president.

A man of Dr. Glover's mould could not find his work only in the practice of his profession and in the pursuit of literature. He touched life on every side, and life to him was the supreme interest. He was bound therefore to engage in the public affairs of the locality in which he lived and in the affairs of the nation. He was an earnest politician and exercised considerable influence upon the political convictions of his friends and neighbours. In all these matters his judgment of what was right and wise, and not the ties or interests of a party, determined his action. His conclusions were the outcome of careful study and bore the impress of that broad outlook and cheerful optimism that so eminently characterised his entire mental attitude. For several years Dr. Glover was Justice of the Peace for the county of Middlesex and acted as visiting justice to Holloway Prison, and as one of the licensing justices. He devoted himself with punctuality and the greatest carefulness to all the responsibilities of this important office, for he regarded it far more as a responsibility than as an honour. Dr. Glover came of a staunch Nonconformist stock and he remained loyal to these convictions throughout his long life. He was for many years a member of the congregation worshipping at Union Chapel, Islington, being an ardent admirer of the late Dr. Henry Allon, and of his successor, Dr. Harwood. He was, however, singularly free from all sectarian narrowness or bitterness; he took a special delight in the friendship of earnest men of other religious opinions than his own, and with that wide charity which was such a prominent feature in his character he rejoiced in the common faith and hope which lay beneath the distinctions of creeds and ceremonial.

In looking back upon this life, the fulness of which we have only been able to indicate very imperfectly, it is pleasant to remember that it was interrupted by no period of ill health, unclouded by any great family or personal sorrow, and was throughout its long and honourable course gladdened by the respect and affection of all with whom he was associated. He was permitted to live beyond the usual span, to see his children grow up and settled in life, to witness the accomplishment of most of the great purposes in which he had spent himself, and we think that he would himself have chosen that life should not extend far beyond his powers of service. Only this summer he handed over his practice at Highbury to his son and moved away to Hampstead, and it was while resuming for a short time the old practice, while the son was on his honeymoon, that the short fatal illness occurred. On Sunday, Oct. 11th, he was seized with pain in his chest; on Monday the pain recurred with greater severity and death appeared imminent, but he rallied, and on Wednesday he was so much better that hopes were entertained of his recovery, but in the evening he passed away with absolute suddenness, the cause of death being the rupture of an aortic aneurysm into the right pleural cavity. He was laid to rest in Hampstead Cemetery on Saturday last and on Sunday morning a memorial service was held at Union Chapel, Islington, with which he had been closely identified for so many years. There was a large congregation of his friends and patients and Dr. Harwood delivered an appreciative address which evidently struck a responsive chord in many of his audience.

Of such a life much might fitly be said; we must content ourselves with pointing out the striking example which it affords of the opportunity that a good man has for living a full and widely influential life while engaged in the practice of medicine. The association of literature with medicine has very many illustrations, but many another field of human interest afforded scope for Dr. Glover's energies. He was a very busy, active man, with a wonderful gift of being always occupied, and yet never in a hurry, intensely interested in what was for the moment engaging his attention, but never too absorbed to be sympathetic with any claim that presented itself. Strong in his own convictions, his love of truth and of justice enabled him to take a sympathetic interest in other views than his own; nor were his optimism and his intense confidence in the evolution of mankind a less striking and charming feature in his character. Able to appreciate and to rejoice in the deeds of the great men who have passed away, he ever had his eyes turned towards the dawn. Of him as of another long ago it may be said:—

> Ingenium cui nulla malum sententia suadet
> Ut faceret facinus levis aut malu'; doctu', fidelis,
> Suavis homo, facundu', suo contentu', beatus,
> Scitu', secunda loquens in tempore, commodu', verbum
> Paucum, multa tenens antiqua sepulta, vetustas
> Quem facit et mores veteresque novosque tenentem,
> Multorum veterum leges divomque hominumque;
> Prudenter, qui dicta loquive tacereve posset.

We append below personal appreciations from three of Dr. Glover's oldest friends and colleagues.

Sir John Tweedy writes to us as follows: "The death of Dr. Glover has given a shock of pained surprise to a large number of persons and I willingly accede to your request that I should attempt the melancholy task of writing a few words about his work, more particularly his connexion with medical journalism and politics. It is within a few months of thirty-seven years since I first became acquainted with Dr. Glover. He was then in the prime of life and at the zenith of his mental powers. He had already acquired an established position in medical practice and was an authority in most matters relating to medical politics and economics. His strong, earnest, and gracefully grave countenance was a truthful index to his mental and moral character. Always courteous but self-reliant he gained many a friend and disarmed many an opponent now by a kindly word, now by a sly touch of humour, now by a sharp and telling thrust former was the original factory of the Liebig Company. Fray Bentos is in Uruguay, on the east bank of the river of that name and about 100 miles from Buenos Ayres. Colon is about 80 miles higher up the same river, but is on the west bank, and is consequently in Argentina, in the department known as Entre Rios, a tract of country bounded on the east side by the Uruguay river and on the west and south by the Parana. The fact that the Colon factory was acquired comparatively recently, and after a considerable experience as to the requirements of the business had been accumulated at the earlier factory at Fray Bentos, necessarily rendered the former an advance on the latter in regard to accommodation, design, equipment, and machinery. In principle, however, the processes concerned in the slaughtering of the animals and their resolution into manifold products are substantially the same at both places. Before they reach the place of slaughter the cattle are carefully examined by the veterinary surgeon who is required to certify that only such animals are allowed to be killed as appear externally free from all disease. At Fray Bentos this work of inspection is carried out by an expert appointed by the company. At Colon this inspection is conducted by a representative of the Cattle Inspection Department of the Ministry of the Argentine Republic, who certifies each month that he has not allowed any animals to be killed that he did not find to be externally sound and free from all disease. The animals are killed by severing the spinal column at the back of the neck by means of a sharp two-edged knife shaped something like a bricklayer's trowel. The body is then conveyed quickly on a trolley which is placed over a gully. Here the throat is cut and the blood flows away down the gully. The blood is subsequently recovered and dried into a fine powder which is used as the basis of a valuable manure. After the animal has been so bled it is flayed. The carcass is then stripped of the organs, disembowelled, slung up, divided from end to end, and dressed. The scene can hardly be described as picturesque, especially when the rate of killing is often about two beasts per minute but the precautions taken to render it as inoffensive as possible are worthy of remark. The absolutely essential element which is required to keep such a slaughter-house clean and free from offence is here in superabundance. Hose-pipes delivering a constant and unstinting supply of the clean filtered water from the enormous river which flows by the factory are available everywhere and are continuously in use. The floors are tiled and fluted and set in such a way that flushing becomes a very effectual method of removing offensive materials. Even in the height of the season and in spite of the slaughter of, say, 1500 animals a day, the walls, floors, and surroundings present the cleanly appearance of a large model dairy. Thus, instead of a scene of carnage and shambles it is more like a well-appointed butcher's shop. Within ten minutes or so of its death the animal is divided by skilful butchers into the various parts and before the animal heat has dissipated. During these operations at the Fray Bentos (Uruguay) factories a careful inspection of the parts of the carcass is made by a staff of properly qualified men appointed by the company itself. These have to certify that a thorough examination of all the cattle killed was made and that only sound good meat was allowed to be converted into meat products and that any carcass or organ showing disease was disposed of in other ways. At the Colon (Argentine) factories, as already mentioned, an inspector is sent from the Ministry of Agriculture of the Argentine Republic who attends continuously and issues a monthly report. It is his duty to examine the carcasses of the cattle killed in the factories during each

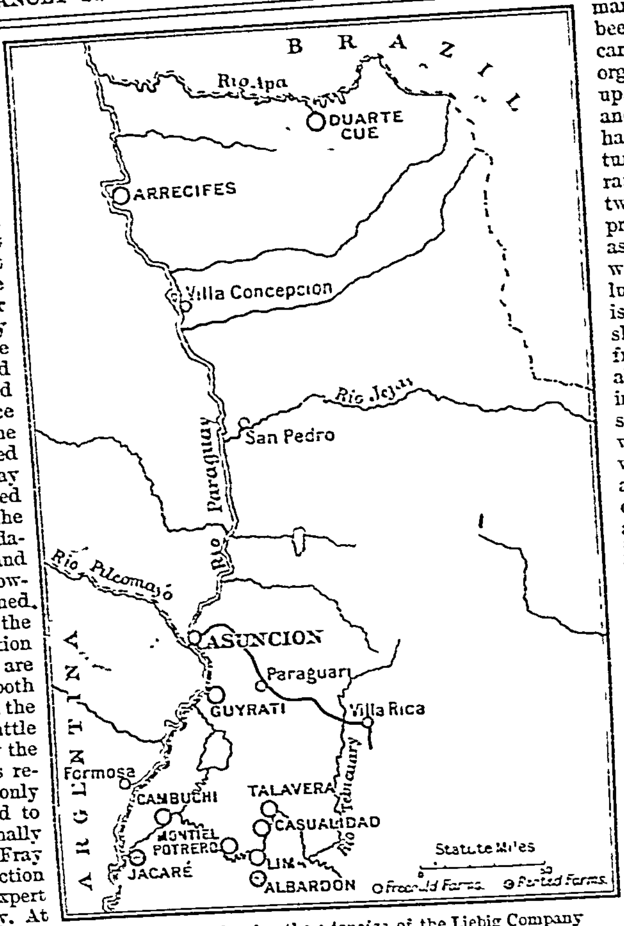


FIG. 4.—Map showing the *estancias* of the Liebig Company in Paraguay.

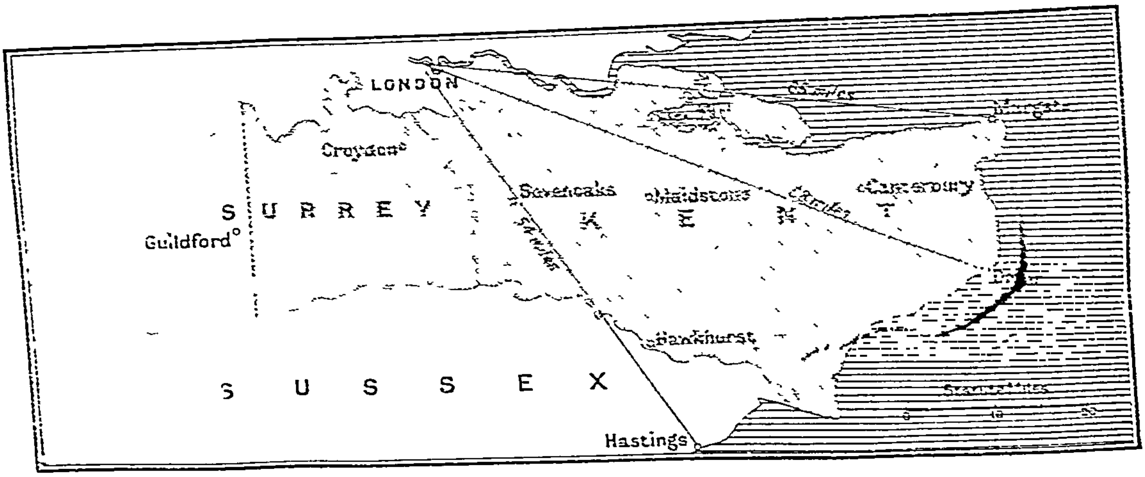


FIG. 5.—Map showing size of the Liebig Company's cattle farms compared with Kent and Surrey.

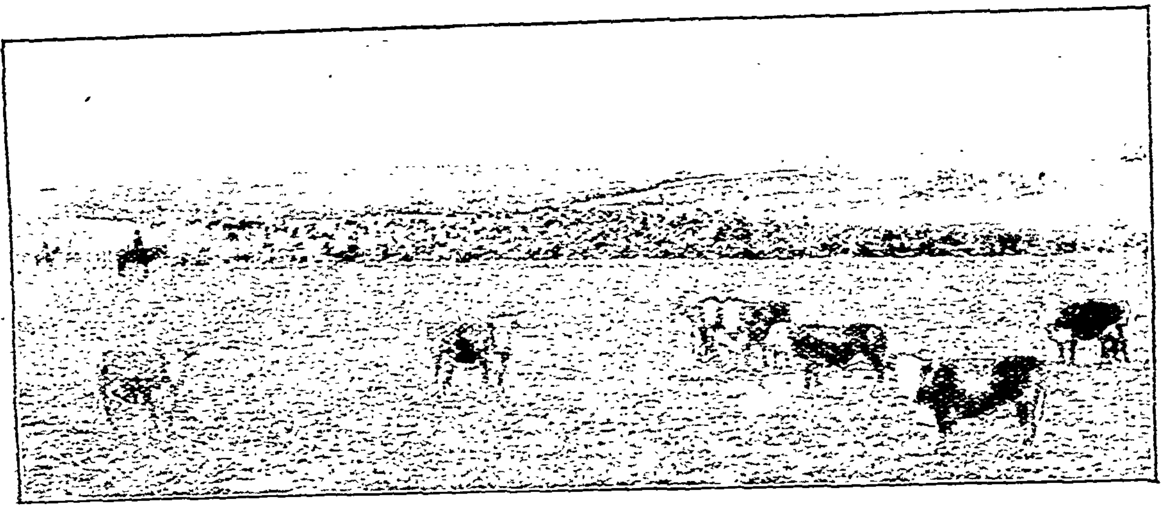


FIG. 7.—A herd at rest.

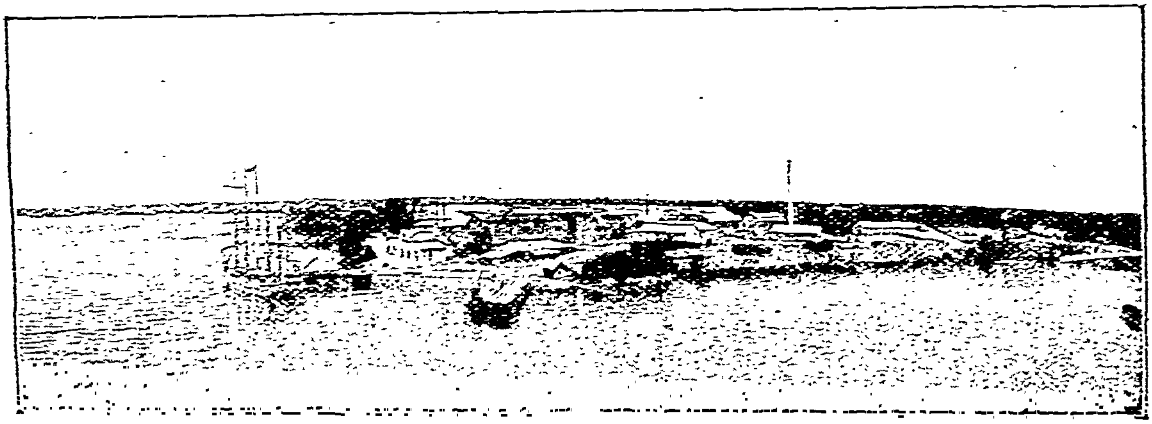


FIG. 8.—The factory at Fray Bentos. The factory covers 62 acres of ground. River Uruguay at this point is 4½ miles wide. [illegible] Camp at background. The small low white building in foreground is the original factory.

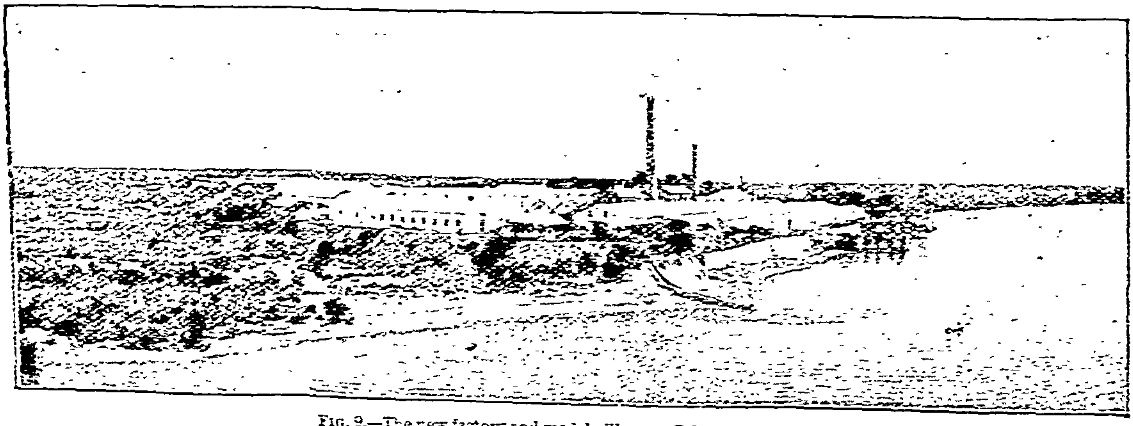


FIG. 9.—The new factory and model village at Colon, Entre Rios.

by the Lord Mayor, Alderman Sayer, and an interesting municipal experiment has been commenced in particularly favourable circumstances. The situation has been well chosen and is particularly well adapted for its purpose. It is 800 feet above sea level; the chalets are placed on a southern slope and are protected on the east by a pine wood, they are built of brick, have slate roofs, are lined with plaster, and the floors are solid concrete to which a covering of linoleum is cemented. The windows open outwards and are arranged so that free through ventilation can be readily secured whilst rain and snow are excluded, and each room is provided with a small stove which is intended for use only in very inclement weather. It is proposed that each patient shall remain in the sanatorium not less than three months, during which he will not only be in favourable circumstances and under careful observation, but he will also learn lessons in sanitation, cleanliness, and ventilation which it is hoped he will inculcate into others when he returns home. There are baths in association with the chalets, but although they are both desirable and will no doubt prove very useful, sponge baths are also provided in the rooms, and the patients will be encouraged to use sponge baths and so cultivate a habit which they can easily continue when they return home.

The Hospital Saturday Fund.

At a meeting of the board of delegates held on Oct. 12th last it was stated that the amount received up to that date was £20,469, a total which exceeded the amount subscribed last year by £360. The committee recommended that £10,000 should be distributed amongst the Birmingham hospitals and certain other institutions on the same lines as last year, which means that the General Hospital will receive £3150, the Queen's Hospital £2100, the General Dispensary £1040, the Children's Hospital £800, the Women's Hospital £500, and other hospitals and nursing institutions sums varying from £400 to £10. The committee thinks that the result is very satisfactory, especially when the trade depression is taken into consideration, and it attributes the successful result to a growing appreciation of the work done by the fund and more especially an appreciation of that part of the work associated with the convalescent homes for men and women at Llandudno and the convalescent home for children at Great Barr. It may be inferred, therefore, that the hospitals need expect no increase in the amount of the fund devoted to their interests.

The Health of the City.

The death-rate, which reached 20 per 1000 during the week ending Sept. 18th, fell steadily after that date till the week ending Oct. 10th, when it was reduced to 11·8 per 1000; last week it rose slightly to 12·8 per 1000. During the same period the zymotic death-rate has varied from 1·9 to 1·6 per 1000, and the number of scarlet fever and diphtheria cases in the hospital has risen slowly but regularly. During the week ending Sept. 18th there were 274 scarlet fever patients and 63 diphtheria patients. During the following week the scarlet fever cases rose to 284 and the diphtheria cases to 66. During the two following weeks the number rose to 300 and 67 respectively, and last week there were 307 scarlet fever cases and 71 diphtheria cases. On the whole the health of the city is good and the outlook favourable.

The Birmingham Edinburgh University Graduates' Club.

The Birmingham Edinburgh University Graduates' Club had a very enjoyable evening on the occasion of their twelfth annual dinner which was held at the Grand Hotel on Oct. 15th. Professor A. Crum Brown was the guest of the club and in responding to the toast of the University of Edinburgh, proposed by the President, Dr. J. Douglas Stanley, he recalled many incidents of the period during which he occupied the chair of chemistry and told amusing tales of examiners and candidates. With the exception of Professor Crum Brown's response the speeches were few and short but the evening passed rapidly, enlivened by the humorous monologues of Dr. Sydney Partridge and Dr. Whaite and by the songs of Dr. G. H. Mounsey and Dr. Macleod Munro.

Medical Inspection in Warwickshire.

Dr. A. Bostock Hill, who believes that great advantages will eventually result from the medical inspection of school children, has arranged a series of conferences with head teachers. The first of the conferences was held at Erdington on Sept. 10th when Dr. Bostock Hill appealed for the help of the teachers and pointed out that although 12,000 children were to be examined this year the work could be done within the period of the school year. He said that the inspection was only a means to an end, the end being the amelioration of all the conditions which were inimical to the health of the children. In the discussion which followed, questions were asked regarding the circumstances which would necessitate the temporary closing of schools and Dr. Bostock Hill, in replying, stated that, in his opinion, schools should be closed when a reasonable proportion of children were affected with measles and during outbreaks of diphtheria. In most other cases closing was unnecessary and the exclusion of the sick children was sufficient.

An Effect of the Last Vaccination Legislation.

At a recent meeting of the King's Norton board of guardians it was reported that there was a steady increase in the birth-rate of the district, a diminution in the number of vaccinations, and a considerable increase in the number of exemption certificates. The increase in the number of exemption certificates is attributed to the fact that under the last Act the applicant can get an exemption from a magistrate without having to go before a court. Under the new Act the fees paid are considerably less than was the case previously and the result, so far as King's Norton is concerned, is a saving of £100 a quarter; this is, no doubt, considered to be a great advantage and it can only be hoped that the small part of the advantage due to the diminished number of vaccinations will not eventually prove to be very dearly bought.

Oct. 20th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Water-Supply: The Disposal of the City's Refuse.

AN idea of the gigantic dimensions of the Liverpool water-supply was given on Oct. 6th by the chairman of the water committee of the city council in quoting figures relating to the number of gallons distributed during the past 12 months and the population supplied. The measure of water in gallons supplied to over 1,000,000 people of Liverpool and neighbourhood from Rivington and Vyrnwy amounted to 11,600,000,000 gallons. This represents about 1,500,000 gallons a day increase. Never once were the resources taxed in the year, not even in the dry weather of the early summer. Liverpool could supply with ease a larger population and if the negotiations recently re-opened are brought to a successful issue Birkenhead will draw its supply from the same source. An interesting example of the progress and improvements made in disposing of the city's refuse also came to light. The corporation has just sold one of its mud hoppers for £1000, having no further use for its services. This was accounted for by the fact that whereas 88,000 tons of refuse were previously taken out to sea annually, only 40,000 tons are now so treated. The refuse destructors that have been built do the rest. This ought to make for less river pollution, but the aspect of the Seacombe and Egremont shore at low water scarcely verifies the suggestion.

Liverpool Select Vestry and the Treatment of Tuberculosis.

At a meeting of the select vestry held on Oct. 10th expression was given to the opinion that open-air treatment for consumptives, so far as it bears on the local operations of Poor-law guardians, is scarcely all that could be desired. The chairman of the workhouse committee reported that, as representative of the vestry at the recent Poor-law conference in Ulverston, he had spoken in opposition to the proposal that guardians should establish sanatoriums for consumptives, commending instead preventive work, such as that carried on by the Liverpool medical officer of health and his staff in the better housing of the people and the improvement of sanitary conditions. He added that the treatment of consumptives at the Heswall Sanatorium costs as much as £3 per week per patient and the vestry had had to pay sums of from £75 to £100 for patients whom it had sent to Heswall for treatment.

more or less syrupy liquid is placed in a special concentrator provided with a revolving worm and through which steam is passing. It is very essential if complete uniformity in regard to consistency and composition of the extract is aimed at that during the last stages of concentration the mass should be continually stirred. The treacly mass is then run off while hot into tin canisters of varying capacity and is ultimately dispatched to the distributing factories in Europe for subdivision into small parcels in the form in which the public receive it. It may be added that the extract is made and finished within three days of the death of the animal from the flesh of which it is derived. Such a proceeding must receive the entire approbation of all upholders of hygienic methods, for any time lost in the preparation of concentrated meat foods means time gained by the countless deteriorating agencies which find animal food a particularly congenial field wherein to multiply and to produce baneful products. Once, however, the concentration is secured extract of meat is, in its nearly solid state, no longer a culture medium. The process of extraction from beginning to end is subject to the supervisions of a chemist, and periodical analyses are made with the view of keeping the product constant in composition and quality. At both the Fray Bentos and Colon factories there are well-appointed chemical laboratories equipped with a staff of qualified analytical chemists. Before also the extract reaches the market from the distributing factories its composition and quality are certified by a scientific board. Amongst the scientific men serving in this capacity were Baron Liebig himself in 1865, his son and Professor Pettenkofer in 1872, and later Dr. Karl Voit, Dr. Max Rubner, Dr. Max Gruber, and Sir Henry Roscoe, the three last exercising their control at the present time. There is also accommodation given for biological work. It will be seen that the above processes effect the extraction of the uncoagulable portions of the meat which are soluble in water and that therefore the residue remaining consists of the fibrin and albumins in a more or less toughened state. The fat, as has already been stated, is skimmed off from time to time and filtration finally removes any traces left. It should be remarked, however, that the meat substance is in contact with hot water for some time and in the presence of the normal acids of muscular tissue. It follows that a certain amount of hydrolysis of the albumins takes place and that, therefore, to some extent part of the meat itself enters into the extract in the form chiefly of albumose and peptone. The extent to which this is the case will be seen from a number of analyses given below which were made in THE LANCET Laboratory. Samples for this purpose were taken by our Commissioner himself from both factories from the machine in which the final concentration is made.

TABLE I.—*Analysis of "Lemco" taken from the Liebig Companies Factories at Colon and Fray Bentos in South America.*

	Colon. Per cent.	Fray Bentos. Per cent.
Moisture	15·80	17·55
Mineral salts	26·37	19·38
Organic matter...	57·83	63·07
Total	100·00	100·00
Total nitrogen	9·70	10·64
Albumose	12·59	14·08
Peptone	5·61	5·76
Total protein	18·20	19·84
Creatine and creatinine	14·28	14·23
Insoluble matters	*Nil.*	*Nil.*
Fat...	Trace.	*Trace.*
Sodium chloride	3·02	2·63
Phosphoric acid (P_2O_5)	9·02	7·36

The following sample of "Lemco" was also secured by our Commissioner at the distributing factory in Europe. Analysis of this sample gave the results shown below.

TABLE II.—"*Lemco*" *from the Distributing Factory.*

	Per cent.
Moisture	17·90
Mineral salts	19·36
Organic matter	62·74
Total	100·00
Total nitrogen	10·07
Albumose	11·67
Peptone	5·02
Total protein	16·69
Creatine and creatinine	10·00
Insoluble matter	0·40
Fat...	Trace
Sodium chloride...	2·91
Phosphoric acid (P_2O_5)...	7·15

Finally, samples were purchased in the open market at various shops in London and on submitting them to analysis the following results were obtained:—

TABLE III.—*Samples of "Lemco" Purchased at Various Shops in London.*

—	1	2	3	4	5	6	7	8	9	10
	%	%	%	%	%	%	%	%	%	%
Moisture	20·73	20·63	19·96	19·70	17·12	19·91	21·50	16·36	21·13	20·23
Mineral salts...	20·94	20·29	20·00	18·35	20·45	21·03	19·23	28·30	19·16	20·71
Organic matter	58·33	59·08	60·04	61·95	62·43	59·06	59·27	55·34	59·71	59·06
Total	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00
Total nitrogen	9·22	10·09	9·34	10·22	9·52	9·91	11·62	9·43	9·45	10·02
Albumose	10·14	11·21	12·37	13·79	10·80	11·93	14·26	8·52	10·84	11·84
Peptone	5·50	4·61	4·50	5·55	4·47	4·51	4·24	5·60	4·37	3·34
Total protein	15·64	15·82	16·87	19·34	15·27	16·44	18·50	14·12	15·21	15·18
Creatine and creatinine	11·00	10·00	10·00	10·00	11·00	12·50	10·00	12 50	12·50	9·00
Insoluble matter (fibrin, albumin) ...	0·33	0·56	0·63	0·25	0·66	0·63	0·65	0·63	0·51	0·37
Sodium chloride	2·68	3·23	2·81	3·03	2·31	3·02	3·15	5·69	3·00	3·92
Phosphoric acid (P_2O_5)	6·70	5·37	5·41	4·55	5·31	5·52	6·11	3·06	6·30	6·13

A careful comparison of the figures in Tables II. and III. shows that the samples of "Lemco" purchased on the open market are practically identical in composition with the sample obtained directly from the distributing factory. The small differences which do exist are due to slightly varying amounts of water and are bound to occur owing to the hygroscopic nature of the extract. It is clear from these analyses number of pelvic deformities and other complications occur in its practice, frequently necessitating the performance of all the different kinds of obstetrical operations. The difficulty hitherto has always been that the accommodation and arrangements for enabling students to see the work were so meagre that full advantage could not be taken of the material for teaching purposes. The new hospital, which is up-to-date alike in structure and in appliances for treatment, will present a field for clinical instruction and post-graduate work that cannot be rivalled in the United Kingdom. Within a few months there will be opened a gynæcological department of at least 40 beds. By these provisions the University of Glasgow has been enabled at once to adopt the new conditions for the examination of students in clinical obstetrics. The establishment of a comfortable residence accommodating 15 students at the hospital makes it possible for the students to be called to all emergency cases, in addition to attendance at the regular daily clinique.

A New Hospital for Dunoon.

The Dunoon District Cottage Hospital, which has been built and equipped at a cost of £4000, was opened last week by Princess Louise, Duchess of Argyll. The hospital has an ideal site. The exposure is excellent with a commanding view of the firth. In the main block there are two wards with provision for 12 beds. An excellent operating theatre has also been provided and there is suitable accommodation for the staff.

Aberdeen Royal Infirmary: Gift from the Prince of Wales.

The Prince of Wales has by the hands of Professor D. W. Finlay sent a donation of £50 to the funds of the Aberdeen Royal Infirmary in recognition of the treatment of his late servant, Finlay Cameron. At a meeting of the board of directors held on Oct. 14th the desire was expressed that Professor Finlay would, in acknowledging the donation, convey to His Royal Highness the board's most grateful thanks for the gift, which was considered not only valuable in itself but calculated to stimulate liberality in others.

Aberdeen University Court: The Retirement of Professor Hamilton.

At a meeting of the Aberdeen University Court held on Oct. 13th Principal Lang referred to the retirement of Professor D. J. Hamilton. Reference had already been made at a previous meeting by Professor Hay and other members of the court to the very great distinction with which Professor Hamilton had occupied the chair of pathology since its foundation in 1882, and the great value of his service to the University and to science as a teacher of unsurpassed power and an investigator of the first rank. There could be only one feeling, and that a feeling of deep and sincere regret that he would no longer be one of their staff of teachers and that he had left a service which extended over 26 years and had shed a lustre, not only on his own department, not only on the medical school, not only on the four Scottish Universities, but on a very wide area beyond. They would always recollect their illustrious friend—the first professor of pathology in the University—his geniality of nature, and the loyalty of his coöperation in all affairs of the University that he so sincerely loved. Honours and sorrows were mingled together in the later years of Dr. Hamilton's occupancy of the chair.

Opening of the Winter Session at the University of Aberdeen: Impending Retirement of Professor A. Ogston.

The winter session of the University of Aberdeen opened on Oct. 13th. There was a large attendance at all the classes. In the surgery class Professor Ogston announced that he intended to retire at the end of the present academic year, saying that owing to the great advances which surgery was making the conduct of such a department was work for a young man who had all his life before him and not for him who had practically all his life behind him. He had been professor of surgery for 26 years and felt that the time had come when he should retire. Professor Ogston is a son of the late Professor Francis Ogston and graduated at the University of Aberdeen with highest honours. He studied at the Universities of Vienna, Prague, and Berlin, and later visited most of the leading medical schools of Europe. He commenced practice in Aberdeen in 1866, and until 1873 was assistant to his late father as professor of forensic medicine in the University. From 1868 to 1870 inclusive he was ophthalmic surgeon to the Aberdeen Royal Infirmary, and to 1874 aural surgeon. From 1873 to 1876 he was examiner for medical degrees in the University of Aberdeen. In 1882 he was appointed professor of surgery. Professor Ogston went to Egypt in 1885 and was in action near Hasbeen. He was awarded the Egyptian war medal and the Khedive's bronze star for the efficient assistance and personal bravery displayed during his stay in Egypt. Professor Ogston ranks among the greatest surgeons and operators both of this country and of the continent.

Semi-Jubilee of Dundee University College: New Physics and Electrical Laboratories.

The Semi-Jubilee of University College, Dundee, was signalised on Oct. 10th by the presence at the annual meeting of governors of the Right Hon. John Sinclair, M.P., Secretary of State for Scotland. Following this meeting there took place the ceremony of the laying of the foundation-stones of the new physics laboratory and of the new Peters electrical engineering laboratory. These buildings, the former of which will cost £12,500 and the latter £4000, are situated to the rear of the Union Mount property. The opening ceremony was performed by the Hon. Lady Marjory Sinclair in the presence of a large assemblage of the professoriate and students. At the close of the ceremony a reception was held in the College gymnasium.

Oct. 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Sanitation of Dublin.

THE report of the public health committee on the state of the health and sanitation of Dublin was before the corporation at last week's meeting. Alderman Kelly, who moved the adoption of the report, called special attention to the gratifying fact that the death-rate was below the average of what it had been for a long period of years and that in last June it had fallen to the lowest figure on record. He took the opportunity of adding, "Dublin could never be in a satisfactory position with regard to its death-rate until the council applied attention to the removal of the city slums." Another member emphasised the fact that the death-rate, however low—comparatively—at present, still continued to be the highest in the kingdom. The corporation Bills which the citizens rejected a few months ago were opposed by Alderman Kelly and his party, who represented that the powers already possessed by the corporation were amply sufficient, if vigorously utilised, to eradicate all the evils under which the tenement house dweller of the city had suffered so long. Alderman J. C. McWalter, who had strongly supported these Bills, now demanded what their opponents had done to prove the truth of their assertions. Alderman Kelly, in replying, stated that while the burning question of the sanitary housing of the poor "presented great and grave difficulties" the "greatest and gravest of all was the interference of that council with sanitary officers."

Adulteration of Milk in Dublin.

The Recorder of Dublin has recently made a vigorous stand against the sale of adulterated milk in hearing an appeal from a sentence of six weeks' imprisonment passed by a police-court magistrate on Mr. H. Redhouse, dairy-keeper, for having sold milk which was adulterated with 10 per cent. of added water. It was shown that the defendant had several times previously been convicted of adulteration of milk and was actually fined £5 on the last occasion. An effort was made to lay the blame of the adulteration on a brother who managed the dairy farm. The appellant said that he had dismissed his brother from the management of his farm and promised that it would not occur again. The Recorder refused to "be taken in with talk of that kind from a man who had been convicted before and might have been fined £50 on the last occasion." He had previously remarked that the business of adulteration of milk meant simply the absolute murder of young children. Not only was the defective milk a cause of wasting in children, but it was a direct producer of intestinal and other diseases most detrimental to infant life. So far as he was concerned, he would use every effort to stamp out this fearful

Total nitrogen	10·30
Albumose	23·22
Peptone	*Nil.*
Total protein	23·22
Creatine and creatinine	5·00
Insoluble matters...	*Nil.*
Fat	Trace.
Sodium chloride	1·37
Phosphoric acid (P_2O_5)	4·00

The addition of this peptonised meat preparation to "Oxo" is therefore calculated to add considerably to its nutritive value, and as a matter of fact the analysis of "Nursing Oxo" gives the following results which show a considerable proportion of proteins:—

ANALYSIS OF "NURSING OXO."

	Per cent.
Moisture	23·27
Mineral salts	15·73
Organic matter	61·00
Total...	100·00
Total nitrogen	11·35
Albumose	20·28
Peptone	13·23
Total soluble protein	33·51
Insoluble matters	5·83
Creatine and creatinine	4·00
Sodium chloride	4·80
Phosphoric acid (P_2O_5)	4·38

It is directed that a teaspoonful of "Nursing Oxo" should be added to a breakfast-cupful of boiling water for the preparation of a nourishing beef-tea. A teaspoonful of "Nursing Oxo" weighs about half an ounce and the capacity of an ordinary breakfast-cup may be taken to be ten ounces, so that in preparing beef-tea with "Nursing Oxo" a 5 per cent. solution of the extract is enjoined to be made. Such a fluid has, according to the directions which we followed, the annexed percentage composition and it is interesting to place side by side with this the composition of beef-tea made with care from best rump steak:—

	Beef-tea made from fresh rump steak, 1 pound to 1 pint of water.		"Nursing Oxo," 1 part to 20 parts of water.
Water	97·46	....	95·65
Organic matters	2·01	....	3·42
Mineral salts	0·53	....	0·93
Total...	100·00	....	100·00
Total proteins	1·50	....	1·96
Extractives...	0·51	....	1·46

"Nursing Oxo" contains, therefore, at this extreme dilution more than one and a half times as much meat substances as are contained in beef-tea, an increase due to both proteins and extractives, but *more particularly* to the latter. It contains also the albumin and fibrin of beef which are absent in strained beef-tea. The strength of a cup of "Nursing Oxo" can, however, obviously be increased at will by adding more than a teaspoonful of the preparation to the breakfast-cup of hot water. Its preparation is both economical and simple.

MEAT EXTRACTS AND ALLIED PRODUCTS FROM A DIETETIC POINT OF VIEW.

Considerable controversy has centred round the question of the nutritive value of extract of meat and beef-tea and at the present time there is not a little division of opinion on the subject. There can be no doubt, at all events, that extract of meat is a most valuable adjunct to the dietary of both the healthy and the sick alike, but until recently little was known as to why this was so or as to the rôle which it plays as an undoubted aid to nutrition, if not, indeed, as a direct *contributor to it.* Whatever views may be held as to the nutritive value of the extractives of meat one thing is certain, and that is that the ingestion of meat from which these principles have been taken away places a very heavy task on the digestive organs. The extractives are, in fact, essential to the enjoyment and assimilation of the meat. The custom of preceding a meal with soup has, in other words, a strong physiological warranty. Schiff pointed out that the taking of soups, or what amounts to the same thing, extract of meat, stimulated the activity of the gastric glands and encouraged, therefore, in a remarkable way the assimilation and digestion of the solid constituents of the food which make up the balance of the meal. In his comparatively recent experiments Pawlow also demonstrated clearly that the extractives of meat are the most powerful exciters of gastric secretion that we possess and thus they serve the important dietetic purpose of assisting the appetite and of contributing to the digestion of food. Further than this, the extractives of meat as shown by Kobert are capable of removing the effects of muscular fatigue, enabling a tired muscle to become active again. This fact explains why solutions of beef extract exert recuperative effects in conditions of fatigue and act as a refreshing beverage. But meat extracts as a matter of chemical fact contain something besides extractives, though it must be admitted that these predominate. Still, modern analysis does show clearly enough that in the process of extraction a certain amount of hydrolytic action takes place and that therefore some of the albumin of the meat is converted into soluble proteins—viz., albumose and peptone—which have the same nutritive value as meat. In some instances these amount in extract of meat to nearly 20 per cent., or twice the quantity of creatinine, the chief base present. Now in the presence of the powerful gastric excitants which the extractives are admitted to be, apart from the fact that the albumoses and peptones are capable of playing the part in nutrition exhibited by proteins, a well-prepared beef extract must be, so far as its nutritive contents go, a very rapid and powerful restorative and nutrient. It has even been asserted that albumose and peptone do not simply diffuse through the intestinal wall but are taken up by the lining membrane and transformed by it as a result of the vital activity of its cells into serum albumin. The fact, moreover, that the extractives of meat are the most powerful excitants of gastric secretion that we possess justifies the addition as in "Oxo" of dry beef powder to the extract, for although it is true that this addition represents but a comparatively small measure of beef, yet the presence of extractives is calculated to secure the complete digestion of this amount. This assistance to assimilative power means that less meat is needed. As will be seen from the analytical results the average amount of *dry* beef powder added is from 5 to 6 per cent. Inasmuch as raw meat contains at least 75 per cent. of water the addition represents from 20 to 24 per cent. of raw meat. "Nursing Oxo" contains a similar addition of dry beef powder and besides about 25 per cent. of albumose, so that its nutrient value is considerable, especially having regard to the very material assistance given by the extractives to the digestive process. It will be readily understood also why milk or other comparatively tasteless food to which some extract of meat has been added should prove to be a powerful food and restorative. There is no constituent in milk which is calculated to excite the gastric secretions, and hence the addition of the stimulating extractives of beef is a decided dietetic advantage, especially for the sick and poorly nourished.

In discussing this stimulating effect of beef extractives on the digestive process it is interesting to compare the action of alcohol, and the comparison on the whole is an unfavourable one for alcohol, for while the risks attending the consumption of alcohol are well known there is comparatively no risk connected with the use of meat extract for dietetic purposes. Alcohol is, of course, a poison for obvious reasons, but it would be impossible to include meat extract in the same category, and yet in some ways it may be substituted for alcohol for similar dietetic objects. Alcohol is a true stimulant inasmuch as it spurs the heart to the *performance of more* work. The *stimulating* effect of meat extract, on the contrary, is *confined to the* digestive organs, and so the heart not being pushed to do more work *does not show those signs of* depression after partaking of meat extract which follow the imbibition of alcohol. In a word, the temporary benefit obtained by the stimulating effects of alcohol receives an undesirable compensation in the fact of cardiac depression ensuing. No such evil follows the use of meat extract, which, on the contrary, as has already been pointed out, helps to overcome fatigue died if he had held his hand. He laid down the general rule that all cases diagnosed as extra-uterine fœtation before the fifth month should be operated upon. After that time, on the other hand, a policy of "armed expectancy" might be adopted. M. Pozzi also differs from M. Albertin as regards colpotomy in septic cases because it is generally impossible to make sure as to whether a given case comes under that category. M. Pozzi said that he had often operated upon patients with a temperature of 40° C. and found nothing but simple clot. This interchange of opinions led to a brilliant debate between M. Delanny, M. Duret, M. Chavannaz, and M. Reynes. The treatment of absence of the vagina by plastic operations was also well discussed. M. Abadie sinks an artificial vagina between the bladder and the rectum, and lines it with skin grafts obtained by Thiersch's method, following a technique which he has seen Professor Forgue employ. All his grafts, except one, took capitally. M. Pozzi advocates that the artificial passage should be made as deep as possible. He cuts a plastic skin-flap to line its posterior wall only and directs the patient to wear permanently a perineal appliance provided with a rubber ball to maintain the patency of the vagina. M. Roux (Lausanne) lines the artificial passage with mucous membrane dissected from the labia minora and turned upwards, a plan which gives excellent results. M. Novaro has tried a plastic method, applying skin flaps to both anterior and posterior walls. M. Fournier has adopted the plan of slitting the labia minora. Progressive dilatation resulted finally in an artificial vagina of sufficient capacity. M. Péraire has attempted to re-establish continuity with the uterus and his patient lost a few drops of menstrual blood through a filiform passage. After making an artificial vagina by combining a simple incision with an auto-plastic turning up of flaps he used bougies to prevent the occurrence of stenosis. The operation was done nearly a year ago and the successful result has been maintained. Turning to general surgery again, M. Patel spoke on the treatment of gastric fistulas by jejunostomy. He treated a man aged 32 years successfully for a gastric fistula situated low down; the patient had entered hospital with all the signs of a subphrenic abscess, which was opened, and two days later the fistula was found. M. Patel did a lateral jejunostomy without delay with an immediate relief of the symptoms and later a cure of the fistula. Unfortunately the patient was suffering from cancer of the stomach and died six months later from cachexia.

The Treatment of Nephritis by Serum-Therapy.

M. Teissier of Lyons read before the Academy of Medicine on Oct. 6th a paper which is likely to attract a good deal of attention. It dealt with the treatment of nephritis. Continuing some experiments of Turbure, under the encouragement of results obtained from renal opotherapy (both by M. Renaut's plan of macerating whole kidneys of pigs and by using extracts of renal tissue), M. Teissier has injected patients suffering from nephritis with serum obtained from the blood of the renal vein and consequently containing the bodies elaborated by that organ. He employed the blood of a dog for this purpose and he is now using horse's blood which is notably less toxic. From 15 to 20 cubic centimetres of the serum have been injected every three, four, or five days beneath the skin of the abdomen of patients suffering from nephritis of widely varying types, some being in a state of pronounced uræmia. The effect has been rapid. The uræmia has cleared up, the coma and vomiting have ceased, and the albumin in the urine has diminished. These results are extremely interesting, for if they are confirmed they will form one of the most valuable therapeutic discoveries of the present time.

A Combined Surgical and Electrical Method of Treating Cancer.

At a meeting of the Hospitals' Medical Society on Oct. 9th M. Juge and M. Keating Hart showed a series of cancer patients who had undergone incomplete surgical treatment followed by the "*fulgurations*" treatment of Keating Hart. The patients were chosen from 40 people suffering from serious orificial, lingual, or mammary cancer, for whom simple surgical treatment would have been futile. The combined method gave remarkable results, for many of them have remained for two years or more without recurrence.

Oct. 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Moveable Cæcum.

Professor Wilms of the Basle surgical clinic, writing in the *Deutsche Medizinische Wochenschrift*, discusses the causes of so-called chronic appendicitis. The writer says that in about 20 per cent. of cases of chronic appendicitis no acute attack has preceded the chronic stage. In these cases the appendix when removed by operation proves, as a rule, to be healthy, and on microscopical examination nothing abnormal is found except some slight traces of appendicitis; these slight microscopical alterations do not explain the pain in the so-called "chronic appendicitis," and indeed in a great many cases the pain and tenderness over McBurney's point continue after the removal of the appendix. He has found that in many of these cases the symptoms are due not to appendicitis but to an abnormal length and mobility of the cæcum. This may be ascertained by palpation of the ileo-cæcal region. By this procedure the loose cæcum in a contracted state offers a tumour-like resistance and on superficial examination it may even be confounded with a moveable kidney. The cæcum when filled with fæces is, owing to its length, liable to traction, and this is of course painful. Professor Wilms has devised a method of treating this morbid state by fixing the loose cæcum. The results of the 40 cases operated upon hitherto are said to be very good, even in cases where a previous appendectomy had proved useless. The operation is easy and not more dangerous than appendectomy, which was always done at the same time as the fixation of the cæcum. The suggestion that the success may therefore be due not to the fixation of the cæcum but to the removal of the appendix is, however, not borne out. In order to test the value of his procedure in five of these cases he did an appendectomy without producing any improvement. Chronic appendicitis may of course be cured by appendectomy only; this is the case when the mesentery of the appendix is too short, so that the cæcum when full exerts traction on it. When the appendix is removed and thus separated from the mesentery the traction of course ceases, and the success of the operation in these cases is thus not due to the removal of an alleged inflamed appendix but to mechanical causes. A mobile cæcum may often be present without causing any trouble but this is also the case in moveable kidney in which the pain is caused by traction on the nerves. In some cases of moveable cæcum the pains may be cured by internal medication, especially by regulation of the diet and by regular purgation of the bowels; but if medicinal treatment is not efficacious within some weeks fixation of the cæcum should be done.

The Medical Academy of Dusseldorf.

As I have mentioned already in these columns medical academies have been established in Cologne and in Düsseldorf. The primary object of such institutions is that medical candidates after having passed the State examination may spend at the academy the year of practice required by recent regulations; the second purpose is to supply medical men with opportunities for post-graduate study. The academies of Cologne and Düsseldorf are supported exclusively by the municipal authorities of these cities but the State without any financial liability has an influential voice in the management of academical affairs, such as the appointment of the staff. The municipal authorities were induced to supply the necessary funds by the hope that a great number of students would be attracted to their town, and that well-to-do patients from far and near would come to consult the professors of the academy and to be received in the paying wards of the academical clinics. These hopes have proved erroneous; candidates for a medical qualification desiring to perform their statutory year of practice required by the regulations came in small numbers only to the academy, for they preferred other towns where they could comply with the regulations by acting as clinical clerks and dressers and where they receive for their work free board and residence and in certain cases even a small salary. The paying wards of the academical clinics were not much frequented because the medical men of the city and of the neighbourhood, who

Total nitrogen	10·30
Albumose	23·22
Peptone	*Nil.*
Total protein	23·22
Creatine and creatinine	5·00
Insoluble matters...	*Nil.*
Fat	Trace.
Sodium chloride	1·37
Phosphoric acid (P_2O_5)	4·00

The addition of this peptonised meat preparation to "Oxo" is therefore calculated to add considerably to its nutritive value, and as a matter of fact the analysis of "Nursing Oxo" gives the following results which show a considerable proportion of proteins :—

ANALYSIS OF "NURSING OXO."

	Per cent.
Moisture	23·27
Mineral salts	15·73
Organic matter	61·00
Total...	100·00
Total nitrogen	11·35
Albumose	20·28
Peptone	13·23
Total soluble protein	33·51
Insoluble matters	5·85
Creatine and creatinine	4·00
Sodium chloride	4·80
Phosphoric acid (P_2O_5)	4·38

It is directed that a teaspoonful of "Nursing Oxo" should be added to a breakfast-cupful of boiling water for the preparation of a nourishing beef-tea. A teaspoonful of "Nursing Oxo" weighs about half an ounce and the capacity of an ordinary breakfast-cup may be taken to be ten ounces, so that in preparing beef-tea with "Nursing Oxo" a 5 per cent. solution of the extract is enjoined to be made. Such a fluid has, according to the directions which we followed, the annexed percentage composition and it is interesting to place side by side with this the composition of beef-tea made with care from best rump steak :—

	Beef-tea made from fresh rump steak, 1 pound to 1 pint *of water.*		"Nursing Oxo," 1 part to 20 *parts of water.*
Water	97·46	....	95·65
Organic matters	2·01	....	3·42
Mineral salts	0·53	....	0·93
Total...	100·00	....	100·00
Total proteins	1·50	....	1·96
Extractives...	0·51	....	1·46

"Nursing Oxo" contains, therefore, at this *extreme* dilution more than one and a half times as much meat substances as are contained in beef-tea, an increase due to both proteins and extractives, but more particularly to the latter. It contains also the albumin and fibrin of beef which are absent in strained beef-tea. The strength of a cup of "Nursing Oxo" can, however, obviously be increased at will by adding more than a teaspoonful of the preparation to the breakfast-cup of hot water. Its preparation is both economical and simple.

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In discussing this stimulating effect of beef extractives on the digestive process it is interesting to compare the action of alcohol, and the comparison on the whole is an unfavourable one for alcohol, for while the risks attending the consumption of alcohol are well known there is comparatively no risk connected with the use of meat extract for dietetic purposes. Alcohol is, of course, a poison for obvious reasons, but it would be impossible to include meat extract in the same category, and yet in some ways it may be substituted for alcohol for similar dietetic objects. Alcohol is a true stimulant inasmuch as it spurs the heart to the performance of more work. The stimulating effect of meat extract, on the contrary, is confined to the digestive organs, and so the heart not being pushed to do more work does not show those signs of depression after partaking of meat extract which follow the imbibition of alcohol. In a word, the temporary benefit obtained by the stimulating effects of alcohol receives an undesirable compensation in the fact of cardiac depression ensuing. No such evil follows the use of meat extract, which, on the contrary, as has already been pointed out, helps to overcome fatigue of Pharmacognosis. Dr. Thomas v. Resck has been appointed Director of the Wieden Hospital.—*Würzburg:* Dr. Burckhardt, *privat-docent* of Surgery, has been granted the title of Extraordinary Professor.

WESTMINSTER HOSPITAL.—Entrance scholarships have been awarded at the Westminster Hospital Medical School as follows: R. C. C. Clay, Epsom scholarship, value 120 guineas; W. G. Shakespeare, first scholarship in Arts, value £60; D. M. Connan, natural science scholarship, value £60; J. W. Ebden, second scholarship in Arts, value £40; and J. Lloyd, second science scholarship, value £40.

GIFT OF A CONVALESCENT HOME.—Mr. G. P. Shepherd of Keymer, Sussex, has given a sum of £10,000 to build and to endow a convalescent home at Worthing for patients from the Surrey County Hospital, Guildford. A site for the building at the east end of the Parade, with its main frontage to the Brighton-road, has been purchased by public subscription at a cost of £650. There will be accommodation for six female and four male patients, and all the dormitories will open upon balconies overlooking the sea.

PRESENTATIONS TO A MEDICAL MAN.—Dr. A. E. Brindley, the newly appointed medical officer of health of the borough of Derby, has been the recipient of some presentations at Bury, Lancashire, on relinquishing his appointment in that town. The staff of the municipal cleansing department gave a tantalus spirit frame "as a mark of esteem and respect." At the request of the carters at the town's yard the Shire Horse Society's prize won by corporation horses at the recent Prestwich agricultural show was handed over to Dr. Brindley, and the chief officials of the corporation and the staff of the health department presented him with a dressing-case and a barometer. In addition he received handsome presents from the staff of the Florence Nightingale Hospital for Infectious Diseases and from the staff of the Ainsworth small-pox isolation hospital, of which he was medical superintendent.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A party of French medical men, connected with the Société d'Hydrologie de Paris, who are interested in balneology and climatology, are paying a visit to England in connexion with the Voyages d'Etudes Médicales, and have been invited to attend this society's ordinary meeting on Oct. 29th. It has been arranged that the Fellows of the Society (who may bring guests, including ladies) shall dine on the same evening, at 7.30 P.M., with their French colleagues (some of whom will be accompanied by ladies), at the Great Central Hotel, Marylebone-road, each one paying for his own party. The charge for dinner will be 5*s*., exclusive of wine. It is thought that there will be a large attendance of Fellows. Notice of intention to dine should be sent to the London secretary, Dr. S. P. Sunderland, 11, Cavendish-place, London, W., the day before the meeting if possible.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—At the annual general meeting of the Royal Academy of Medicine, held at the Royal College of Physicians on Oct. 9th, the following officers and councils were elected for the coming year:—President of the Academy: J. Magee Finny. General Secretary: James Craig. Secretary for Foreign Correspondence: Sir John Moore. Medical Section:—President: Walter G. Smith. Council: J. B. Coleman, H. C. Drury, T. P. C. Kirkpatrick, J. A. Matson, T. G. Moorhead, J. F. O'Carroll, G. Peacocke, F. C. Purser, E. J. Watson, and W. A. Winter. Surgical Section:—President: John Lentaigne, P.R.C.S. Council: C. A. Ball, Alexander Blaney, Sir A. Chance, W. S. Haughton, R. C. B. Maunsell, Seton Pringle, Sir H. Swanzy, E. H. Taylor, W. Taylor, and W. I. de C. Wheeler. Obstetrical Section:—President: E. H. Tweedy. Council: Gibbon FitzGibbon, M. J. Gibson, J. H. R. Glenn, A. N. Holmes, A. J. Horne, H. Jellett, F. W. Kidd, R. D. Purefoy, J. Spencer Sheill, and T. H. Wilson. Pathological Section:—President: A. R. Parsons. Council: A. H. Benson, H. C. Earl, L. G. Gunn, W. G. Harvey, H. C. Mooney, J. F. O'Carroll, A. C. O'Sullivan, R. J. Rowlette, J. A. Scott, and A. H. White. Section of Anatomy and Physiology:—President: T. H. Milroy, Council: A. F. Dixon, A. Fraser, H. M. Johnston, E. L'E. Ledwich, and E. P. McLoughlin. Section of State Medicine:—President: W. R. Dawson. Council: A. E. Boyd, T. Donnelly, T. P. C. Kirkpatrick, E. J. McWeeney, J. A. Matson, and W. A. Winter. Resolutions of condolence were passed in reference to the deaths of Sir John T. Banks, K.C.B., Sir Arthur V. Macan, and Dr. Conolly Norman, which occurred since the last annual meeting of the Academy.

THE LATE DR. EMILY E. EBERLE OF CLIFTON.—As a memorial to the late Dr. Emily Eberle a free bed bearing her name is to be placed at the Private Hospital for Women, Berkeley-square, Clifton.

DAMAGES FOR PTOMAINE POISONING.—At Abergavenny (Monmouthshire) police court last week a local grocer was awarded £30 damages against a Cardiff tradesman. The damages were claimed for nursing charges and loss of custom during illness alleged to have been caused by ptomaine poisoning brought about by eating bacon bought from defendant. Dr. T. E. Lloyd, who gave evidence, stated that he ordered the bacon to be destroyed. When he examined it he found that it had been cured with boric acid.

INFANTS' HEALTH EXHIBITION.—The Infants' Health Exhibition was formally opened by H.R.H. the Duchess of Albany at the Institute of Hygiene buildings in Devonshire-street, London, W., on Oct. 19th, and many members of the medical profession, as well as a number of ladies specially interested in the welfare of children, were present. Sir William Bennett, the President, after a few introductory remarks, said that the Incorporated Institute of Hygiene commenced its career with the object of promoting the study and practice of personal and domestic hygiene—that is to say, the hygiene of the family and the home. The preservation of life at all costs, no matter how valueless the life may seem to be, was a common instinct of civilised humanity, and, indeed, was an ethical necessity in the established methods of modern civilisation. At the same time it must be obvious to the meanest capacity that in preserving the lives of certain physically or mentally defective infants—in other words, in preserving the unfit—the community must be taking up a burden which, apart from its purely humanitarian aspect, had no corresponding advantage and might indeed be a danger, a fact appreciated to the full extent by highly civilised people in the distant past and by some barbarian races at the present time. In the struggle for supremacy, when the crisis came, as it must do soon or late, it was as sure as sure could be that the nation which was individually and collectively the most healthy physically and morally would survive, and since the child was father to the man it was a logical sequence that the nation which reared the healthiest children would have at its back the strongest men and women. H.R.H. the Duchess of Albany, in formally declaring the exhibition open, pulled a silk ribbon and drew the curtains back from the two entrances in the reception room leading to the Infants' Health Exhibition.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—The following Entrance Scholarships in Arts have been awarded for the session 1908–09: First Buxton Scholarship, Mr. Cecil Bluett (private instruction); Second Buxton Scholarship, Mr. Alma Percy Ford (Mercer's School).—A course of eight lectures on "The Circulation in Man" was commenced on Oct. 16th in the Physiological Theatre of the London Hospital Medical College and will be continued on Oct. 23rd and the six following Fridays at the same hour. They will be free to all students of the University of London. Dr. Martin Flack gave the first lecture and is the lecturer for Oct. 23rd. The next four lectures will be given by Dr. Thomas Lewis, and the last two by Dr. Leonard E. Hill. The syllabus is as follows:—Lecture I.: The histological structure of heart muscle; the distribution of ganglion cells and nerve fibres; the sino-auricular node; the auriculo-ventricular bundle and its connexions. II.: The fundamental properties of cardiac muscle; the coördination and movements of different parts of the heart. III.: A brief history of our knowledge of the venous pulse in animals and man; the anatomy of the jugular veins and apparatus employed in taking venous curves; general constitution of the venous pulse and the relation of venous records to other methods of examining the heart; the detailed analysis of the normal venous pulse. IV.: The clinical interpretation of venous pulse. V.: Heart-block. VI.: The causation of the they caused, however, annual rates in the week equal to 1·5 in West Bromwich, 1·6 in Rotherham, and 2·9 in Stockton-on-Tees. Of the 25 deaths from scarlet fever, a decline of 18 from the number in the previous week, seven occurred in London and its suburban districts, three in Liverpool, four in Manchester and Salford, and two in Birmingham. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased in the six preceding weeks from 2855 to 3742, had further increased to 3755 on Saturday, Oct. 17th; the number of new cases of this disease admitted to these hospitals during the week under notice were 502, against 576 and 550 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 159 and 156 in the two preceding weeks, rose again to 159 in the week under notice, but were 47 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 31, or 0·7 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death during last week were again duly certified in Manchester, Leeds, Sheffield, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 53 other smaller towns; the 31 uncertified causes of death included six in Birmingham, four in Liverpool, four in Gateshead, three both in St. Helens and Nottingham, and two in Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·4 and 13·6 per 1000 in the two preceding weeks, declined again to 12·4 in the week ending Oct. 17th. During the first three weeks of the current quarter the annual death-rate in these eight towns averaged 13·1 per 1000, and was 0·2 below the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 7·4 and 8·0 in Perth and Greenock, to 13·8 in Glasgow and 14·4 in Paisley. The 436 deaths in the eight towns showed a decline of 45 from the number in the previous week, and included 58 which were referred to the principal epidemic diseases, against numbers declining from 107 to 55 in the eight preceding weeks; of these 58 deaths, 33 resulted from diarrhœa, 17 from whooping-cough, three from diphtheria, two from measles, two from scarlet fever, and one from "fever," but not one from small-pox. These 58 deaths were equal to an annual rate of 1·6 per 1000, which was 0·4 below the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had declined in the six preceding weeks from 64 to 28, rose again to 33 in the week under notice; 18 occurred in Glasgow, seven in Dundee, four in Edinburgh, and two in Greenock. The 17 fatal cases of whooping-cough showed an increase of eight upon the number in the previous week, and included 11 in Glasgow, three in Dundee, and two in Greenock. The three deaths from diphtheria were fewer by eight than those in the previous week, and were all returned in Glasgow. The deaths referred to "fever," which had been five in each of the two preceding weeks, declined to one last week, which occurred in Glasgow, and was certified as cerebro-spinal fever. The fatal cases both of measles and scarlet fever were again below the average. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 61 and 62 in the two previous weeks, declined last week to 58, and were 15 below the number returned in these towns in the corresponding week of last year. The causes of 15, or 3·4 per cent., of the deaths registered during the week in the eight towns were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·7 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 20·8, 18·0, and 16·4 per 1000 in the three preceding weeks, rose again to 17·4 in the week ending Oct. 17th. During the first three weeks of the current quarter the death-rate in the city averaged 17·3 per 1000; the mean rate during the same period did not exceed 12·1 in London and 12·4 in Edinburgh. The 132 deaths of Dublin residents during the week under notice showed an increase of eight upon the numbers in the previous week, and included 13 which were referred to the principal zymotic diseases, against 17 and 19 in the two preceding weeks. These 13 deaths were equal to an annual rate of 1·7 per 1000; the rate during the same week from these diseases did not exceed 1·2 in London and 0·7 in Edinburgh. Of the 17 deaths from these epidemic diseases in Dublin last week, five resulted from diarrhœa, three from "fever," two from measles, and one each from scarlet fever, diphtheria, and whooping-cough, but not one from small-pox. The deaths attributed to diarrhœa have steadily declined in the past nine weeks from 39 to five. The three deaths referred to "fever" were one below the number returned in each of the two preceding weeks; and the two fatal cases of measles also showed a decline. The 132 deaths from all causes during the week included 26 of infants under one year of age and 39 of persons aged upwards of 60 years; the deaths of elderly persons exceeded the number in the previous week by 14. One inquest case and no death from violence was registered; and 61, or 46·2 per cent., of the deaths occurred in public institutions. The causes of four, or 3·0 per cent., of the deaths registered during the week in Dublin were not certified; in London the causes of all but one of the 1092 deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was 5·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointment is notified:—Surgeon: H. M. Braithwaite to the *Pembroke*, additional, to be lent to the *Attentive*, temporary.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Charles G. D. Mosse retires on retired pay (dated Oct. 17th, 1908).

Major Harold S. Peeke is placed on temporary half-pay on account of ill-health (dated Oct. 18th, 1908).

ROYAL ARMY MEDICAL CORPS (MILITIA).

An official notice in the *London Gazette*, dated Oct. 20th, 1908, states that His Majesty the King has been graciously pleased to approve of the disbandment of the Royal Army Medical Corps (Militia).

MILITIA.

Infantry: 8th Battalion, The King's Royal Rifle Corps: Surgeon-Lieutenant-Colonel Edward A. Rawson retires, with permission to retain his rank and to wear the prescribed uniform (dated Sept. 27th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Edward A. Rawson having reached the prescribed limit of age ceases to belong to the Army Medical Reserve of Officers (dated Sept. 27th, 1908).

TERRITORIAL FORCE.

Yeomanry.

Berkshire (Hungerford): Surgeon-Lieutenant Maurice Were Coleman, from the Berks Imperial Yeomanry, to be Surgeon-Lieutenant, with precedence as in the Imperial Yeomanry (dated April 1st, 1908). Hampshire (Carabiniers): Surgeon-Captain Henry Augustus Ahrens, from the Hampshire (Carabiniers) Imperial Yeomanry, to be Surgeon-Captain, with precedence as in the Imperial Yeomanry (dated April 1st, 1908). West Kent (Queen's Own): The undermentioned officer from the West Kent (Queen's Own) Imperial Yeomanry is appointed to the regiment, with rank and precedence as in the Imperial Yeomanry (dated April 1st, 1908): Surgeon-Captain Gardiner William Trouton. Northumberland: The undermentioned officers from the Northumberland (Hussars) Imperial Yeomanry are appointed to the regiment, with rank and precedence as in the Imperial Yeomanry (dated April 1st, 1908): Surgeon-Major Arthur Brumell, Surgeon-Lieutenant Hamilton Drummond. Yorkshire Dragoons (Queen's Own): Surgeon-Major Percy Bernard

A. G. Mosbery, second prize (£1) and certificate. Senior: J. T. Duncan, first prize (£2) and medal; P. I. Wigoder, second prize (£1) and certificate. Practical Anatomy, first year: V. J. White, first prize (£2) and medal; I. M. Swanepoel, second prize (£1) and certificate. Second year: T. M. Thomson, first prize (£2) and medal; F. W. Warren, second prize (£1) and certificate. Practice of Medicine: R. Adams, first prize (£2) and medal; J. Menton and Miss C. F. Williamson (equal), second prize (£1) and certificate. Surgery: R. Adams, first prize (£2) and medal; G. C. Sneyd, second prize (£1) and certificate. Midwifery: J. Menton, first prize (£2) and medal; Miss I. M. Clarke and Miss C. F. Williamson (equal), second prize (£1) and certificate. Physiology: J. T. Duncan, first prize (£2) and medal; F. W. Warren, second prize (£1) and certificate. Chemistry: T. P. Roberts, first prize (£2) and medal; M. J. Hillery, second prize (£1) and certificate. Pathology: J. S. Pegum, first prize (£2) and medal; H. R. Tighe, second prize (£1) and certificate. Physics: M. J. Hillery, first prize (£2) and medal; T. D. Condell, second prize (£1) and certificate. Practical histology: J. T. Duncan, first prize (£2) and medal; L. W. Roberts, second prize (£1) and certificate. Practical chemistry: B. Kelly, first prize (£2) and medal; W. N. Harrison, second prize (£1) and certificate. Public health and forensic medicine: F. W. Warren, first prize (£2) and medal; H. R. Tighe, second prize (£1) and certificate. Materia medica: J. S. Pegum, first prize (£2) and medal; Miss N. Williams, second prize (£1) and certificate. Biology: M. J. Hillery, first prize (£2) and medal; G. E. Pepper, second prize (£1) and certificate.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Vital Statistics of Scotland.

A SUPPLEMENT to the annual report of the Local Government Board for Scotland containing statistics of notifications of infectious disease and of mortality has been issued as a bluebook. The number of cases of infectious disease notified under the Infectious Disease (Notification) Act, 1889, was 26,328 and of these cases 15,997 were treated in hospital by the local authorities. These figures relate only to diseases in respect of which notification is compulsory under the Act and they do not include diseases to which the Act has been voluntarily extended by the local authorities. Statistics with regard to the birth-rate and death-rate are also given. In 1907 the birth-rate in the landward parts of Scotland was 26·2 and in the burghal 27·5 per 1000 of their respective estimated populations. The death-rate in the landward districts was 14·4 and in the burghal 16·6 per 1000 of their respective estimated populations. The death-rate of infants under one year old was 91·0 in the landward parts and 117·9 per 1000 born in the burghal.

The Children Bill.

The Children Bill has received a third reading in the House of Commons and is now before the House of Lords. The modification of the clauses directed against juvenile smoking is considered likely to smoothen its further progress.

White Phosphorus Matches Prohibition Bill.

The House of Commons assented to the second reading of the White Phosphorus Matches Prohibition Bill without discussion on Oct. 19th. Its object is to prohibit the manufacture, sale, and importation of matches made with white phosphorus with a view to the protection from necrosis of persons employed in the manufacture of matches.

Tuberculosis Prevention (Ireland) Bill.

A Standing Committee of the House of Commons began consideration of the Tuberculosis Prevention (Ireland) Bill on Wednesday, Oct. 21st. The progress was slow and only a couple of amendments to Clause I. were discussed before the committee rose. No alteration was made in the text of the clause as a result of the day's deliberations. Clause I. imposes a duty on medical practitioners of notifying cases of tuberculosis to the medical officer of health in a district. This notification is to be made under regulation of the Local Government Board. Mr. T. W. RUSSELL, on behalf of the Irish Office, made an important statement on the principles which would guide the Board in issuing the regulations. He stated that the principal object of the Board would be to make it compulsory to notify such cases only as could be helped. Only cases of open tuberculosis of the lung would at first be notified and then only when the patients were living under conditions dangerous to other people. The Local Government Board would have no objections to consult a committee of medical men in regard to this matter. Some opposition was raised to the compulsory character of the notification clause during the discussions. The committee intended to resume consideration of the Bill next week.

HOUSE OF LORDS.

TUESDAY, OCT. 20TH.

Nurses' Registration Bill.

On the motion of Lord AMPTHILL the Nurses' Registration Bill was re-committed.

On Clause 2 Viscount WOLVERHAMPTON moved an amendment to provide that the name of the new body charged with the registration of nurses should be "The General Council for the Registration of Nurses in the United Kingdom."

The amendment was agreed to.

Clause 4 deals with the constitution and appointment of the Council.

Lord AMPTHILL moved an amendment to raise the number of members from 15 to 16. He explained that he did this for the purpose of adding a representative nurse from Ireland. The intention was also to bring Ireland immediately within the scope of the Bill instead of delaying its inclusion.

Lord ASHBOURNE commented on the desirability of giving more than one representative nurse each to Scotland and Ireland.

Viscount WOLVERHAMPTON replied that the number of the Council should be kept low in the interests of efficiency.

The amendment was agreed to, as well as a consequential one giving a seat on the Council to a nurse to be "elected by the nurses registered in the General Register whose registered address is in Ireland."

One of the subsections of Clause 4 provides for the presence on the Council of "three [illegible] edical practitioners to be appointed by [illegible] one to be a physician, one a surgeon, [illegible] of Lord ASHBOURNE it was amended so as to read as follows:—

"Three registered medical practitioners to be appointed by the British Medical Association [illegible] one to be [illegible] many of a drafting nature, were introduced into the other clauses.

Clause 23 imposed a delay on the application of the measure to Ireland until such time as it should be extended by an Order in Council, but [illegible] members of a family, and also it shall not apply to any person attending the sick for hire, who does not in any way assume to be a registered nurse under this Act." He stated that he did not personally think that the clause was [illegible] sing of the sick was in no way affected by th[illegible] number of the people concerned, particularly [illegible] profession, were anxious to see an actual safeg[illegible]

The Earl of MAYO suggested that a clause might be framed in the following terms:—"This Act shall not apply to or affect the nursing of [illegible] nder this Act, who does not in [illegible]" [illegible] ink the clause was necessary, [illegible] consideration. [illegible] ords of the proposed [illegible] the Bill they would [illegible] it did not contain. [illegible] on would like to see [illegible] make it abundantly plain that nurses who were not certificated nurses should be absolutely free to follow their calling.

The proposed clause was rejected without a division.

Lord AMPTHILL said that another clause stood on the notice paper in his name, but he did not press it as he did not think it was necessary, nor would it really add anything to the Bill. It ran thus: "Nothing contained in this Act shall be considered as conferring any authority to practise medicine or to undertake the treatment or cure of disease."

This proposal was not pressed.

The Bill passed through Committee.

HOUSE OF COMMONS.

WEDNESDAY, OCT. 14TH.

The Dairies, Cowsheds, and Milkshops (Ireland) Order.

Mr. Lo[illegible] applies equally to all persons engaged in the public supply of milk. Its object is to prevent the spread of disease by means of the milk-supply, and therefore it deals only with persons engaged in such supply as [illegible] which the Order was made. I am aware [illegible] er has been shown, but its provisions are [illegible] public health and it is not intended to withdraw it.

The Application of the Nurses' Registration Bill to Ireland.

Mr. LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had received representations that the proposal to postpone the application to Ireland of the provisions of the Nurses' Registration Bill would inflict injury upon Irish nurses and training institutions in Ireland; and whether, in view of these considerations, he would move the Irish Local Government Board to make an effort to surmount the administrative obstacles which had led them to oppose the application of this measure to I[illegible]

The Government has placed on the [illegible] the immediate application to Ireland o[illegible]

The Suppression of the Use of Opium in China.

Mr. REES asked the Secretary of State for Foreign Affairs whether the edict of the Chinese Government banning the introduction into, and manufacture and sale within, the empire of morphine and hypodermic such an authority as Sir Harry Johnston I need add no more.

I am, Sir, your most obedient and humble servant,
ALFRED R. TUCKER,
Bishop of Uganda.
Bookham, Surrey, Oct. 13th, 1908.

To the Editor of THE LANCET.

SIR,—No one can deny the gravity of the problem which you discuss in your leading article in THE LANCET of Oct. 3rd under the above title. This matter is engaging the attention not only of the general body of missionaries in Uganda but also of those two able medical missionaries Drs. A. R. and J. H. Cook, who have for many years past sought by every means in their power to relieve the sufferings of the Baganda people and who have also found time to carry on scientific investigation. To them we have sent your article, and we have little doubt that they will desire to offer some comments upon the statements made therein. At the same time, as some weeks must elapse before we can hope to receive a reply from them, we have placed the article in question before the Bishop of Uganda, who possesses an almost unrivalled knowledge of the conditions of life in the Uganda Protectorate.

We will not venture ourselves to offer any opinion as to the causes of the serious increase of syphilis in Uganda of recent years, as we have not the advantage of first-hand knowledge of that region. We have, however, sufficient knowledge of the ravages of syphilis in other uncivilised lands to know that the causes of the rapid spread of the disease or its virulence under certain conditions are notoriously difficult to estimate.

We are, Sir, yours faithfully,
R. ELLIOTT, L.R.C.S. Irel.,
Secretary C.M.S. Medical Committee.
CHARLES F. HARFORD, M.D. Cantab.,
Physician, C.M.S.
Church Missionary Society, Salisbury-square, E.C.,
Oct. 13th, 1908.

DIVISION OF THE AUDITORY NERVE FOR PAINFUL TINNITUS.

To the Editor of THE LANCET.

SIR,—The account of the case in which I divided the auditory nerve was written at the end of last May and published in THE LANCET of Oct. 10th. Dr. Purves Stewart examined the patient on Oct. 18th last and he has kindly furnished me with the following supplementary account of her present condition :—

> She is poorly nourished, inclined to refuse food, and has mild delusions of suspicion. There is complete deafness of the right ear, as before, [illegible] yes on lateral deviation to either [illegible] is slightly weak, but the face, [illegible]. She stated to me that she still [illegible] ear, "like steam," not constant; she also added that before the operation this noise was constant and much more intense. She still, however, complains of intense discomfort in the right side of the head—a painful dragging sensation, which has not been influenced by the operation. She has a subjective salt taste all over the tongue and mouth, bilaterally. The sensory, motor, and reflex functions of the trunk and limbs are normal. I find no evidence of organic disease apart from the right-sided deafness and the paresis of the right pharynx. The loss of taste appears to have been due to implication of the Fallopian part of the facial nerve before you operated. The subjective gustatory sensation is doubtless functional in origin.

It is obvious that the case is one of much difficulty and that it is complicated, as many organic conditions are, by superadded functional phenomena. There is no doubt that the tinnitus which before the division of the auditory nerve was spoken of as culminating in pain is now practically gone; but there persists a distressing dragging sensation on the same side of the head which cannot easily be described and the cause and nature of which are entirely obscure.

I am, Sir, yours faithfully,
Oct. 19th, 1908. CHARLES A. BALLANCE.

To the Editor of THE LANCET.

SIR,—My friend Mr. Charles Ballance, in discussing his interesting case of division of the auditory nerve for painful tinnitus in THE LANCET of Oct. 10th, pp. 1070–73, refers to the well-known paper of Dr. J. Ramsay Hunt of New York on the Herpetic Inflammations of the Geniculate Ganglion (*Journal of Nervous and Mental Disease*, February, 1907). I write to mention that not only has Dr. Hunt recently written in the August, 1908, number of the *American Journal of the Medical Sciences* a further paper on the subject, but that in the August, 1908, number of the *Journal of Nervous and Mental Disease* Dr. T. J. Orbison writes on Herpes of the Membrana Tympani and attributes it to zosteroid affection of the petrosal ganglion. At present there is no post-mortem evidence as to the correctness of his view.

I am, Sir, yours faithfully,
Green-street, W., Oct. 13th, 1908. LEONARD J. KIDD.

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—The forcible letter by Dr. Harry Campbell in THE LANCET of Oct. 17th, p. 1176, on the prevention of dental disease is a welcome sign of the awakening interest on this important subject. While those who have made it a special study might suggest that prevention is not quite so simple, that hereditary influences have to be considered, that pre-natal conditions should be taken into account, and that feeding during the first few months of life is of vital importance, few will doubt that defective diet is the most important factor, and that with the medical profession lies the onerous task of teaching the lay mind that the organs of mastication must have suitable food and sufficient exercise if dental disease is to be prevented.

Not by way of criticism, still less through controversy, would I approach this subject, for your correspondent's closing lines disarm both. I would, however, venture very briefly to supplement his earnest appeal to the medical profession by endeavouring to explain how reform may be effected, and why it has not been done long ago. It is an indisputable fact that the medical practitioner's knowledge of disease enables him to guide the layman in matters of health, however simple the principles upon which such guidance is based. How can you expect the practitioner to prevent a disease when a knowledge of it is entirely absent? We are apt to imagine that dental disease and its disastrous effects are of quite recent origin; but there is very little evidence to prove that the national teeth are worse than they were 40 years ago; yet it would be impossible to find a disease—affecting 85 per cent. of the young adults in this country—which has been treated with such utter indifference by the medical profession.

I have dealt fully with this subject in the pages of THE LANCET[1] and there pointed out that on examining the final papers in London for ten years not a single question was found on dental caries. The remedy is quite simple and rests with the examiners—with the teachers, not with the taught; for so long as it is possible for the medical student to pass through his hospital training without being obliged to spend one week in the dental department, or answer a single question on the most prevalent of all diseases, so long will the prevention of dental caries be retarded and this national disgrace remain. I am, Sir, yours faithfully,

R. DENISON PEDLEY,
Dental Surgeon to the Evelina Hospital, Southwark.
Railway Approach, London Bridge, S.E., Oct. 19th, 1908.

To the Editor of THE LANCET.

SIR,—I have no desire to draw Dr. Harry Campbell into any controversy but I should like to point out how useless are such theories unless supported by facts. Can he produce any children who have been fed in the way described and who have perfect teeth? Against the diet theory there are many arguments. Teeth often decay as soon as cut and before the child has had much opportunity of doing them either good or harm. In out-of-the-way country places children are fed in just the same way as were their parents and grandparents and yet their teeth decay, while the parents often have sound ones. Every theory of dieting has been tried on the children of this generation without effect. I fail to see the use of laying down laws unless facts can be produced to refute these and many other arguments.

Of the three theories of the cause of dental caries—(1) diet,

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[1] Dental Disease and the Medical Profession, THE LANCET, Oct. 29th 1904, p. 1207.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

Quain's Elements of Anatomy. Editors: Edward Albert Schäfer, LL.D., Sc.D., F.R.S.; Johnson Symington, M.D., F.R.S.; and Thomas Hastie Bryce, M.A., M.D. In Four Volumes. Vol. III. Neurology. By E. A. Schafer and J. Symington. Part I. Containing the General Structure of the Nervous System and the Structure of the Brain and Spinal Cord. Eleventh edition. Price 15*s.* net.

The Origin of Vertebrates. By Walter Holbrook Gaskell, M.A., M.D. (*Cantab.*), LL.D. (Edin. and McGill Univ.), F.R.S., Fellow of Trinity Hall and University Lecturer in Physiology, Cambridge. Price 21*s.* net.

MACLEHOSE, JAMES, AND SONS, Glasgow.

A Practical Course of General Physiology. For Medical Students. By D. Noël Paton, M.D., F.R.C.P. Ed., *Professor of Physiology*, University of Glasgow; and G. Herbert Clark, M.B., D.P.H., Muirhead *Demonstrator of Physiology, University of Glasgow.* Price 1s. net.

MARLBOROUGH, E. AND CO., 51, Old Bailey, London, E.C.

Hindustani Self-Taught. With English Phonetic Pronunciation. By Captain C. A. Thimm. Third edition. Hindustani Text Revised by J. F. Blumhardt, M.A., M.R.A.S. Price, wrapper, 2*s.*; cloth, 2*s.* 6*d.*

MURRAY, JOHN, *Albemarle-street, London*, W.

Therapeutics of the Circulation. Eight Lectures delivered in the Spring of 1905 in the Physiological Laboratory of the University of London. By Sir Lauder Brunton, Bart., M.D., D.Sc., LL.D. Edin., LL.D. Aberd., F.R.C.P., F.R.S., Consulting Physician to St. Bartholomew's Hospital. (Published under the Auspices of the University of London.) Price 7*s.* 6*d.* net.

ROUTLEDGE, *GEORGE AND SONS, LIMITED, London.* (*DUTTON, E. P.*, AND CO., New York.)

The *Case* for the Goat. With the Practical Experience of Twenty-five Experts. By "Home Counties." With Introductions by the *Duchess of Hamilton and Brandon, President of the British Goat* Society, and Mr. H. Rider Haggard, and Many Photographs of Prize Goats and Stables. Second edition. Price 3*s.* 6*d.*

TAYLOR AND FRANCIS, Red Lion-court, Fleet-street, London.

Calendar of the Royal College of Surgeons of England. August 1st 1908. Price 1*s.*

TAYLOR, J. AND H., 54, Tenby-street North, Birmingham.

Geometrical Optics. By Val. H. Mackinney and Harry L. Taylor. Price not stated.

THIN, JAMES, South Bridge, Edinburgh.

Pharmacopœia of the Royal Infirmary, Edinburgh. Also Formulæ in Use in the Royal Hospital for Sick Children. Revised and Enlarged by Thomas Alexander, Chemist to the Royal Infirmary. Third edition. Price 2*s.* 6*d.* net.

UNIVERSITY CORRESPONDENCE COLLEGE, Burlington House, Cambridge. (UNIVERSITY TUTORIAL PRESS, LIMITED, 157, Drury-lane, London, W.C.)

The London University Guide, 1909. Containing the Regulations for Examinations to be held in 1909 and 1910. Price not stated.

UNIVERSITY OF LONDON, South Kensington, S.W.

University of London. The Calendar for the Year 1908–1909. Price 5*s.* net. Post free.

Regulations and Courses for Internal Students. September, 1908. Price 1s. net. Postage 5*d.*

Regulations for External Students. September, 1908. Price 1*s.* net. Postage 4*d.*

UNIVERSITY PRESS, Aberdeen.

University of Aberdeen. Proceedings of the Anatomical and Anthropological Society, 1906–1908. Price not stated.

UNIVERSITY TUTORIAL PRESS, Burlington House, Cambridge, and 32, Red Lion-square, Holborn, London, W.C.

University *Correspondence College. The Calendar,* 1908–1909. Price 1*s.*

UNWIN, T. FISHER, 1, Adelphi-terrace, London, W.C.

Pain, its Causation and Diagnostic Significance in Internal Diseases. By Dr. Rudolph Schmidt, Assistant in the Clinic of Hofrat von Neusser, Vienna. Translated and edited by Karl M. Vogel, M.D., Instructor in Pathology, College of Physicians and Surgeons, Columbia University, and Hans Zinsser, A.M., M.D., Instructor in Bacteriology, College of Physicians and Surgeons, Columbia University. Price 12*s.* 6*d.* net.

WILSON, EFFINGHAM, 54, Threadneedle-street, London, E.C.

Time Limit—Monopoly Value and Compensation. *A Criticism of* the Licensing Bill, 1908. By Michael Cababé of the Inner Temple, Barrister-at-Law. Price 1*s.* net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

A Manual of *Natural Therapy.* By Thomas D. Luke, M.D., F.R.C.S. Edin., Lecturer at the University of Edinburgh, formerly Physician at *Smedley's* Hydropathic and Sanatorium, Matlock. Price 7*s.* 6*d.* net.

YEAR-BOOK PUBLISHERS, 40, Dearborn-street, Chicago. (GILLIES, G. AND CO., 28, Gibson-street, Hillhead, Glasgow.)

The Practical Medicine Series. Comprising Ten Volumes on the *Year's Progress* in Medicine and Surgery. Series 1908. Under the General Editorial Charge of Gustavus P. Head, M.D. Vol. IV. Gynecology. Edited by Emilius C. Dudley, A.M., M.D., Chicago, and C. von Bachellé, M.S., M.D., Chicago. Price 5*s.* net. Vol. V. Obstetrics. Edited by Joseph B. de Lee, A.M., M.D., with the collaboration of Herbert M. Stowe, M.D. Price 5*s.* net. Vol. VI. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. Price 6*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

HORROCKS, O., L.R.C.P. Edin., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chatteris District of the county of Cambridge.

HOWARD, RUSSELL, M.S. Lond., F.R.C.S., has been appointed Assistant Surgeon to the London Hospital.

JONES, JOHN ELLINGTON, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Honorary Skiagraphist to the Bristol General Hospital.

OGG, T. A. W., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Rothes District of the county of Elgin.

PAINE, ALEXANDER, M.D., B.S. Lond., D.P.H., has been appointed Director of the Cancer Research and Pathological Department at the *Cancer Hospital*, Fulham-road, S.W.

ROBB, W., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Higham Ferrers District of the county of Northampton.

SUMNER, BENJAMIN, [illegible] been appointed [illegible]

TITTERTON, JOHN [illegible] Medical Officer [illegible] *Board of Guardians.*

WATT, P. C., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and *Workshop Act for the* Gatehouse District of the county of Kirkcudbright.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, washing, &c.

BIRMINGHAM, PARISH OF.—District Medical Officer. Salary £350 per annum.

BLACKPOOL EDUCATION COMMITTEE.—School Medical Officer (female). Salary £200 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with apartments, board, and laundry.

BRISTOL EYE HOSPITAL.—House Surgeon. *Salary £70 per annum,* with board and residence.

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon. Salary £60 per annum, with board, residence, &c.

BUXTON, DERBYSHIRE, DEVONSHIRE *HOSPITAL.*—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CAMBRIDGESHIRE, &C., LUNATIC ASYLUM, Fulbourn, near Cambridge.—Second Assistant *Medical Officer, unmarried.* Salary £120 per annum, with board, lodging, and attendance.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Pathologist. Salary £250 per annum. Also Medical Registrar. Salary £100 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—*House Surgeon.* Salary at rate of £50 per annum, with board and residence.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £100 per annum, with board, washing, apartments, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence.

COLCHESTER, BOROUGH OF.—Assistant Medical Officer of Health and School Medical Officer (female). Salary £200 per annum.

DERBY EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

DREADNOUGHT HOSPITAL, Greenwich.—Assistant Physician. Also Dental Surgeon.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120 per annum, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House *Surgeon for* six months. Salary £25, with board, residence, and laundry. Also Assistant Physician. Also Second Medical Officer *for* six months. Salary at rate of £40 per annum, with luncheon and tea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician for nine months. Salary at rate of £60 per annum, with board, residence, and washing.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, *E.C.*—Resident Medical Officer. Salary £140 per annum, with residence, attendance, coals, and gas.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Physician.

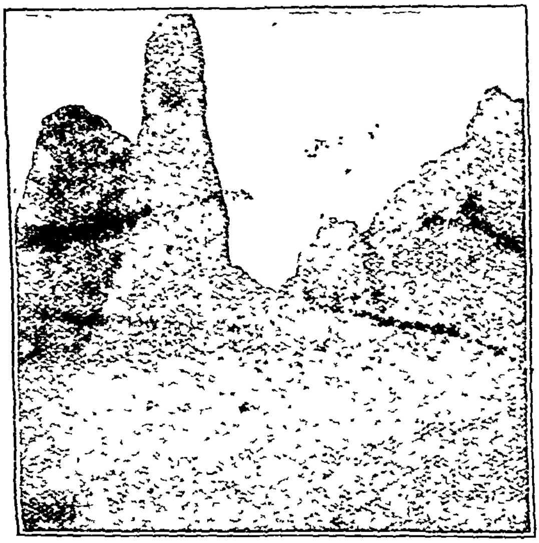
GLOUCESTER COUNTY ASYLUMS.—Junior Assistant Medical Officer. Salary £150 per annum, *rising to* £180, with board, lodging, and washing.

GUILDFORD, ROYAL SURREY *COUNTY* HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer (female). Salary £150 per annum, rising to £200, with board, lodging, *laundry*, attendance, &c.

HOSPITAL FOR CONSUMPTION AND *DISEASES OF THE* CHEST, Brompton.—Resident House Physicians for six months. Salary £25. Also Assistant Resident Medical Officer. *Salary* £100 per annum, with board and residence an further north, and with several acacia and terebinth ees. The groups of fantastic rocks with the Nabatæan mbs lie mostly to the south-east. To the distant west es the gigantic table-rock of the Howweira; the sides are ecipitous, apparently of red sandstone, and the top would pear to be covered with black lava, much of which has owed over and formed blackish heaps at the foot. Still rther to the west is the craggy range of the Harra. The ectacle at Medaini-Salih is consequently a remarkable one. he heat here was considerable, the thermometer rising in e day to over 106° F.; but the air was extremely dry and strong wind blew the whole time, rendering this high emperature more or less supportable.

Fig. 8.

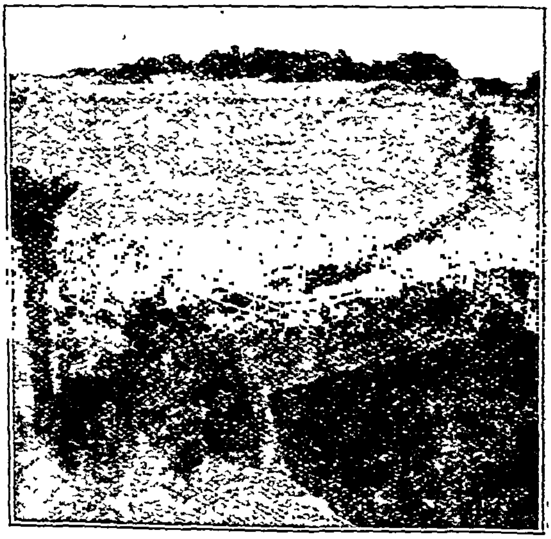


In the Mubrakat-el Naka gorge.

The improvised quarantine camp for pilgrims returning from the Hedjaz was put up at Medaini-Salih in each of the last two pilgrim seasons and traces of it can still be seen. It occupied a site to the east of the line and south of the *kala'at*. A ridge of sand (seen in the accompanying photograph, Fig. 9) along which the water-piping was laid still remains, running north and south, and dividing the area into two unequal parts. A series of ten primitive cordons was, it is said, established on either side of this ridge; those to the west were small and limited by the ridge and the railway; those to the east had unlimited space in an easterly direction. The only barrier round them was a cord stretched between posts, so that practically no true isolation of the different groups of pilgrims was possible. The "indigent," non-paying pilgrims were camped at the south end of the area, close to one of two so-called Nabatæan wells to be mentioned later. The camel-drivers (*akkams*) were similarly grouped round the other of these wells. The latrine arrangements in all these cordons were of the most primitive character, consisting of mere holes in the ground. The "hospital" was established in tents on the other (western) side of the line. The area just described is the best that can be found in this neighbourhood. It has, however, several disadvantages. After heavy rains it is in large part inundated, as, indeed, is the greater portion of the Medaini-Salih valley. This happened on more than one occasion last winter; the water stood, it is said, to the depth of half a metre and did not soak away for a couple of days. The caked, muddy surface of the desert still showed in many places where these inundations had occurred. The railway authorities have found this a serious difficulty for their buildings, and in order to cope with it are constructing all their new buildings at Medaini-Salih on artificially raised foundations, nearly a metre (in some cases more) above the general level of the plain. This involves, of course, a very considerable addition to the cost of construction, and in the event of houses having to be put up to quarantine 10,000 pilgrims the added outlay would be enormous. The site in question is also bounded on the south by the rocks above mentioned; these shut off the air and radiate a reflected heat from the sun which makes of this site one of the hottest we inspected. To the west of the line there is no suitable site, as the plain here, besides being very "accidentée," is also subject to inundation.

There is apparently an abundant supply of water at Medaini-Salih. The railway engineers believe that it occurs as a generalised underground layer of water through the whole valley, as wherever a well is sunk water is found: no movement has been observed in it, but as the land tends to fall slightly from north-west to south-east it is thought that the water, if it has any movement at all, may flow slowly in this direction. The soil is a soft sandstone (Nubian?) under a surface of alluvium; its permeability varies in different places and consequently the yield of different wells varies. The large station well close to the *kala'at* has the usual stone tower, with two large reservoirs, pump, and windmill close by it. It yields up to 125 tons of water in the 24 hours. A second well was being sunk at the time of our visit, just to the right (west) of the line, but it was not completed. Here the surface of the water was at 8 metres below that of the desert: there was only one metre of water, but it was intended to go to a depth of 3 metres. The reservoir by the *kala'at* contained stagnant water of a not very inviting appearance. Specimens of all three waters were analysed and gave the following results expressed in parts per 100,000. The well water (from the well with water-tower) was clear and had no smell; it contained 21·2 parts of chlorine as chlorides; the nitrogen was not estimated; the oxygen consumed in the permanganate process during three hours at 27° C. was 0·1983; the total hardness was 22·86 and the permanent 19·13. The total solids were not estimated. The other (unfinished) well water gave the following: colour slightly yellow; no smell; chlorines as chlorides, 17·5; total nitrogen, 0·2063, of which 0·0933 occurred as nitrates, 0·004 as free ammonia, and 0·009 as organic nitrogen; the oxygen consumed by the permanganate process during three hours at 27° C. was 0·2063; the total hardness was 25·12 and the permanent 13·31; the total solids were 76·7. Finally, the water from the reservoir (*burket*) by the fort gave the following analysis: the colour was yellowish; there was no smell; chlorine as chlorides, 29·7; total nitrogen, 0·342, of which 0·329 occurred as nitrates, 0·001 as free ammonia, and 0·012 as organic nitrogen; the oxygen consumed by the permanganate process during three hours at 27° C. was 0·2524; the total hardness was 27 and the permanent 22·52; the total solids were 154·6. Mention was made above of two so-called Nabatæan wells; they are situated towards the south end of the area occupied last winter by the improvised lazaret and not far from the rocks in which are the monuments. The more southerly one is about four metres in

Fig. 9.



Medaini Salih the site of last year's quarantine camp for pilgrims.

excite pity owing to weakness and loss of blood, and hence she was suffered to remain undisturbed with the images concealed under the camel's furniture.

We now come to the tragic close of her story. Jacob is journeying from Bethel when Rachel, who has again gone to full term, is taken in hard labour (chap. xxxv. 17 and 18), a significant statement twice repeated which points to the fact that there was great difficulty in the process. What more probable than that the fibroid growth had attained such a size as to impede the progress of the child? For no mention is made of a malpresentation as in another place (Gen. xxxviii. 28 and 29). The midwife who attended her was probably a stranger, her own nurse having died some time previously (chap. xxxv. 8) but had no doubt learned her previous history of disappointed hopes and encourages her to think that she will have "this son also." Finally the child is delivered alive, but worn out by the "hard" labour and weakened by previous hæmorrhages and ill-health the mother dies shortly afterwards. Whether her death was due to exhaustion or hæmorrhage and occurred at once or whether from septicæmia in a few days owing to sloughing of the tumour we cannot say, but in all probability her death took place soon after the birth of her child, for with her dying breath (chap. xxxv. 18) she names him "Son of my sorrow."

I am, Sir, yours faithfully,
O. B. TRUMPER, M.B. Vict., F.R.C.S. Edin.
Newtown, N. Wales, Oct. 13th, 1908.

THE DANGERS OF A LATE "LIGHTING-UP TIME."

To the Editor of THE LANCET.

SIR,—With reference to your valuable annotation, "The Dangers of a Late 'Lighting-up Time,'" in THE LANCET of Oct. 17th, p. 1161, may I bring to your notice that there is a very good rule for lighting-up time in the Locomotives Act of 1898, section 15, subsection 3, viz.: "The lights shall be carried between the hours of one hour after sunset and one hour before sunrise during the six months beginning the first day of April in any year, and between sunset and sunrise during the six months beginning the first day of October in any year." It is strange that this excellent rule was not adopted in the Motor Car Act of 1903, nor by the London County Council in their by-law respecting lights on vehicles, and it is also to be regretted that none of the above make any provision for lamps being lighted in fogs as is the rule in several foreign countries.

I am, Sir, yours faithfully,
Oct. 19th, 1908. A. G. WYNEN, Colonel late Dorset Regiment.

A WARNING.

To the Editor of THE LANCET.

SIR,—There is a man going about stating that he is my nephew with a card B. E. Osler, The Dale, Toronto, and Christchurch, Oxford. Will you please ask doctors to be careful. He has already bled several of my friends.

I am, Sir, yours faithfully,
Oct. 14th, 1908. WM. OSLER.

A BOTTLE CATALOGUE.

WE have noticed certain good features in the descriptions of medicinal bottles comprised in a catalogue illustrating bottles of all descriptions and sizes which we have received from Messrs. Kilner Brothers, Limited. The poison bottles, of which the lower part is fluted so as to be recognised by touch alone, whilst the upper part is plain, so as to afford space for the label, are of excellent design, and another innovation which will be welcome to many is the dispensing bottle with a screw stopper instead of a cork. The advantages of these are obvious, but we are not sure that they would be suitable for dispensing viscous medicines, as the rubber rings might not be readily cleaned afterwards.

◆

Thomas.—Our correspondent's question is rather too vaguely put to enable us to give a definite answer. Presumably sterilisation would occur were the towels left in for a sufficient time. As, however, it is probable that our correspondent means that the towels would only be left in the steriliser during the period of time for which the instruments are boiled—i.e., about 15 minutes—we do not think the sterilisation of the towels would occur, especially as probably they would be folded up.

Mr. T. Hanchard.—Upon examination of the article sent we hardly think that it presents the advantages which its inventor claims for it.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 22nd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Oct. 16	30 02	E.	...	89	63	55	55	56	Overcast
" 17	29·96	S.E.	0·46	78	62	56	57	57	Overcast
" 18	30 07	E.	...	87	65	57	59	61	Fine
" 19	30·01	S.E.	0·36	66	60	55	56	56	Overcast
" 20	30·03	S.E.	...	66	54	50	49	51	Overcast
" 21	30·06	E.	0·15	80	50	43	43	43	Raining
" 22	30·46	E.	....	77	49	39	41	42	Cloudy

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—J. Lewin Payne, H. W. Trewby, D. P. Gabell): at 8 P.M.

Paper:

Dr. William Wright: The Teeth of Early Man (illustrated by the epidiascope).

Casual Communication:

Mr. F. Mellersh: Notes on an Amalgamator—a Mechanical Device for Amalgamating Alloys.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 6.30 P.M.

Paper:

Captain R. McCarrison, I.M.S.: Observations on Endemic Cretinism in the Chitral and Gilgit Valleys.

THURSDAY.

NEUROLOGICAL SECTION (Hon. Secretaries—Leonard G. Guthrie E. Farquhar Buzzard): at 8.30 P.M.

Dr. F. E. Batten: (1) Cerebellar Atrophy—Sequel to a Case shown in the Clinical Section, Oct. 11th, 1907; (2) Diffuse Sarcomatosis of the Nervous System.

Dr. S. A. K. Wilson: The

Dr. Gordon Holmes and Di
with Syphilitic Pachy
Intra-medullary Tumoı
lantern demonstration.)

Dr. Gordon Holmes: Exhibition of Pathological Specimens.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. H. D. Rolleston: Some Points in the Diagnosis of Malignant Disease of the Liver.—Dr. W. Harris: Sciatica—its Diagnosis and Treatment.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover-square, W.

THURSDAY.—5.30 P.M., General Meeting. 6 P.M., Ordinary Meeting. Sir Dyce Duckworth: Short Address of Welcome to the French Visitors.—Dr. Solly: Municipal Management of Health Resorts. (Presidential Address.)

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Discussion on the Administration of Tuberculin (T.R.) in Tuberculous Disease other than Pulmonary Tuberculosis (opened by Dr. A. Latham).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: On Specimens illustrating Ectopia Vesicæ and Allied Conditions. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. P. Stewart: The Prognosis and Treatment of Infantile Paralysis.

TUESDAY.—4 P.M., Dr. J. Taylor: Clinique (Medical) 5.15 P.M., Lecture:—Dr. J. Mackenzie: The X Disease.

WEDNESDAY.—4 P.M., Mr. H. B. Robinson: Clinique (Surgical). 5.15 P.M., Lecture: Dr. A. J. Whiting: Two Important Angio-neuroses.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. M. Sandwith: Malaria—its Prevention and Treatment (with lantern slides).

FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Mr. Etherington-Smith: Demonstration on
Surgical Cases. 12 noon, Dr. Low: Pathological Demonstra-
tion. 2 P.M., Medical and Surgical Clinics. X Rays. Mr.
Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M.,
Lecture:—Dr. Davis: Common Diseases of the Pharynx.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations.
2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis:
Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations.
Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr.
Low: Insects as Carriers of Disease, especially in reference to
the Tropics.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children.
12.15 P.M., Dr. Pritchard: Practical Medicine. 2 P.M.,
Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of
the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr.
Beddard: Medicine.

THURSDAY.—10 A.M., Mr. Etherington-Smith: Demonstration on
Surgical Case. 2 P.M., Medical and Surgical Clinics. X Rays.
Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M.,
Mr. Edwards: Rectal Cases.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations.
12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine.
2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis:
Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations.
Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—
Mr. Pardoe: The Treatment of Urethral Stricture.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M.,
Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases
of the Eyes. 2.30 P.M., Operations.

Obituary.

JAMES GREY GLOVER, M.D. EDIN., L.R.C.S. EDIN., L.S.A. LOND., J.P.

James Grey Glover was born in South Shields in 1832. His father, Alderman Terrot Glover, was a man of great ability and public spirit who played an important part in the life of his native town through a long and honourable life. His mother was a lady of exceptional strength and sweetness of character. James was one of the eight sons of these splendid parents and his early years were spent in that best of all schools of manners and character—a large and healthy family presided over by wise and godly parents. His whole course in life was an evidence of the strong influence of heredity and of the power of a robust and yet gentle and unselfish environment during the plastic days of youth.

He was sent to the best school in South Shields and was then apprenticed to Dr. Williamson, a surgeon in South Shields, who had a large practice and was a man of strong commonsense and sagacious judgment. The association of master and pupil was an altogether happy one and the close links of regard and affection formed in these early days never weakened with the flight of years and were only broken by Dr. Williamson's death a few years ago. Dr. Glover always spoke of Dr. Williamson with the highest regard, and to a younger generation the sight of the two men together showed how helpful the old and abandoned practice of medical apprenticeship was when master and pupil were loyal and wise. At the close of his apprenticeship he went to the University of Edinburgh, the great medical school of which was then at the very zenith of its fame. There he came under the powerful influence of such men as Christison, Goodsir, Alison, Syme, Gregory, and Simpson. He was a very keen student and the teaching and example of these men kindled his enthusiasm and stimulated all that was best in him. From the first he took a high place in his classes and at the close of his course carried off Dr. Alison's prize in practice of medicine. He graduated M.D. in 1854 and subsequently went to the Rotunda Hospital, Dublin, to obtain a thorough training in midwifery. Dr. Glover then went as assistant to practitioners in Wotton, in Leicester, and in Hounslow, and after this started in practice in his native South Shields. But his ambition was to go to London, and in 1858 he took a house there and furnished it, but the sudden death of his mother on the very day that he arrived in his new home altered all his plans and he returned to South Shields. However, in 1864 his old ambition asserted itself, and he returned to London and started in practice in Highbury, living first at 33, Compton-terrace, and later at 25, Highbury-place, a house which had once been the home of the Rt. Hon. Joseph Chamberlain.

It is well to recall what Dr. Glover was when he thus began his real life work and to note what special gifts and endowments he possessed. He was just 32 years of age, with a strong constitution, a keen intellect, an ardent nature, well disciplined in self-control, and intensely devoted to his profession which he regarded as a noble mission and for which he had trained himself by years of patient study and practical work. Added to these were a mind well versed in the best English literature, a distinct facility in speech and writing, a saving sense of humour, and above all a broad outlook upon life, a strong faith in the future, and a profound conviction that life was worth living. Fond of his fellow men, he had a keen eye for what was good in them and was inspired with a strong desire to remedy the social ills of the community as well as its physical ailments. And permeating his whole nature was a strong religious belief which widened his sympathies and gave him a courage and persistency which many of his associates envied. Such a man was not likely to confine his energies within any narrow channels or to use for self what was meant for a wider good. Soon after he settled in London he married Miss Muller, who survives him, in whom he found a worthy help-meet and whose gracious influence made his home a peculiarly happy one.

His first great interest was unquestionably in his practice. He was in many ways an example of the highest type of general practitioner; well trained as a student, thoroughly grounded in the science and art of his student days, he was keenly appreciative of the various advances of both the science and the art, and he was from the first an ardent disciple of Mr. Lister. Full of resource himself he was always ready to seek help and guidance in consultations but did not thereby relieve himself of responsibility. He had an admirable sense of proportion, took a wide view of a case, and was a wise adviser. In a rare degree he became the trusted and faithful friend of all his patients who held him in the highest esteem for his sterling uprightness of character, his helpfulness and unselfishness, and his singleness of mind in his regard for the interests of his patients. He rapidly secured a large practice and the hard work which this entailed was always relieved by the intense human interest and the many opportunities of doing good that it gave him. Admirable as a practitioner, Dr. Glover was eminently a publicist, taking a keen practical interest in all social and political movements. With considerable literary facility himself it was natural that he should seek for the expression of his views in the medical press. In 1862 he sent to THE LANCET an article entitled "*A Physiological View of the Premier*" (Lord Palmerston), which was accepted by the editor and published in the issue of June 14th of that year. It attracted unusual attention, was copied into nearly every paper in England, and was even referred to in some verses in *Punch*. From this date until 1902 he was a regular and most valuable member of our editorial staff. It may not be out of place to reproduce here some words which appeared in our columns on the occasion of his retirement:—"With unfeigned regret we have to announce that Dr. Glover has intimated to us his wish to retire from active work as a member of the editorial staff of THE LANCET. His connexion with our staff commenced in June, 1862, under the editorship of the late Dr. James Wakley, and has continued uninterruptedly to the present time. During this long period of more than 40 years we have invariably found him to be a true, trustworthy, and sagacious colleague and a personal friend of sterling worth. As, happily, he will read these words we must refrain from the full meed of praise that is his due; but he knows, we think, how highly his services have been appreciated by us and he has been so kind as to tell us that the appreciation has not been wholly on one side. ...... In the name of our predecessors in the editorial chair and for ourselves we thank him for the work which he has done and for the time which he has expended in the service of THE LANCET; perhaps we may go further and thank him for all that he has accomplished, or tried to accomplish, on behalf of the profession which he loves so well." Dr. Glover was particularly interested in all questions of professional ethics and in those matters in which the interests of the profession come into contact with the public life of the community. His judgment was sound, his opinions were expressed in clear, bright phraseology, and were inspired by that high ideal and generous instinct which characterised everything he did.

Reference may be made to three subjects to which he gave very special attention. He was one of the first and the most persistent of the advocates for the direct representation of the profession on the General Medical Council. Year after year he pursued in our columns this aim. He approached this question from the democratic standpoint, holding that the government of a profession, as of the nation, must be widely representative. With a varied experience of general practice in the provinces as well as in London, and at the same time intimately associated with medical consultants and teachers, he realised that a Council chosen from the latter did not, and could not, appreciate the peculiar needs and claims of the former. The discussion of this question was carried on by Dr. Glover with great persistence but without bitterness, and the success which he achieved was in no small part due to the broad, generous, and sympathetic spirit which had animated him throughout. When Direct Representation of the profession on the Council was granted it was generally recognised that Dr. Glover was marked out as a most suitable Direct Representative. He was elected by a large majority and was re-elected time after time, and it was not until after 16 years' service, when advised that it was necessary for him to lay aside some part of his work, that he announced his intention not to seek re-election. His election was by no means a reward for his splendid services in persistently advocating in these columns the claim of the profession to Direct Representation; it was far more than that. Dr.

Communications, Letters, &c., have been received from—

A.—Dr. H. G. Adamson, Lond.; Dr. B. Anningson, Cambridge; The Alliance Drug and Chemical Co., Lond., Manager of; A. E. T.; Mr. G. H. Adams, West Malling; Anglo-American Pharmaceutical Co., Croydon, Managing Director of; Messrs. Allen and Hanburys, Lond.; A Country Practitioner; Dr. Francis Anderson, Stanningley; Allen-Liversedge Front Wheel Brakes, Lond., Directors of; Ashton-under-Lyne District Infirmary, Secretary of.

B.—Dr. P. Gordon Bell, Hull; Mr. A. A. Bradburne, Southport; Messrs. Bibbey and Co., Lond.; *British and Colonial Druggist*, Lond., Secretary of; Messrs. Burroughs, Wellcome, and Co., Lond.; Broughton Nurseries, Wickford, Manager of; Messrs. W. H. Bailey and Son, Lond.; Messrs. T. B. Browne, Lond.; Mr. Sidney Blanchard, Evesham; Dr. F. C. Brodie, Newark; Mr. S. H. Benson, Lond.; Bellary, India, District Medical Officer of; Bristol Royal Infirmary, Secretary of; Messrs. Blundell and Rigby, Lond.

C.—Messrs. Cassell and Co., Lond.; Mr. H. Collins, Croydon; Messrs. J. and A. Churchill, Lond., Messrs. T. Cook and Son, Lond.; Dr. R. A. Campbell, Plymouth; Dr. P. J. Cammidge, Lond.; Central London Throat and Ear Hospital, Secretary of; Dr. A. Cassar, Dublin; Mr. J. Crake, Hull; Mr. J. F. Cowdery, Lond.; Dr. J. W. Caton, Banstead; Colchester, Borough of, Clerk to the.

D.—Dr. Morgan Dockrell, Lond.; Dowsing Radiant Heat Co., Lond., Secretary of; Devonshire Hospital, Buxton, Secretary of; Mr. W. A. Dawson, Preston; Messrs. F. Davidson and Co., Lond.; Messrs. Dale, Reynolds, and Co., Lond.; Derby Education Committee, Secretary of; Mr. A. Descroix, Lond.; Dr. M. R. Dinkelspiel, Philadelphia; Mr. E. Darke, Lond.; Dr. W. J. Dunwoody, Newark; Dr. W. A. Dingle, Lond.

E.—Edwards Harlene Co., Lond.; Messrs. Elliott, Son, and Boyton, Lond.; Economic Chalet Co., Lond.; East Suffolk and Ipswich Hospital, Secretary of.

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G.—Glaxo Co., Lond., Manager of; Messrs. G. Gillies and Co., Glasgow; Mr. R. Groves, Lond.; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Dr. W. Gordon, Exeter.

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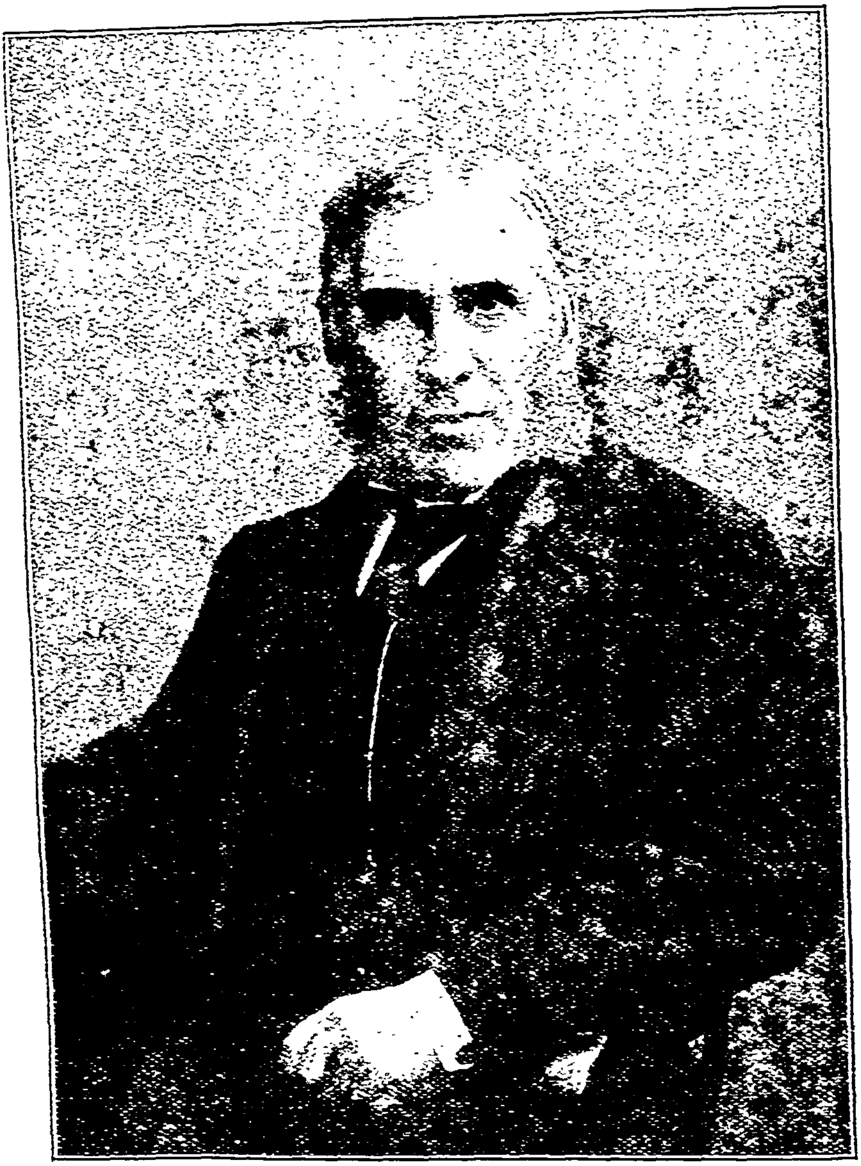

JAMES GREY GLOVER, M.D. EDIN., J.P.

fitting position has been reached for speaking of the manner in which the application of carbohydrate to the purposes of life takes place.

For the proper comprehension of the nature of diabetes, it is necessary, as I have previously said, to have a right comprehension of the manner in which carbohydrate becomes physiologically disposed of within the system. Unless we stand upon sound ground here, we cannot rationally cope, in the practice of medicine, with the erroneous state existing in diabetes.

All are agreed that one destination of carbohydrate is in the production of fat. This, however, does not fall within the subject matter before us and therefore does not call for consideration to be here given to it. The point to be dealt with is the mechanism associated with the passage of carbohydrate from its seat of absorption in the walls of the alimentary canal to that of utilisation in the tissues.

Local absorption by the walls of the alimentary canal and utilisation in the tissues obviously imply that

THE CIRCULATORY SYSTEM HAS TO BE TRAVERSED.

In what way does this occur? The character of the respiratory quotient suffices to show that carbohydrate is used up as such in the tissues to which it must, therefore. of necessity be transported from the seat of absorption. It next follows that, in the mode of transport that takes place, there must be nothing to stand in conflict with the maintenance of what is observed, in respect to other conditions, to constitute the normal state. The point plainly put is,—Does the carbohydrate pass through the circulation in the form of free sugar, or does it, on absorption, become immediately placed in combination with other matter, and, in this locked-up state, become transported to the seat of utilisation? Let us examine the question that has been here put forward and see how the two propositions stand in the presence of the evidence that is respectively adducible in connexion with them.

First, let attention be given to the view that the carbohydrate of our food is conveyed in the form of free sugar through the circulation to the tissues. This view is comprised in the glycogenic doctrine, which also includes the production of sugar by the liver for furnishing a supply of sugar to the blood when the supply of carbohydrate from the food is in default. When the doctrine in question was first propounded, the liver was regarded, unlike the other organs of the body, as being loaded with sugar, and the blood issuing from it as containing sugar to a conspicuous extent larger in amount than was to be met with elsewhere. In addition to this, the blood contained in the systemic veins was represented as containing notably less sugar than was present in the blood of the arterial system—a fallacious assumption upon which was based a coincident destruction of sugar during the transit of the blood through the systemic capillaries.

All this is now put on one side, and even the French school no longer contends for that which was in former times confidingly accepted. Notwithstanding, however, that the experimental ground has so vastly changed, a lingering disposition exists to retain the idea that carbohydrate follows the course assumed under the glycogenic doctrine, and passes in the form of free sugar through the circulatory system from the seat of absorption to that of utilisation in the tissues, such passage of free sugar, either from the food or the liver, being regarded as a necessary condition of life.

Now the passage of sugar to the tissues means associated passage to the kidney, and this means proportionate outflow with the urine. In proportion as sugar is present in the blood so it may be confidently said is it present in the urine. Impermeability of the kidney to sugar used to be spoken of. It is a pure fiction, invented to escape from the difficulty arising from not finding sugar in the urine as an outcome of the imaginary flow of sugar into the circulation from the food and the liver. Up to a certain point, sugar, it was said, might be present in the circulation without showing itself in the urine, whilst when present beyond the particular point, an escape occurred and thus accounted for the state existing in diabetes.

Nothing could be more devoid of substantiality than such a proposition. However unwilling persons have been to admit that

NORMAL URINE CONTAINS SUGAR,

the fact of its presence must now, after upwards of 50 years of hard contention, be looked upon as fully established. The negative reaction given with Fehling's solution has constituted the source of the fallacious impression, but it has now been made clear that principles are present in the urine which have the effect of interfering to a certain extent with copper sub-oxide precipitation and thus concealing limited amounts of sugar. All this is now fully recognised, and sugar has been incontestably shown by other means to be present in normal urine.

The nature, indeed, of things is such that, in proportion as sugar is present in the blood, so it may be looked for to be present in the urine. Sugar belongs to the class of small molecular bodies, and we know that these, whether of a drug, saline, or other nature, flow off in association with the water of the urine from the blood circulating through the kidney. It is inconceivable that sugar could exist in the blood without passing off with the water of the urine; and experience shows, in cases of glycosuria, that the kidney is exceedingly sensitive to sugar, the urine being instantaneously influenced by any alteration of the amount of sugar in the blood.

In a paper on the effect of the intravenous injection of sugar on the urine, contained in Vol. XXIV., 1899, of the *Journal of Physiology*, I have given a number of prefatory observations on the condition of healthy urine in relation to sugar, and it is seen that much variation in the amount present exists. In some, the amount was considerably beyond that which, under preconceived notions, would be considered credible. Doubt, however, upon the point of validity, or about the figures being in the main part due to carbohydrate is removed by determinations having in each case been made before and after hydrolysis, and by the results that were thence obtained. With the other cupric oxide reducing principles in the urine, no increase of reducing power is by the hydrolysing process brought about, and therefore all the rise that took place, and in some instances it was considerable, must have been attributable to the presence of carbohydrate.

The amount of sugar ordinarily present in the blood stands at about 1 per 1000, and as the urinary water flows off, it is accompanied with a relative proportion of the sugar and other small molecular bodies present in the blood. According to the state of blood plasma, so, in this respect, may be expected to be the state of the urinary flow from it taking place through the tuft belonging to the Malpighian body. The larger

THE AMOUNT OF SUGAR IN THE BLOOD,

the larger will be the amount flowing off with the urine. With 4 grammes per kilogramme of dextrose intravenously injected, 47 per 1000 of sugar was found, in one of the experiments mentioned in the paper above referred to, in the urine collected within less than one and a half minutes from the commencement of the injection. The sugar literally runs off through the kidney like running through a filter.

There is good ground for inferring that the same line of action occurs with small quantities as with large, and that the urine coming, for instance, other circumstances being equal, from blood containing 1·5 per 1000 of sugar will contain proportionately more sugar than that coming from blood containing 1 per 1000. The fluctuation of sugar within certain limits in normal blood will thus account for the fluctuation that is observable in normal urine.

Activity of kidney will, of course, constitute an influencing factor. If the circumstances should be such as to lead to a low output of urine, the output of sugar will be low in proportion. If urinary water does not escape, there cannot be an outflow of sugar.

The percentage relation of sugar in the urine will also be influenced by the degree of concentration the output from the Malpighian tuft attains in transit through the uriniferous tubules. Hence degree of concentration, which is denoted by the specific gravity, constitutes an item that demands consideration. Indeed, through concentration, the sugar belonging to healthy urine may be relatively raised sufficiently to give rise to the production of a perceptible reduction with Fehling's solution, and it is known that medical practitioners have to be upon their guard not to interpret it in a wrong way and put it down as an indication of disease.

The point that I desire should be clearly understood is that the urine, alike for small quantities and for large, affords an indication of the state of the blood with reference to sugar, and that if, from any circumstance, there is an entry of free of argument. When I first knew him he was a practised and trusted writer. With him the style was the man. His writings were always lucid without glare, limpid but never shallow, sober but never dull, persuasive without softness, cogent without acerbity. Even when one differed from him in opinion it was impossible not to admire the sincerity of his convictions. Whatever he said and wrote was governed by a keen sense of responsibility, by a genuine desire to do and say what was *right*. Unselfish to the last degree he strove only for those things which he believed would enhance the honour and the usefulness of the medical profession and insure the health, happiness, and prosperity of the people. Briefly, Dr. Glover's life work was the outcome of a fine and cultivated intellect, a just, generous, and religious spirit. His memory will linger pleasantly in the hearts of all who knew him, while his loss will be long deplored by a large circle of patients and friends, and by none more acutely than the small and dwindling band of brothers who, a long generation ago, were associated with him in the honourable labour of medical journalism and medical politics."

Dr. W. Bruce of Dingwall writes: "The world is distinctly the poorer by the death of Dr. James Grey Glover of Highbury. Of how few of us after passing the allotted span of threescore and ten could that be said with truth. Not that there are not plenty of younger men, including his own talented son, to fill his place as a physician. But his was a shining light to his contemporaries, in so far as he was a remarkable example of a man whose sense of right and wrong was so plain and evident to all. Not for a moment did he ever waver when his conscience told him where his duty lay. To none are those lines of Horace more applicable—

> 'Si fractus illabatur orbis,
> Impavidum ferient ruinae.'

Dr. Glover possessed in an eminent degree the literary faculty not only of writing but in speaking his mother tongue with force and eloquence. To the end of his days he could quote largely and freely from the classic English authors. To those who were fortunate enough, like myself, to meet him when he could freely unbend, it was (and remains) a delight to have heard him declaim *ore rotundo* from Shakespeare, Milton, Pope, Byron, or other author some fine passage which his memory continued to retain as vividly as ever. As an old colleague of Dr. Glover on the General Medical Council I can truly testify, as doubtless will others of his fellow members, to his great interest in the work of the Council, as also to the respect with which his weighty words were listened to in that assembly. He worked very hard in the attempt, which unfortunately failed, to bring club doctors and club managers together on equal terms, yet the meetings of the Council's committee and the representatives of the great friendly societies parted, I am sure, with the greatest regard for each other. If it were allowable to withdraw the veil which properly is drawn over our friend's private life and his domestic surroundings, much might be said of the complete happiness of his home and of the high Christian conduct which guided his whole conduct and behaviour. With his sorrowing widow and family we must all feel deep sympathy for their irreparable loss of a loving husband and father."

Dr. J. P. Steele writes: "The Edinburgh school when Glover frequented its classes and graduated in its Senate-hall was at its best. In physics and chemistry, the professors were James D. Forbes and William Gregory; in anatomy, John Goodsir who, with philosophy and imagination, lifted the subject out of detail and made it intellectually, and even morally, fascinating; in physiology, Hughes Bennett; in surgery and obstetrics Syme and Simpson, the latter (as THE LANCET in its obituary notices of the two expressed it) the 'Napoleon, the former the Wellington' of their respective fields—the one brilliant in resource and initiative, the other minimising the chances of defeat; in materia medica, Christison; in pathology, Henderson; in practice of medicine, William Pulteney Alison, brother of the historian of Europe and uncle of the 'hero of Tel-el-Kebir.' It was the last-named professor who was Glover's favourite—not only for the breadth and depth of his teaching but for the high moral principle that, in address and in practice, glowed from him like a halo. Alison figures in Carlyle's 'Heroes and Hero-Worship' as the type of the philanthropic practitioner, as the 'Beloved Physician' not only in the gilded chambers of the rich but in the haunts 'where poor men lie,' as one who more than merited the eulogy of the Stoic satirist—

> 'Incoctum generoso pectus honesto'

(a nature imbued with a high-born sense of honour). All through life Glover was never tired of dwelling on the obligations under which Alison had laid him, and, to the best of his lights and his abilities, whether as a general practitioner, or as a medical journalist, or as a Member of Council, or as a citizen, he strove to do credit to the professional Gamaliel at whose feet he had sat. Long after Edinburgh had outlived her halcyon days, he maintained a warm side to her school—indeed, the only occasions when his kindly good nature would seem to have deserted him were those on which some critic, not always ill-inspired, ventured to contrast her present with her former self. But he would recover his equanimity in a moment, as he reflected that if Edinburgh, like Rome—

> 'Non è più com' era prima,'

(is no longer what she once was) she has but herself to thank, dethroned, as she is, like Saturn, by her own progeny who have from time to time been transferred to other schools, old and new."

The portrait represents Dr. Glover about 15 years ago.

JOHN TAYLOR, M.R.C.S. ENG., L.S.A.

THE death occurred at his residence at Ticehurst, Sussex, on Oct. 10th of Mr. John Taylor, at the age of 73 years. He first entered the army and served on the Army Medical Staff during the Crimean War and afterwards was surgeon on the s.s. *Calcutta*, having charge of military invalids during the Indian Mutiny. Returning home he settled at Emsworth, Hants, and took the diplomas of M.R.C.S. Eng. (1858) and L.S.A. (1859). In the year 1864 he removed to Ticehurst where he soon made a name for himself not only in the immediate district but over a wide area of East Sussex. It was not long before his practice became a large one, for John Taylor was highly esteemed by both rich and poor, on whom he spent equal skill and pains. In 1874 he contributed "A Successful Case of Colotomy" to THE LANCET, followed five years later, also in these columns, by an account of an operation for recto-vaginal fistula with imperforate anus in an infant. For many years he was one of the medical officers of the Ticehurst Union and also surgeon to the local Foresters' Court. It was at Ticehurst that he devoted the best years of his life until latterly his failing eyesight became such a source of anxiety to him that he was compelled to retire from the profession. It was a great blow to him to give up his work, but a greater yet was in store for him, for in 1902 his eyesight completely failed. During the last years of his life he was devotedly cared for by his wife and children.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. N. Gundobin, professor of children's diseases in the St. Petersburg Military Medical Academy, aged 48 years.—Dr. A. Tauber, formerly professor of operative medicine in the St. Petersburg Institute of Medicine for Women.—Dr. Friedrich Bezold, court councillor and professor of otology in the University of Munich, at the age of 66 years.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

IT is stated that the number of students, as contrasted with last year, has increased in every faculty and that in the medical faculty the entry is larger than in any of the past nine years except 1906, which was a record year. Certainly all the class-rooms and laboratories seem full of life and everyone has settled down to the routine of the winter's work. So far as the medical faculty is concerned there are few changes in the staff. Dr. R. A. Lyster has resigned his assistantship in the department of forensic medicine and toxicology, and Mr. George Heaton has resigned his position as assistant to the professors of surgery. Neither post has yet been filled, though it is probable that the council will fill the surgical vacancy in a short time.

The Opening of the Birmingham Sanatorium.

The sanatorium at Salterley Grange was opened last week result of its presence in the blood. As a matter of fact, observation shows that the water does not pass off and leave the sugar behind.

Plainly looking at the phenomena in these cases of alimentary glycosuria, what do we find? That no altered condition of the urine is induced by the ingestion of carbohydrate within a certain limit, but that when this limit is reached and surpassed, sugar shows itself in the urine in proportion to the extent to which the overstepping has taken place. If this applies to the urine, it must, upon the strength of what has been said, equally apply to the blood, and this brings us to the conclusion that up to a certain point, carbohydrate can be taken without adding to the amount of sugar present in the blood, whilst if taken beyond the specific point, the amount of sugar in the blood becomes augmented in like manner to that observable in the case of the urine.

Obviously, there must be a different issue connected with the carbohydrate which fails, as in the healthy state, to show itself, and that which, in consequence of a larger quantity being taken, shows itself in an abnormal manner to us. By those who retain belief in the teachings of the glycogenic doctrine, it is held that the carbohydrate of our food passes through the circulatory system in the form of free sugar to become oxidised in the tissues, and the abnormal presence of sugar is ascribed to accumulation from faulty oxidation.

This plainly expressed represents the view that is nowadays adopted in explanation of the source of diabetes by partisans of the glycogenic theory. If such a view were correct, oxidation, which varies with functional activity, would always have to be standing on a par with the carbohydrate food-supply, a very variable item, to escape from accumulation. There is variability in consumption of carbohydrate by oxidation, and much variability in the supply of carbohydrate from without with the food, and yet the two are to stand in such balanced regulation as to provide the constant immunity from accumulation that is required to account for the steady maintenance of the urine in the state that is observed. Looking, indeed, at the very small amount of ingested carbohydrate that is instrumental in altering the state of things in these cases of alimentary glycosuria, the constancy with which the precise point at which the alteration that occurs is maintained over a lengthened period of time, and the fact that the different rates at which oxidation of carbohydrate is carried on under different circumstances exert no influence on the result, I consider it is rendered

IMPERMISSIBLE TO SEEK IN THIS DIRECTION

for the explanation that is required.

Is it then possible, in view of the facts that are before us, for the carbohydrate of the food to pass through the circulation to the tissues in the form of free sugar without the transit being revealed by the agency of the urine? Upon non-carbohydrate food, the blood and urine are practically in about the same condition as upon carbohydrate-containing food, and the same, it may be said, applies to the fasting state. Although, then, the urine is such a sensitive indicator of the state of the blood with reference to sugar, and, although, if the food carbohydrate passed in the form of sugar through the circulation there should be a transit of sugar in proportion to the food carbohydrate taken, yet this is to occur without any sign of it being revealed by the urine.

Nothing short of the occurrence of an instantaneous disappearance of the sugar on reaching the circulatory system would meet what is wanted to escape from the output of sugar with the urine, and experiments on the intravenous injection of sugar suffice to show that this does not ensue. Even in experiments with the injection of 0·25 gramme of dextrose per kilogramme body weight, which amounts to only 1-4000th of the weight of the animal, the results show not only a given immediate *effect on the blood, but likewise that* the effect that is produced only tardily, it may be said, subsides. Coincidently, as might be expected, with the effect on the blood, there occurs an accompanying effect on the urine.

The circumstances connected with the passage of sugar into the circulation

BY MEANS OF INTRAVENOUS INJECTION

are not strictly comparable with those connected with its passage as a sequence to absorption from the alimentary canal. In the latter case, the influence that is capable of being exerted by the interposed liver has to be taken into account. In connexion with the glycosuric state, sugar derived from alimentary absorption passes into the circulation and thence into the urine, just as though it had been intravenously injected. There is, obviously, neither a stoppage at the seat of absorption nor in the liver. But what happens in the case of the carbohydrate falling within the certain limit that can be taken by the glycosuric without rendering itself manifest? Does this also pass into the circulation and become instantly lost by destruction in the tissues? The facts are diametrically opposed to the tenability of such a view, and if, under such circumstances, the carbohydrate passed as sugar into the circulation, it ought rationally to be expected to give indication of doing so, similarly to what occurs after direct introduction by intravenous injection.

Looking from all points of view at the matter that has been considered, the conclusion seems to me to be inevitable that the urine could not escape being affected by carbohydrate food, in proportion to the amount ingested, if transport took place in the form of free sugar through the circulation to the seat of utilisation in the tissues. And yet the view is still seen in some quarters to receive credence. For instance, an *à propos* illustrative case is to be found in the article on the "Metabolism of the Carbohydrates" contained in as late a publication as Leonard

HILL'S WORK ON "RECENT ADVANCES IN PHYSIOLOGY

and Bio-Chemistry," 1906. The article was written by Professor J. J. R. Macleod, now in Cleveland, U.S.A., but formerly a demonstrator of physiology at the London Hospital. Let us look into what is said, and give an eye to the groundwork on which the credence is based.

The article starts with notifying that carbohydrate matter constitutes the greater portion of our food and then specifying that it may range in standard daily dietaries, constructed for different amounts of muscular work, from 240 to 700 grammes. The consideration of how this carbohydrate becomes disposed of within the system is next entered into and dealt with upon lines falling within the teachings of the glycogenic doctrine. Notwithstanding the professed nature of the work in which this article is contained—of the work itself it may be said that, looked at as a whole, it has ably and usefully met a want that existed—it is found that in the article what can be unreservedly spoken of as obsolete errors are in an unqualified manner adopted and made use of as a groundwork for the conclusions set forth.

For instance, in antagonism with the showing of all modern work, it is assumed that the sugar normally present in the blood does not pass out with the urine and that it is only when it stands in excess of 2·0 per 1000, which is put down as constituting the maximum representation of the normal range for the sugar constituent of the blood, that it shows itself in the urine. "With a normal percentage (of sugar) in the blood, the kidney *allows none of the* sugar to pass into the urine, but whenever this percentage is exceeded, immediate leakage of the excess through the kidney filter occurs" (p. 313). Such is the physiology that is placed before advanced physiologists in connexion with this matter!

The first part of the statement is demonstrably untrue, and the second part is pure fiction. What is there to determine that below 2 per 1000, there shall be no escape, and above, an escape of sugar? The whole thing is not only contrary to fact, but opposed to common-sense reasoning. In reality, with 2 per 1000 of sugar in the blood, an outflow may be looked for sufficient *to produce* marked glycosuria. The results from intravenous injection justify this conclusion. And these premises, which formed a part of the groundwork upon *which the glycogenic doctrine* was based, are, in spite of the advance of knowledge that has taken place, put forward in the article in question *as if they* rested upon a substantial foundation. Evidence in every direction, in reality, unequivocally shows that sugar in the urine *runs* concordant with that present in the blood.

The author of the article afterwards, in speaking of the

FATE OF THE GLYCOGEN STORED IN THE LIVER,

says (p. 334) "there are two *so-called theories*, the one by Bernard, the other by Pavy," and then proceeds to pass judgment upon them, by framing four aphoristic propositions, based on Bernard's conclusions, and opposing to them statements that he puts forward as representing conclusions drawn by me. His deduction, which is emphasised

The Prevention of Malaria in Mauritius: Report of Professor Ronald Ross, C.B., F.R.S.

Professor Ronald Ross of the University of Liverpool, in his report on the prevention of malaria in Mauritius, recommends a vigorous campaign which will cost about £9000 a year. The destruction of many of the breeding-places of the malaria-carrying mosquitoes and the free distribution of quinine amongst infected persons form part of the scheme.

West Derby Guardians and the Accommodation for Aged Poor.

Mr. J. Lowry, Local Government Board inspector, was present at the last meeting of the guardians of the West Derby union and made remarks with reference to the proposal to build an institution on land at Alder Hey, West Derby, for the accommodation of chronic cases of bedridden old men and women. He said that the classification scheme, which was the great boast of the guardians some years ago, had to some extent broken down owing to the large increase which had taken place in the number of cases of old and enfeebled people. On an average there were at least 160 new cases in one or another of their establishments in the course of each year, and it was obvious that, as the population of the union grew and was growing, it was not likely that anything the guardians could do was going to reduce that increase. In these circumstances he regretfully came to the conclusion that further accommodation was necessary for this class of cases.

Annual Medical Church Service.

St. Luke's Church, Liverpool, was well filled on Oct. 18th (St. Luke's Day) on the occasion of the annual service specially arranged for the members of the medical profession. Amongst the officiating clergy were the Bishop of the diocese, the Archdeacon of Liverpool, and the Rev. J. B. Lancelot, Principal of the Liverpool College. The Very Rev. W. Page Roberts, Dean of Salisbury, was the preacher. The members of the medical profession occupied the nave of the church. The Lord Mayor (Dr. Richard Caton) and the Lady Mayoress were present. The offertory taken at the close of the service will be devoted, as in former years, to the British Medical Benevolent Fund. I understand that the net proceeds, after deduction of incidental expenses, will realise over £20.

Oct. 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh and Leith Medical Practitioners' Association.

THIS association, the origin of which was referred to in THE LANCET last week, held what may be regarded as its inaugural dinner on Oct. 16th. The chair was occupied by Dr. W. Nicol Elder, the President of the association, and about 130 members and friends sat down to dinner. The toast of "The New Association" was proposed by Dr. Norman Walker and responded to by the chairman. The proceedings were enlivened by songs and stories. It is thought that the association may be a means of social intercourse, while at the same time it will be prepared to take action in connexion with club practice and public appointments of different kinds.

The Lord Rectorship of the University of Edinburgh.

The term of office of the Right Hon. R. B. Haldane as Lord Rector of the University of Edinburgh having nearly expired, the students are busy with the candidature of their candidates for the office. The Unionists are running the Right Hon. G. Wyndham, the Liberals the Right Hon. Winston Churchill, while a third and non-political candidate is being run in the person of Professor W. Osler of Oxford. The election is usually political unless the two parties combine to support some man of outstanding repute in literature or in science. Professor Osler has many warm supporters, especially in the Faculty of Medicine, but if political feeling runs high, as it promises to do, the forecast is in favour of one or other of the political candidates.

Extension of the Glasgow Medical School.

As a result of certain communications relating to medical teaching at the Royal Infirmary, Glasgow, and addressed to the University Court, a committee was appointed last March to consider what steps should be taken to bring about a more equal distribution of students between the Western and Royal Infirmaries. At a meeting of the University Court recently the committee presented its report. In making certain suggestions it has not overlooked the fact that, owing to the proximity of the Western Infirmary and the special facilities which it affords for university instruction, the majority of the men students will continue to resort to it for their clinical work. The Royal Infirmary will always be at some disadvantage on account of its distance from the University. But the committee thinks that in view of the expansion of the medical school which may reasonably be expected to follow upon better organisation and an extended field, it appears desirable that this disadvantage should not be increased by the lack of a definite and mutually beneficial connexion between the two. The managers of the Royal Infirmary and the important bodies which are coöperating with them in this matter propose not only to provide the University with endowments amounting to about £1800 a year, which will suffice for the establishment of chairs in the subjects taken by students in the final stages of their course, but also to provide facilities, satisfactory to the University, for instruction which shall be open on equal terms to women and to men. In other words, they propose to enter into an arrangement with the University which is substantially the same as that now subsisting between the latter and the managers of the Western Infirmary. The following are the proposals submitted by the committee to the University Court:—

1. That the professorship of clinical medicine, and at the next vacancy the professorship of clinical surgery, be transferred from the Western Infirmary to the Royal Infirmary.
2. That in consideration of the stipend of each of these chairs being increased to (say) £500 a year, by means of funds procured by the Royal Infirmary, St. Mungo's College, and others cooperating with them, the professors be in future required to give systematic as well as clinical instruction at the Royal Infirmary.
3. That the election to the chairs be made by a board of curators, including representatives of the Court and of the Royal Infirmary.
4. That a committee of selection be appointed at the Royal Infirmary and a similar committee at the Western Infirmary, each including representatives of the University Court, which shall be empowered to nominate any of the respective physicians and surgeons in charge of clinical wards for appointment by the Court as University lecturers in clinical medicine or clinical surgery.
5. That the same committees of selection be empowered on the occasion of future vacancies to propose for election by the managers of each institution suitable persons to be appointed to the office of full physician or full surgeon in charge of clinical wards.
6. That in addition to the examiners who are professors *ex officio*, the lecturers in clinical medicine and clinical surgery be eligible in rotation for appointment by the court as lecturer-examiners for the final examinations.
7. That the fees paid by matriculated students for systematic courses conducted by the professors be paid into the general fee fund as at present; and that the fees paid for clinical courses conducted by the professors and lecturers be paid into a clinical fee fund, from which the stipends and class expenses of the lecturers (for teaching and examining) may be paid.
8. That the number of students attending a qualifying class for clinical instruction shall not exceed a limit to be fixed by the University Court.
9. That the managers of the Royal Infirmary, with the coöperation of the Muirhead trustees and others, provide funds for the endowment in the University of two new chairs, one for the teaching of pathological anatomy, the other for the teaching of obstetrics and gynæcology, to students attending the Royal Infirmary; and further undertake to provide facilities satisfactory to the University for teaching and examination in medicine and surgery and in the subjects of the new chairs.
10. That the election to the new chairs be made by a board of curators similar to that mentioned in No. 3 above.
11. That qualifying courses of instruction given at the Royal Infirmary by professors or university lecturers be open to all matriculated students on the same terms without distinction of sex, provided that the University may, for special reasons and with the concurrence of the managers, prescribe that particular courses or parts of courses shall be given to men and to women separately.
12. That the foregoing provisions as to fees and classes for clinical instruction do not apply to any existing professor until he shall have signified his assent thereto.

If such a scheme as the above be approved by the University Court before it can be carried into effect one or more provisional orders and certain new ordinances will be necessary. In the meantime it is probable that the court will postpone the election of a professor to the vacant chair of clinical medicine until it has arrived at a decision as regards the scheme which has been put forward by the committee.

Clinical Instruction in Obstetrics in Glasgow.

By the enterprise of the directors of the Maternity Hospital, under the guidance of the medical staff, it will now be possible to take full advantage of the clinical material available for the teaching of obstetrics in Glasgow. From the statistics of the hospital in the past it is evident that a great the seat of absorption in the intestine, during the height of absorption activity, following a copious ingestion of carbohydrate food) the writer in question gives data to show that only a comparatively small portion of absorbed sugar can be accounted for by conversion into liver glycogen, and that therefore, under the view advocated, there must be a large amount of sugar passing into the circulation at the time absorption is going on—a proposition opposed to the fact that neither the blood nor the urine affords evidence of such entry, although both are eminently sensitive to the entry of minimum quantities of sugar effected by the medium of intravenous injection.

The contrast is very great between the effect of the intravenous injection of sugar and that which follows the ingestion of sugar. In the one case, as I have just stated, the blood and urine are influenced in an exceedingly sensitive manner. In the other, as is well known, large quantities of sugar may be ingested without producing any visible effect. If passage into the circulation succeeded absorption, how could it come about that evidence of it could escape being discernible? Here lies the great error under which physiologists have hitherto laboured—the error of assuming that absorbed sugar can reach the circulation without being subsequently open to recognition.

Too much stress must not be laid upon the part played by the liver. I look upon it as simply supplementing the action occurring at the seat of absorption, and that, with a moderate amount of carbohydrate food taken, it is possible that little or no work may be thrown upon the organ. The position assigned to it, however, under the glycogenic doctrine is a far more material one, looked at from the side of the urine being kept free from sugar, inasmuch as it is supposed to constitute the sole agency by which the sugar from the food at the time of active absorption is prevented reaching the circulation in sufficient quantity to affect the urine. If it were not for this, it is considered, a temporary glycosuria would be consequent on a meal. How does this stand in view of the demonstrable fact that in different ways, (Eck's fistula, &c.)

THE LIVER MAY BE CUT OUT OF THE CIRCUIT

of blood without leading to the production of glycosuria? If there were nothing besides the liver to bar the direct passage of absorbed sugar into the general circulation, it is impossible to conceive, after the operative procedure referred to, that the urine could any more escape becoming charged with sugar after ingestion of carbohydrate food than it does after the intravenous injection of sugar. I do not propose to proceed any further with this matter at present, but shall have occasion to refer to it again later.

As the issue of what has preceded, it seems to me impossible that the absorbed sugar from carbohydrate food could possibly reach the general circulation in the form of free sugar without revealing itself by passing into the urine, just as it does in diabetes. During fasting, there is a given amount of sugar in the blood which is revealed by a correlated presence of sugar in the urine. Add to the sugar in the blood, and is the urine to escape giving evidence of the addition? If it did the circumstances would amount to the smaller quantity revealing itself and the larger quantity failing to comport itself upon similar lines. For sugar to reach the circulation without influencing the urine, there must be an immediate disappearance on entrance into the blood, and this, it is known, does not occur.

I have spoken of the facts which lead up to the conclusion that if the carbohydrate of our food reached the circulation for transmission to the tissues in the form of free sugar, it could not fail to give rise, proportionately to the amount doing so, to the presence of sugar in the urine, and thus the condition existing in diabetes. Let us now see upon what ground we stand, in relation to the matter, on applying the transport of free sugar hypothesis as a basis to work upon in the treatment of diabetes.

Looked at in relation to physiology, the glycogenic doctrine is the source of no embarrassment. The dictum is pronounced and nothing further follows, seeing that it is in no way subjected to

THE TEST OF PRACTICAL APPLICATION.

In the case of medicine, it is far otherwise. Diabetes, which arises from a physiological defect connected with carbohydrate metabolism, falls to the province of the physician to deal with, and here the trial of the enunciated physiological hypothesis comes in. Physiologists can look on with complacency, inasmuch as they, in their position, remain untroubled by the effect of error. Whatever the conventional physiological view that may be held, Nature proceeds unobstructedly with her operations, and the issue remains unaffected. To the physician, on the other hand, whose work lies in endeavouring to restrain the ill-effects of the faulty physiological action, the rightness or wrongness of the hypothesis upon which he is basing his procedure, counts for everything.

Now, what does the glycogenic doctrine imply? It implies the entry of sugar into the circulation, and this implies the passage of sugar into the urine, and next follows, as a resulting corollary, the origin of glycosuria from carbohydrate food. How is such a doctrine compatible with the state in which the urine is normally found? It itself, if put into application, would lead to the production of the glycosuric state. It may be said there is always a certain amount of glycosuria existing, harmonising with the limited glycæmia (independent of the functioning connected with our carbohydrate food-supply) that is normally present, and if this latter were increased by the effect derivable from carbohydrate food-supply, a corresponding addition to the normal glycosuria ought to be observed. The output of sugar that occurs after carbohydrate food taken in the presence of alimentary diabetes, gives an indication of the rate and amount of sugar absorption actually occurring.

The glycogenic doctrine

FAILS IN SUPPLYING A RATIONAL BASIS

of action viewed in relation to the treatment of diabetes. Indeed, as has been before stated, it has contributed to leading persons off in the wrong direction and to giving rise to suggestions which, if put into practice, could not do otherwise, as experience shows, than produce a downright pernicious effect. Diabetes being the result of a faulty carbohydrate metabolism, the possession of a right comprehension of the mechanism of the normal metabolism, ought to throw a guiding light on the direction in which to apply our efforts for bringing a counteracting influence to bear on the disease.

It is in this way that knowledge is the source of power. It gives us command over phenomena by enabling us, through the instrumentality of designedly modified conditions, to bring about a desired result. For instance, as previously referred to, since the knowledge of the microbic nature of the zymotic diseases was obtained, we have been placed in a position to combat the group of diseases in question with a power altogether different from that which we possessed before. Applying the glycogenic doctrine as a working basis in the treatment of diabetes, a want of congruity confronts us. It is professed to be natural and necessary that sugar should be constantly reaching the circulation, and yet the act of doing so leads to elimination with the urine. In spite of the fact that the system is suffering disastrously from the effects of the presence of a redundance of sugar, there is nothing to suggest, under the tenets of the glycogenic doctrine, that the food-supply of carbohydrate should be cut off, although experience shows that this line of procedure constitutes absolutely the only means by which an improved state of things can be brought about.

By the glycogenic doctrine the

MIND OF THE MEDICAL PRACTITIONER HAS BEEN DIVERTED

from what experience shows to be the right course as regards the treatment of diabetes. There is another matter bearing on treatment which has given rise to an immense amount of confusion and misguidance. I refer to the delusion created by deceptive diabetic food. Persons are too apt to conclude that because an article is advertised and sold as a diabetic bread-stuff it is to be accepted as suitable for use as such. The amount of starchy matter or sugar present, constitutes in reality, the criterion. This can easily be determined by analysis, and analysis is often showing that the reputed diabetic food is but little, or even, it may be, no better than food of an ordinary nature. The opening that here exists for liability to error must be intelligible to all. Not only, on the one hand, is treatment thwarted, but on the other hand, the foundation is laid for erroneous conclusions, touching the disease and its treatment, to be framed.

This brings me to speak again of the work of Professor von Noorden. I notice in Dr. Boardman Reed's translation of evil in the city. He allowed the present case to stand over till Nov. 13th, affirming the conviction but leaving the question of sentence to future consideration.

The School of Surgery, Royal College of Surgeons in Ireland.

The winter session of the School of Surgery of the Royal College of Surgeons in Ireland was inaugurated on Oct. 15th by Mr. J. Lentaigne, the President of the institution, who distributed the prizes of the previous session. He took the opportunity of calling attention to the fact that owing to recent university legislation the surgical school of their College would be the only unendowed and unassisted one in Ireland, for Trinity College had always been a well-endowed institution; the "Cecilia-street school" is about to disappear and re-emerge as the medical school of the new Irish University; while large additional endowments would accrue to the provincial schools of the Colleges of Cork, Galway, and Belfast. The President pleaded that as their own College had expended large sums of its funded capital in the effort to maintain its school at a high standard it could confidently appeal to the Government for protection from what would be a great "injustice," the being left to compete with liberally endowed teaching bodies both in Dublin and in the provinces.

Suicide by Strychnine Poisoning.

A case of suicide by strychnine poisoning was the subject of an investigation by the coroner for Dublin last week. The deceased was a vanman and had been out of employment for a week; according to his son's evidence he had "got a fall off a van ten years ago or more and his head was split. He was never the same after that when he would take a drink." He had purchased 20 grains of strychnine at the shop of a pharmaceutical chemist who knew him and to whom he represented that the poison was for a dog which was shut up mad at home and could not, accordingly, be brought out. He came home under the influence of drink, had some dinner, and then went to his bedroom and lay down. His daughter heard heavy moaning and found him "working as if in great pain." He told her and her brother that he had taken poison and they had him removed to Jervis-street Hospital, where he died shortly after admission. On procuring the strychnine at the druggist's he had signed his name in the usual poison register, thereby complying with the law. A copy of the Act of Parliament was produced by the druggist at the inquest. The coroner stated that he thought it "a very serious state of affairs that there is nothing to prevent any man getting poison and destroying himself or anybody else according to that Act." Medical men will probably agree in general with the opinion that further legal restraints are desirable in the sale of poisons—without even a physician's prescription.

Enteric Fever at Clontarf.

The epidemic of enteric fever still continues to hold its sway in Clontarf and has naturally given rise to general public interest in Dublin and to vigorous comments and important queries in the daily press. The solicitor of the milkman whose dairy was popularly incriminated again wrote at considerable length to the Local Government Board requesting a thorough investigation in the form of a sworn inquiry. He suggested that attention should be directed to certain points which would tend to clear his client from blame and would lay it on the public authorities who undertook excavations near his dairy. Many contradictory views have been expressed as to the cause of the trouble, and I am inclined to attach considerable importance to the following paragraphs taken from a letter written on the subject by Mr. J. Picton Bradshaw, a Clontarf resident:—

> Sir Charles Dallymount informs us that the filling of the Slobland Park is composed of street sweepings, &c. The "&c." is certainly three-fourths of the whole, and, as was clearly proved by recent sworn evidence, consists of the contents of ashbins and other vile and filthy refuse from the tenement slums and other premises, together with tons of decaying vegetable matter removed from various parts of the city of such an offensive nature that it is absolutely necessary to bring it through the city in covered carts. It is dumped at Fairview, scattered by workmen, turned over again by rag-pickers, while the high winds so prevalent along the shore road carry the smell, dust, and no doubt the microbe, far and near. Further, very recently a long deep trench was cut for main drainage purposes alongside the wall through refuse dumped there some time ago. The trench was some hundreds of yards long and the condition of the soil spoke without comment.
>
> Most of the houses in which the disease is located are not the old but actually the most modern, up-to-date, and recently built residences, all of considerable size, the drains, &c., of which have very recently been passed by the corporation officials.
>
> There is no doubt the recent heavy rains, followed by the exceptional heat and succeeded by the dry strong winds, have bred and scattered disease, carried on papers, dust, and other refuse over the Slobland Park, assaulting the pedestrians, tram and other passengers through Clontarf, and when we contemplate the probable source of these unpleasant missiles, and that they may be impregnated with germs from some typhoid-stricken slum tenement, we are filled with wonder we have so long escaped.

A Remarkable Rescue from Drowning.

The public recognition of a truly heroic rescue from death by drowning was celebrated by the urban council in Wicklow on Oct. 11th, when the brothers, Messrs. Edward and John J. Kennedy, were presented with the vellum certificates of the Royal Humane Society for rescuing a post-office employee who had sunk in 15 feet of water in Wicklow harbour last July. The event is of medical interest, for the Silvester method of artificial respiration was applied to the rescued lad for over an hour with no signs of success, and the onlookers gave up the case as hopeless. The brothers' efforts were, however, supplemented by police constables, and they were ultimately rewarded by seeing their patient gradually restored to animation. The degree of exhaustion was so great that he was detained for several weeks in the Wicklow Hospital before recovery could be pronounced complete.

The Belfast Medical School.

Work began in the Belfast Medical School for the present winter session on Oct. 20th, when the opening address was given in the Royal Victoria Hospital by Professor W. St. C. Symmers. The lecture, which was most humorous and full of sound advice, advocated the importance of pathological study. Sir W. Whitla presided and at the conclusion of the address a hearty vote of thanks was awarded to Professor Symmers, on the motion of Sir John Byers.

Oct. 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Twenty-first French Surgical Congress.

IN my letter last week I described a part of the proceedings at the opening session of the Surgical Congress. Professor Forgue at the conclusion of his address pronounced a panegyric upon the members who have died during the course of the year. Their names are all so well known that I need only mention them. Hoffa (Berlin), Reboul (Nîmes), Loison (Military Medicine), Harrison (Liverpool and London), Folet (Lille), Reverdin (Geneva), and Terrier, our great French surgeon. The discussion of papers followed. The first, which dealt with the Surgery of the Biliary Ducts, was opened by M. Delangenière (Le Mans) and M. Gosset (Paris), and 14 other speakers took part in the debate. In the gynæcological section one of the most interesting of the first day's papers dealt with the Treatment of Extra-uterine Pregnancy. This was communicated by M. Albertin who has operated 62 times for this condition, 30 times by laparotomy and 32 times by the vaginal route. In dealing with severe hæmorrhage into the peritoneum he considers that it is sometimes an advantage not to be in too great a hurry to do laparotomy during the condition of shock, which, he says, is induced by the rupture of the tubal pregnancy rather than by the bleeding. A waiting policy for two or three days may afford an opportunity of operating under exceptionally favourable conditions. The 30 laparotomies, all of which resulted in cures, were done for non-infective cases. The colpotomies, of which two ended fatally and 30 successfully, were only performed for septic hæmatoceles. M. Albertin would reserve this operation for cases with large masses of infective blood clot in the pelvis and in which hæmorrhage is not the urgent indication. A very interesting discussion followed in which M. Pozzi, whose opinion carries great weight, said that he could not agree with this counsel of delay in dealing with patients suffering from sudden and severe intraperitoneal hæmorrhage, for it might very likely cost them their lives. He urged that not a moment should be lost in performing laparotomy in a case of ruptured extra-uterine pregnancy. He had operated during the stage of shock upon patients who would certainly have portal vein can be ligatured and the liver extirpated, without interfering with the circulation through the other abdominal organs. In one recorded experiment, the liver was extirpated after the administration of 25 grammes of dextrose and 25 grammes of starch. During the succeeding 10 hours, 220 cubic centimetres of urine were collected, which, on subjection to alcoholic extraction, yielded an indication of the presence of 0·5 gramme of dextrose. A further 200 cubic centimetres were secreted during the night, and this was found to be free from sugar. In a second recorded experiment, 75 grammes of dextrose were employed. During 12 hours after the operation, 330 cubic centimetres of urine were obtained in which 4·2 grammes of dextrose are stated to have been found, which represent a minute portion only of the dextrose administered. The intestinal contents, it is mentioned, only contained a trace of sugar.

Eck's fistula is the name given to an operative junction of the portal vein with the inferior cava, permitting of the former vessel being tied above the junction and thus cutting off the flow through the liver without interfering with the circulation through the abdominal viscera. The operation is naturally a very delicate and risky one, but it has proved susceptible of being performed upon dogs with survival of the animals in a satisfactory condition for a considerable time afterwards.

Hahn, Massen, Nencki, and Pawlow have published a communication in Schmiedeberg's *Archives*,[2] containing the results of observations on the effects of the operation upon the system. The operative part of the undertaking was performed by Massen and Pawlow, and the chemical part by Hahn and Nencki. A striking effect noticed was the production of an intolerance of animal food. The dogs subsisted well upon bread and milk, but meat produced a toxæmic state accompanied with various manifestations of nerve disturbance. The authors state that they never found albumin, albumose or sugar in the urine, but there is no indication of any idea of looking for sugar in connexion with carbohydrate food administration as a sequence of the position in which the liver was placed.

A communication entitled "On Carbohydrate Metabolism in Dogs with Eck's Fistula, whereby the Portal Blood passes direct into the Vena Cava without traversing the Liver" has been recently published by F. De Filippi of Rome in the *Zeitschrift für Biologie*.[3] A series of observations was conducted upon the toleration of various carbohydrates after recovery from the operation, and finally the actual occlusion of the portal vein was verified by post-mortem examination. The ordinary food administered consisted of bread and milk and wheat-flour porridge, which never, it is stated, produced glycosuria. After the different sugars, however, glycosuria occurred when certain quantities were reached standing below those required to produce glycosuria in the case of dogs in the normal state.

Corresponding results, I perceive, are stated to have been obtained by other experimentalists. For instance, I observe it stated [4] in connexion with the fate of sugar given to dogs with Eck's fistula, that Popelski, in 1898, found, after feeding with large quantities of saccharose, that against 1 per cent. of the ingested sugar eliminated by normal dogs, 13·5 per cent. was eliminated by the dog with the fistula; and quite recently mention is made by P. B. Hawk [5] of absence of glycosuria having been observed in a dog with Eck's fistula on a diet of milk, bread, and potatoes. The concurrent testimony seems to be that whilst sugar can lead to the production of glycosuria, starchy matter, on the other hand, fails to do so.

Everything points to the existence of a missing link in the chain of events thus far reckoned to occur in connexion with the passage of carbohydrate from the seat of absorption in the walls of the alimentary canal to that of utilisation in the tissues. We know that small quantities of sugar reaching the circulation by intravenous injection, lead to the production of glycosuria, and why should they not do so when absorbed from the alimentary canal? The liver has been credited with safeguarding the circulation from the entry of sugar in a manner to occasion glycosuria, but how do things stand in the face of the evidence that has been just adduced, founded upon the state observed to exist after the abolition of the influence of the organ?

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[2] Band xxxii., p. 161, 1893.
[3] Band xlix., 1907.
[4] Maly's Jahresbericht, Band xxviii., p. 369.
[5] American Journal of Physiology, vol. xxi., p. 259, 1908.

HEREDITY IN DISEASES OF THE NERVOUS SYSTEM.[1]

By Sir WILLIAM R. GOWERS, M.D. Lond., F.R.S.,
CONSULTING PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, LONDON, W.C.

THE scientific study of heredity, which has undergone so wonderful a development, especially since the mists were swept away which for long had hidden Mendel's work, cannot be applied fully to the diseases of man. The human race is not open to Mendel's essential methods, and its mere complexity of development involves innumerable differences from lower forms of life, the effects of which may be greater than we can well realise. Potential fallacies surround almost every inference that can be drawn. We can seldom look back far at preceding generations and the future we must leave to those who may follow us. The difficulties of precision and fulness of knowledge are great and the chance fertilisation, from which the flowers of Mendel were guarded by his paper bags, is the rule in the human race, unalterable by us, however we may wish. Hence it seems useless even to apply the hereditarian terminology to facts that are in general inconsistent with its grounds. I can only hope to present a few of the general facts of heredity in some diseases of the nervous system, well known as they are, and I trust that they will be supplemented by others. We are only in the stage of random observation.

Among diseases of the nervous system are commonly included many that are not of it but merely in it, and these can scarcely be included. Tumours of the brain and spinal cord are allied to morbid growths in general for the most part. Yet many of them have a special relation to nervous tissue, such as gliomata, composed of the special interstitial elements of the nerve centres. Endotheliomata, growing from the lining tissue of the cavities and surface of the brain and spinal cord, we do not know how to class, whether with the centres in which they are found or with growths of the same character elsewhere. But all such affections are so rare that they have not yet justified any suggestion of heredity. This is also true of another condition in which heredity might reasonably be expected, the defect in the coarser formation of the spinal cord which leads to the cavities and undeveloped embryonal tissue adjacent of syringomyelia. It is sometimes found after death when there have been no symptoms to suggest it. When the causal arrest of development has occurred earlier and involved the inclosing structures it constitutes a state often conspicuous in infancy, spina bifida. Heredity in these affections may be thought likely, but no ground for it has been, I think, discerned, and may not be until every member of the family can be scrutinised after death. Insular sclerosis is another affection in which heredity might be expected according to one view of its nature, but no facts have suggested it.

Sudden cerebral seizures, apoplexy and the like, depend upon causes that take their heredity far away from the brain in which the lesion occurs. Yet the frequency in which heredity is active is most notable. In some families many members suffer earlier in life than the malady is really common. But we must look to the vessels and the cause of their degeneration for the mechanism by which the disease is produced and through which heredity acts. Toxic states, various in nature and origin, chemical and microbial, are potent causes of disease, but the range of heredity in their occurrence is small. The so-called "inherited syphilis" has, of course, nothing to do with heredity. I do not know of any observations on the children of those who suffer from it and their life-histories. Any influence heredity may have on the liability to suffer from bacterial maladies affecting the nervous system may, perhaps, be suggested by the discussion on the similar facts regarding tubercle. The part it may play in the secondary production of chemical agents from organisms acting on somatic processes is an important problem. It is presented by the paralysis that sometimes follows diphtheria. The experience of our fever hospitals may furnish evidence for or against any family tendency to suffer disagreed from the first with the establishment of the academy, did not send their patients there. The result was that the expenses of the academy were much higher than had been anticipated, and at a recent meeting of the Düsseldorf town council some members even suggested the dissolution of the academy. Although this suggestion was not adopted the enthusiasm of the Düsseldorf municipal authorities and of the ratepayers has dropped considerably. The Government had expected that other towns also would favour the establishment of academies but this is very unlikely after the experiences of Düsseldorf. The municipal authorities of Frankfort, where an academy had been planned, abandoned the scheme some time ago chiefly on account of the unanimous protest of the medical profession of the city.

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[1] A paper read before the Fellows of the Royal Society of Medicine on Nov. 11th, at the discussion on Heredity, with Special Reference to Cancer, Tuberculosis, and Disease of the Nervous System.

Oct. 20th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Deaths from Wild Beasts and Snakes.

IN a resolution issued at Simla by the Home Department it is stated that the total mortality amongst human beings reported to be due to wild animals in 1907 amounted to 1966 as compared with 2086 in 1906. The total is the lowest on record since the practice of the collection of these statistics was initiated. The most noticeable variations from the figures of last year occur in Bengal, the United Provinces, and the Central Provinces, while in Madras there was a comparatively large increase of from 167 to 201 in the number of persons killed by tigers. In Bengal the mortality rose from 756 in 1906 to 840. In the United Provinces the mortality fell from 280 in 1906 to 159. The decrease is principally due to a noticeable decline in the number of deaths caused by wolves in the Allahabad division. The mortality in the Central Provinces fell from 262 in 1906 to 174 in 1907. The total mortality amongst human beings caused by snake-bite fell from 22,811 in 1906 to 21,418 in 1907. So low a figure has not been reached since 1897. The decrease is noticeable mainly in Bengal and Eastern Bengal and Assam where the figures fell from 8862 and 2730 in 1906 to 8276 and 1900 respectively in 1907. The most important increases occurred in Madras and Burma, where the figures rose from 1527 and 1149 in 1906 to 1977 and 1348 respectively. The highest mortality in Bengal occurred as usual in the Patna division, the number of deaths being 3393 as compared with 3636 in 1906. The decrease in Eastern Bengal and Assam is attributed to the floods having been lower. The figure for the Central Provinces (995) is the lowest returned in any one of the last seven years. The Lauder Brunton treatment of snake-bite by incision and application of permanganate of potassium and the distribution of lancets continue. It is too early yet to pronounce with any certainty as to the result of the experiment but a number of favourable reports have been received. Eight cases are reported from the United Provinces of the successful use of Dr. Calmette's antivenene. In two of these cases the permanganate of potassium treatment was also employed. Colonel R. D. Murray, I.M.S., Inspector-General of Civil Hospitals of the United Provinces, gives illustrations as to the value of the anti-venomous serum and permanganate of potassium in the treatment of snake-bites. He complains, however, that all serum issued from this Central Research Institute, whether to the Government or local fund institutions or to private institutions or persons, is charged for at Rs.3 12 annas per tube, whereas formerly it was supplied free of charge to dispensaries maintained by local and municipal funds. The price fixed by the Government of India, he observes, makes the use of this valuable remedy almost prohibitive in dispensaries which are not favourably situated as regards funds. The United Provinces local government has advised the Inspector-General that if there are any dispensaries in localities where cases of snake-bite are frequent which stand in need of special assistance in this respect the Inspector-General should consider, in communication with the chairman of the district board, whether it would be advisable to increase the grant for European medicines.

Insanity and Asceticism.

In the interesting work of Major G. F. W. Ewen, I.M.S., on "Insanity in India" notice is taken of the connexion between some forms of insanity and the practices of ascetics. It is not only the effect upon the patient, however, which has to be considered in this connexion. One great obstacle to the work of neuropathic experts is the firmly rooted idea in the mind of the patient's friends that the affliction, according to the character of its manifestations, is either a subject for veneration or a punishment occasioned by mystic forces. Either the man has insulted a priest or defiled a temple, or he is a saint and greatly endowed in some way which gives him superiority to his fellows. One, Mahomed Bux, was so insane as to be almost incomprehensibly incoherent and so deficient in control that he once committed murder, yet he was regarded by the whole of Lahore, Mahomedan and Hindu alike, as a holy and powerful man who by much meditation had gained control of a "Jin" and could grant his applicants any favour. To him went rich merchants, graduates, and even native medical men who could discourse learnedly on the nature of this very disease but whose superstitions were still more powerful than their learning.

Sept. 30th.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the quarterly meeting of the council of the above College on Oct. 15th the following diplomas were granted:—

Diploma of Member.—John Joseph Cameron, M.D. Toronto, Toronto University and London Hospital; and Charles Ogilvie Lillie, M.B., Ch.B. New Zealand, New Zealand University and Middlesex Hospital.

Licence in Dental Surgery.—Edgar Smith, Guy's Hospital; and Arthur Brookes Thomason, Victoria University, Manchester.

KING'S COLLEGE.—The council of King's College has made the following appointments: Dr. StClair Thomson as professor of laryngology in King's College Hospital Medical School, and Mr. H. Moore as assistant lecturer in physics.

UNIVERSITY OF CAMBRIDGE.—The Gedge prize has been awarded to E. Mellanby, B.A., Emmanuel College, for his essay on creatine and creatinine.—Dr. Liveing, late professor of chemistry, and the Master and Fellows of Caius College and of Sidney Sussex College, have presented valuable apparatus and chemicals to the University chemical laboratory.—The following degrees were conferred on Oct. 15th:—

M.D.—H. F. Horne, King's; and H. J. Fardon, Christ's.

The following have passed the Sanitary Science Examination:—

J. H. H. Baillie, Victoria E. M. Bennett, Catherine L. Boyd, Dora E. L. Bunting, J. S. Clark, J. C. Dunn, J. Glaister, C. A. Gourlay, A. H. Griffith, S. A. Tim. Henry, J. S. Higgins, W. C. Hossack, Elizabeth M. McVail, E. P. Minett, C. B. Moss-Blundell, K. K. Mukhopadhyay, A. Richmond, D. Stewart, J. L. Stewart, R. S. Turton, and Lilian E. Wilson.

—The Committee for the Study of Special Diseases is about to elect a qualified medical lady to the R. C. Brown scholarship in special pathology. The annual value of the scholarship is £150, in addition to laboratory expenses. The holder of the scholarship will be required to undertake clinical research in connexion with the bacteriology of certain chronic infections associated with rheumatoid arthritis. Application, giving an account of previous medical and laboratory experience, together with three references to former teachers, should be sent in not later than Oct. 28th. Candidates are requested not to send testimonials. For further particulars application should be made to Mr. T. S. P. Strangeways, Department of Medicine, Cambridge University.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (College of Physicians and Surgeons)*: Dr. C. W. G. Rohrer has been appointed Assistant Professor of Medicine and Therapeutics.—*Graz*: Dr. Rudolf Polland has been recognised as *privat-docent* of Dermatology and Syphiligraphy.—*New Orleans (Tulane University)*: Dr. J. B. Guthrie has been promoted to be Assistant Professor of Medicine and Therapeutics.—*Philadelphia (Women's Medical College of Pennsylvania)*: Dr. H. C. Deaver has been appointed Professor of Surgery in succession to Dr. William L. Rodman, resigned.—*Vienna*: Dr. Josef Möller, Professor in the University of Graz, has been appointed to the chair traced seldom but sometimes remarkably. I think it is probable that we shall hereafter find that special forms of heredity are associated with other characters in a manner that will make it an aid in distinguishing maladies that are now classed together but for this we must wait.

A third class of diseases in which heredity is operative consists of the so-called functional affections. Some of them vary extremely in degree and baffle attempts to group them so as to discover their relation to heredity. Such are hysteria and the defective nerve strength which may manifest itself in varied ways and which we are all drawn, sometimes against our better judgment, to designate "neurasthenia." Other functional disorders, such as chorea and neuralgia, have relations too complex for the clear discernment of heredity; and migraine, defined as it is, is connected with quite different constitutional states than disease of the nervous system. Two forms of functional disease have been much studied in relation to heredity, epilepsy and insanity. I propose to confine myself to epilepsy, leaving the relations of insanity to those who take part in the subsequent discussion.

Some cases of epilepsy are outside our subject. Those that result solely from organic lesions of the brain, from disease, or trauma, or difficult birth are not concerned with heredity. I confess I have always acted on the belief that the tendency to convulsion in such acquired cases, without other evidence of disposition, may be regarded as not transmissible. I have never hesitated, on this ground, to permit the marriage of a sufferer, and I have not had any evidence to show that I was wrong in doing so, however early in life the damage arose. I do not question the guinea-pigs of Brown-Séquard, but I do question an inference from guinea-pigs to men. But such cases of "organic epilepsy" are rare. They constitute so small a proportion of the cases as to have little influence in statistics of heredity. The difficulties in ascertaining the facts of family histories are vast. Among hospital patients genuine ignorance often hinders. A woman brought her son for epilepsy and denied that any of his relations had had fits. As soon as she had gone out of the room she returned with two of his brothers suffering from them. It had not occurred to her that a brother is a relation. In patients seen in private the stigma supposed to attach to some diseases leads to concealment, which produces actual ignorance in another generation. A middle-aged lady, with an epileptic nephew, denied any neurotic antecedents and was indignant when I told her that three great-aunts had been in asylums. But it was so.

In my own inquiries into the heredity of epilepsy I have limited myself to these two maladies, epilepsy and insanity. I find that in the cases seen in private there is a family history of one or both in 47 per cent., in antecedents and present or past collaterals. The difficulties I have just mentioned justify the assumption that at least 50 per cent., and probably more, really present a family tendency. Among hospital patients the number is not more than 35 per cent., so great a difference does ignorance apparently make. In the facts presented the percentage was taken from 2400 cases, of which 600 were seen in private. Heredity was ascertained in 39 per cent. of 1193 males and 43 per cent. of 1207 females. These proportions are much less than have been ascertained by others who have included a larger number of diseases. It may be well to confine myself to the cases in which a parent suffered. Jeremy Taylor tells us in one of his sermons that "an epileptick son doth often come from an epileptick father." Of the total cases in which inheritance was paternal the father himself suffered in 40 per cent., when maternal the mother suffered in only 36 per cent. When epilepsy itself occurred in a parent it was the father who was epileptic in 49 per cent. of the cases, the mother in 51. The cases with insanity in a parent are only one-third the number with parental epilepsy. Of the cases with parental insanity, the father was insane in 37 per cent., the mother in 63. One effect of heredity is to increase the female cases. Where it was absent the excess of males amounted to 4 per cent., but in cases with heredity the same excess was presented by females. This is partly due to the fact that inheritance is more frequently from the mother's side by 13 per cent., and that then females are in excess by 18 per cent. The influence of heredity is sometimes strikingly emphasised by the number of sufferers in a family. In one instance six brothers suffered, their mother, two of her sisters, and both her parents. In another five sisters, five of their children, the mother, her brother's son, and her own mother.

Such facts might be multiplied almost indefinitely regarding many diseases. We are told we are working on an entirely wrong method. Diem states that he has found neuropathic heredity in nearly 70 per cent. of healthy persons. If he has included every conceivable malady that involves the nervous system it is quite credible but of no significance. It has been urged that the essential facts for every member of each generation must be recorded to make observations of value. We hope to learn much regarding method from those who are here to-day. They have devoted much time and much ability to the scientific study of heredity, and they may tell us how to make our own observations more effective.

Queen Anne street, W.

HEREDITY IN CANCER.[1]

BY E. F. BASHFORD, M.D. EDIN.,

GENERAL SUPERINTENDENT OF RESEARCH AND DIRECTOR OF THE LABORATORY OF THE IMPERIAL CANCER RESEARCH FUND.

THE successful application of the comparative and experimental methods appears to be greatly narrowing the field of inquiry and dismissing many explanations of cancer—previously held with good reason—from further serious consideration. Although this is the case, we still know very little as to its etiology beyond the fact that it manifests itself under the most divergent conditions and in such a way that we may have to entertain the possibility of several etiological factors, some of which are external and some internal to the body. To these factors we are only justified at present in assigning an indirect and mediate etiological significance. The most satisfactory explanation of the causation of cancer will probably be that implied by the accurate description of the nature of the transformation of normal into cancer cells when this advance in knowledge shall have been attained.

In surveying the incidence of cancer in the vertebrate kingdom one has been struck by the fact that certain forms of cancer appear to preponderate in different classes. It is, of course, obvious that the incidence of cancer in representatives of the different zoological classes must differ, since, e.g., structures peculiar to mammals are absent in other vertebrates. But if we consider the mammalia themselves, it appears probable that some species are very liable to forms of cancer, from which others even nearly allied are relatively or altogether exempt, as illustrated, e.g., by the variations in the frequency with which cancer of the uterus or mamma occurs. Cancer of the breast, so common in the human female, is also common in the mouse and dog, but practically unknown in the cow, which, however, suffers quite frequently from primary growths of the liver and adrenal. These tendencies are so constant that it is difficult to escape the conclusion that they depend on innate characters which are hereditarily transmissible, and there can be no doubt as to their etiological importance, although we cannot yet penetrate to their meaning.

Even in the same species we meet with similar idiosyncrasies—e.g., in the greater liability of grey than of other horses to melanotic sarcoma. It may, of course, be argued that these peculiarities in the incidence of the disease are determined by peculiar environment, or by the use to which the organs are put in different species, although this would hardly hold for grey as contrasted with other horses, the disease in question affecting only the pigment cells of the skin. If we compare the tame albino mouse with the wild grey mouse the incidence of cancer is parallel in them, although the two varieties live under very divergent conditions; therefore the liability of the mouse to carcinoma of the mamma appears to be due to an innate tendency.

When we compare the large natural groups of vertebrates, or even the species of the mammalia, the grounds on which we may assume that differences in the incidence of cancer are innate and hereditarily transmitted appear safe. But fits in heart-block in man (Adam-Stokes syndrome) and the relationship of the vagus to the fits. VII.: Methods of measuring the arterial pressure, the venous and the capillary pressures; the peripheral resistance, its seat and influence. VIII.: The filling of the heart, the influence of posture and muscular movement; back congestion; effect of plethora, hydræmia, and hæmorrhage.

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[1] A paper read before the Fellows of the Royal Society of Medicine on Nov. 18th, at the adjourned discussion on Heredity, with Special Reference to Cancer, Tuberculosis, and Disease of the Nervous S

United Kingdom Police Surgeons' Association.—The annual meeting of this association was held recently at 6, Catherine-street, Strand, when the following officers were elected for 1908–09:—President: Mr. H. Nelson Hardy. Vice-Presidents: Sir H. D. Littlejohn (Edinburgh), Dr. H. W. Oulton (Dublin), and Mr. F. W. Lowndes (Liverpool). Treasurer: Mr. J. Paul Bush (Bristol). Honorary Secretaries: Dr. W. H. Whitehouse (Birmingham) and Mr. W. Powell (Cheltenham). Council: Dr. Henry Barnes (Carlisle), Mr. J. M. Harper (Bath), Mr. W. J. Heslop (Manchester), Mr. E. K. Houchin (London), Dr. L. Maybury (Portsmouth), Mr. J. T. J. Morrison (Birmingham), Dr. T. F. Higgs (Dudley), Mr. H. W. Roberts (London), Mr. W. M. Roocroft (Wigan), Dr. C. Templeman (Dundee), Dr. T. Wallace (Cardiff), and Dr. J. F. Craig (Birmingham).

Midland Medical Union: Chesterfield Branch.—On the invitation of the Rev. E. F. Crosse, vicar of Chesterfield, the members of the Chesterfield branch of the above Medical Union attended service at the parish church on Oct. 18th (St. Luke's day). Amongst those who were present were Dr. G. Booth, Dr. J. G. Shea, Dr. D. M. Livingstone, Dr. A. Green, Dr. W. J. Symes, Mr. J. H. Booth, Mr. A. W. Shea, Mr. F. J. Waldmeier, Mr. M. L. Ford, Mr. R. Godwin Chase, and Mr. J. Buckley and the general secretary, Mr. G. S. O'Rorke, LL.D., of Nottingham. The mayor, Mr. Alderman Eastwood; the mayor-elect, Mr. Councillor Short; and the town clerk, Mr. J. Middleton, were also present. The lessons were read by Dr. G. S. O'Rorke (lay reader) and a sermon was preached by the vicar from the text St. Mark ii. 9 to a large congregation comprising over 2000 people.

University of Oxford.—Scholarships in Natural Science are announced for competition as under: Dec. 1st, Balliol College, Christ Church, and Trinity College; Dec. 8th, University, Lincoln, and Magdalen Colleges; Dec. 15th, Jesus College; March 9th, 1909, Keble College; March 16th, 1909, Merton, Exeter, and New Colleges.—In the recent competitions for University entrance scholarships that at the London Hospital was awarded to H. Scott Wilson, Queen's College; that at St. George's Hospital to G. H. Varley, St. John's College; and that at St. Thomas's Hospital to H. C. Bazett, Wadham College.—The degree days in the present term are: Thursday, Oct. 22nd; Saturday, Nov. 7th, at 2.30 P.M.; Thursday, Nov. 26th at 10 A.M.; and Thursday, Dec. 17th, at 10 A.M.—The Examination in Preventive Medicine (D.P.H.) will commence on Tuesday, Nov. 17th, at 10 A.M. Names must be sent in not later than 10.30 A.M. on Tuesday, Oct. 27th. Forms of entry and all particulars may be obtained from the Assistant Registrar, Old Clarendon Building.

Society for Relief of Widows and Orphans of Medical Men.—A quarterly court of this society was held on Oct. 14th at 11, Chandos-street, Cavendish-square, Dr. G. F. Blandford, the President, being in the chair. 19 directors were present. The death of a member of the society was reported. Three new members were elected. It was decided to give to the annuitants of the charity a present at Christmas in addition to their usual grants, each widow to receive £10, each orphan £3, and each orphan on the Copeland fund £5; a sum of £523 was voted for this purpose. Since the last court a donation of £330 had been received from Mrs. Cullingworth, whose husband, the late Dr. C. J. Cullingworth, had been a member of the society. A cordial vote of thanks was passed and a copy of the resolution was forwarded to Mrs. Cullingworth. The directors of the society cannot too strongly urge, especially on the younger members of the profession, the advantages of joining the society, the invested funds of which now amount to £100,000. Membership is open to any registered medical practitioner who at the time of his election is residing within a 20-mile radius of Charing Cross. The subscription is £2 2*s*. per annum, payable in one sum or in two half-yearly sums of £1 1*s*. each. There are special terms for life membership. Full particulars and application form for membership may be obtained from the Secretary, at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

Dr. W. A. Dingle has been unanimously chosen Mayor for the Borough of Finsbury.

Presentation to Professor T. G. Brodie.—At a meeting of the Physiological Society held at Guy's Hospital on Oct. 17th a testimonial was presented to Professor T. G. Brodie, F.R.S., in recognition of his services to physiology and experimental pathology, on the eve of his departure to Toronto where he has received the appointment of professor of physiology. The subscribers to the fund included not only members of the Physiological Society but also numerous old friends and colleagues at King's College, St. Thomas's Hospital, the Embankment Laboratories, the London School of Medicine for Women, and the Royal Veterinary College, in which places Professor Brodie holds, or has held, appointments. The sum subscribed amounted on Oct. 17th to nearly £80, and Professor W. D. Halliburton, who has been acting as the honorary treasurer of the fund, had the pleasure of handing to Professor Brodie a cheque for this amount, less a small sum which was reserved for the purchase of a more permanent memento of the occasion; it is intended that this memento shall take the form of a piece of plate and shall bear a suitable inscription. We understand that the fund is not yet finally closed and that Professor Halliburton (King's College, London, W.C.) will be glad to receive donations from any who may not have received copies of the circular which has been sent out and who may desire to participate in this token of regard for Professor Brodie.

Manchester Infirmary.—The last days of the old Manchester Infirmary have been marked by a gathering of old residents, possibly unique in hospital history. Out of the number of just over 400 medical men still alive who have held resident appointments there no fewer than 260 were present at the gathering held on Thursday and Friday, Oct. 15th and 16th, to bid farewell to their old hospital. On Thursday very successful photographs were taken under the walls of the old building, first of the 214 old residents present and then of those men who had been residents under the old *régime* up to 1878. Later in the afternoon tea was provided in the hospital by the honorary staff and the wards were thronged with former house physicians and house surgeons anxious to see the old place once more. A dinner was held in the evening at the Midland Hotel and here great enthusiasm was shown. Dr. S. Buckley (resident 1859-72) was President and Mr. F. Melland (1841-42), Dr. S. Nesfield (1855), Mr. W. O. Jones (1861-64) and Dr. Anderson (1862-63) acted as Vice-presidents. The tables were arranged in order of seniority, each being marked with a card giving the years of the men who occupied it. In several cases all the men of a year were present and in others only those were absent who were abroad. Besides the loyal toasts and that of "The President," proposed by Dr. H. A. Lediard of Carlisle, the toasts of the evening were "The Memory of the Old Manchester Royal Infirmary" (Dr. John Anderson of London and Dr. Peter Thompson of King's College, London); and "The Prosperity of the New Manchester Royal Infirmary" (Dr. A. E. Finney of Wilmslow and Mr. William Thorburn of Manchester). The excitement of such a large number of reunions of friends did not allow the speakers a good hearing. On the Thursday and Friday the new infirmary was open for inspection, the old residents being taken round in eight parties under the guidance of members of the honorary staff.

Royal College of Surgeons in Ireland.—The winter session in the College School commenced on Oct. 15th. The prizes of the previous session were distributed by the President, Mr. J. Lentaigne, as follows:—Barker Anatomical Prize: £31 10*s*., G. C. Sneyd; special prize: £26 5*s*., Miss I. M. Clarke. Carmichael Scholarship: £15, J. S. Pegum. Mayne Scholarship: £8, T. C. Boyd. Gold Medal in Operative Surgery: R. Adams; silver medals: C. Greer and G. C. Sneyd. Stoney Memorial Gold Medal in Anatomy: H. G. P. Armitage. Descriptive Anatomy, junior: J. Pendiville, first prize (£2) and medal;

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HEREDITY IN CANCER.[1]

By E. F. BASHFORD, M.D. Edin.,

GENERAL SUPERINTENDENT OF RESEARCH AND DIRECTOR OF THE LABORATORY OF THE IMPERIAL CANCER RESEARCH FUND.

THE successful application of the comparative and experimental methods appears to be greatly narrowing the field of inquiry and dismissing many explanations of cancer—previously held with good reason—from further serious consideration. Although this is the case, we still know very little as to its etiology beyond the fact that it manifests itself under the most divergent conditions and in such a way that we may have to entertain the possibility of several etiological factors, some of which are external and some internal to the body. To these factors we are only justified at present in assigning an indirect and mediate etiological significance. The most satisfactory explanation of the causation of cancer will probably be that implied by the accurate description of the nature of the transformation of normal into cancer cells when this advance in knowledge shall have been attained.

In surveying the incidence of cancer in the vertebrate kingdom one has been struck by the fact that certain forms of cancer appear to preponderate in different classes. It is, of course, obvious that the incidence of cancer in representatives of the different zoological classes must differ, since, e.g., structures peculiar to mammals are absent in other vertebrates. But if we consider the mammalia themselves, it appears probable that some species are very liable to forms of cancer, from which others even nearly allied are relatively or altogether exempt, as illustrated, e.g., by the variations in the frequency with which cancer of the uterus or mamma occurs. Cancer of the breast, so common in the human female, is also common in the mouse and dog, but practically unknown in the cow, which, however, suffers quite frequently from primary growths of the liver and adrenal. These tendencies are so constant that it is difficult to escape the conclusion that they depend on innate characters which are hereditarily transmissible, and there can be no doubt as to their etiological importance, although we cannot yet penetrate to their meaning.

Even in the same species we meet with similar idiosyncrasies—e.g., in the greater liability of grey than of other horses to melanotic sarcoma. It may, of course, be argued that these peculiarities in the incidence of the disease are determined by peculiar environment, or by the use to which the organs are put in different species, although this would hardly hold for grey as contrasted with other horses, the disease in question affecting only the pigment cells of the skin. If we compare the tame albino mouse with the wild grey mouse the incidence of cancer is parallel in them, although the two varieties live under very divergent conditions; therefore the liability of the mouse to carcinoma of the mamma appears to be due to an innate tendency.

When we compare the large natural groups of vertebrates, or even the species of the mammalia, the grounds on which we may assume that differences in the incidence of cancer are innate and hereditarily transmitted appear safe. But appliances indicated that the suppression of the use of opium implied recourse to other drugs in place thereof; and whether the Foreign Office was in possession of any information to show that this was the case.—Mr. J. A. PEASE (who answered on behalf of Sir EDWARD GREY) said: The prohibition of the general importation of morphine into China except on certain conditions, was agreed to by His Majesty's Government in Article XI. of the Commercial Treaty between China and Great Britain of 1902. The stipulation contained in that Article, that the prohibition should only come into force on all other Treaty Powers agreeing to its conditions, has, however, only recently been fulfilled. The edict has, therefore, no direct connexion with the measures adopted for the suppression of the use of opium. Whether the suppression of the use of opium in China, if successfully accomplished, would have to any extent the effect indicated in the question is a matter on which my right honourable friend cannot express an opinion. It is not implied in the edict.

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[1] A paper read before the Fellows of the Royal Society of Medicine on Nov. 18th, at the adjourned discussion on Heredity, with Special Reference to Cancer, Tuberculosis, and Disease of the Nervous System.

The Purity of Milk-supplies.

Sir FRANCIS CHANNING asked the President of the Local Government Board whether he had now completed the consultations with the Board of Agriculture as to dealing with tuberculous cows, and was now in a position either to bring in the Milk Bill at an early date or to take prompt and effective administrative action to secure greater purity in the supply of milk to the metropolis and the great centres of population.—Mr. BURNS (by written answer) replied: The matter is receiving attention, but I am not at present in a position to take action of the kind referred to in the question.

Sir FRANCIS CHANNING also asked the right honourable gentleman whether the report of the Royal Commission on Tuberculosis would be immediately issued; and if not, whether, having regard to the constant demands of local authorities for further powers to deal with this disease, whether as affecting the public health or cattle, and to the questions constantly raised by agriculturists, butchers, and others as to the losses caused by the persistence of this disease, he would press the Commission to report promptly and undertake to deal with the whole question of the extirpation of this scourge by national and adequate machinery at the earliest moment.—Mr. BURNS replied: I have made inquiry and am informed that no definite date can be fixed for the issue of the final report of the Royal Commission, but I understand that it is now preparing another interim report dealing with the infectivity of milk from tubercul[illegible] cows which will probably be presented next month. I will bring under the notice of the Commission the de[illegible]ressed in the latter part of the question with regard to its report.

MONDAY, OCT. 19TH.

Vaccination Cases in Cirencester.

Mr. LUPTON asked the President of the Local Government Board whether a medical officer, on behalf of the Local Government Board, had inquired into cases of children vaccinated in Cirencester, and if he ascertained that the result of the vaccination in the case of three or more children had been to cause terrible sores, eating the flesh to the bone; and if, in consequence of these and other similar cases, the quality of the lymph supplied by the Local Government Board had been changed.—Mr. BURNS replied: Three instances at Cirencester which called for inquiry were investigated by one of the medical inspectors of the Local Government Board. In two of them the vaccination places were long in healing, but the symptoms were not of a serious character. A large number of children were vaccinated from t[illegible]mphs used in these cases respectively without any such symptoms and the evidence indicates that in these two cases secondary contamination of the vaccination places occurred. In the third case there was deep ulceration at the site of vaccination. This, however, did not begin to show itself till subsequently to the ninth day after vaccination, and no adverse report has reached the Local Government Board in respect of any of the thousand or more children vaccinated from the same lymph as that used in this instance, although reports are required in each case. The home of the child was insanitary and overcrowded, and it appears to be clear that the vaccination places were secondarily infected by septic material. I am not aware of any need for changing the quality of lymph used by the Board.

Mr. ESSEX: Is the right honourable gentleman satisfied that these cases developed unsatisfactorily owing to the unsatisfactory conditions in which the children were?

Mr. BURNS: Our officers report to us that these symptoms were developed by uncleanliness.

The Destruction of Tuberculous Carcasses.

In answer to Mr. ABEL SMITH, who asked whether the Government was prepared to adopt the recommendations of the Select Committee on Tuberculosis as to compensation for carcasses condemned as tuberculous, Mr. BURNS said: Legislation would be necessary to give effect to that suggestion and I am not in a position to promise that such legislation will be proposed by the Government.

TUESDAY, OCT. 20TH.

The Medical Relief of the Poor.

Mr. SUMMERBELL asked the President of the Local Government Board whether he would state the number of cases in the coroners' returns of starvation cases, respectively, connected with Shoreditch, Holborn, and the whole of London; whether he had taken any, and, if so, what, steps to reduce the numbers in future; and whether he would suggest to the guardians of those unions that they should make it known to the poor that they were willing to give necessary relief, and especially medical relief, to the poor who needed it, in accordance with 43 Eliz., c. 2, s. 1, and 4 and 5 Will. 4, c. 76, so that the poor might apply before they became totally destitute.—Mr. BURNS replied: The latest return of the number of deaths upon which a coroner's jury returned a verdict of starvation or death accelerated by privation shows that in the year 1907 there were 46 such cases in the whole of London, of which eight were connected with Shoreditch and seven with Holborn. There appears to be no reason to suppose that the poor were unaware of the facilities for obtaining medical or other relief. In many of the cases mentioned in the return relief was applied for and given, but the application was made at too late a stage. I will give consideration to the matter, but it is difficult to see what effective action can be taken in respect of persons who are unwilling to apply for relief and whose cases are in no way brought under the notice of the guardians or their officers.

The Disposal of Sewage.

Mr. CLOUGH asked the President of the Local Government Board whether any further reports would be issued by the Royal Commission on the Treatment and Disposal of Sewage; and, if so, how many, and when did he expect to receive the final report; and whether he proposed to introduce legislation for the regulation of trade effluents into public sewers before he received the final report of this Commission.—Mr. BURNS answered: I understand that the Royal Commission proposes to issue a report in the course of the next three months on the disposal of distillery refuse and that in its final report it will deal with the disposal of other trade effluents when not mixed with sewage. The date of the issue of the final report cannot at present be given, but I do not think it will be necessary to await it before proposing legislation on the subject referred to in the question.

Trypanosomiasis and Syphilis in Uganda.

Mr. REES asked the Under Secretary of State for the Colonies how much of the grant in aid of £85,000 from the Imperial Exchequer to Uganda Protectorate in 1907–08 was expended on preventive measures taken against the spread of trypanosomiasis and syphilis; and how much of the like grant of £25,000 to Nyassaland was expended in preventing the spread of the former disease towards the latter Protectorate.—Colonel SEELY (in a written reply) wrote: A sum of about £11,000 was provided in the Uganda estimates for 1907–08 for the purpose of combating trypanosomiasis. An expert was sent out during the same year to report on the question of syphilis. His report has now been received and considered and a sum of £2000 has been inserted in the estimates for the current year for the purpose of providing better and more systematic medical treatment for the natives who are suffering from the [illegible] land, efforts were directed during 1907– [illegible] of trypanosomiasis in the countries bordering on the [illegible] of the various kinds of tsetse fly within the Protectorate. This information appears to be an essential preliminary to any proper scheme of prevention.

WEDNESDAY, OCT. 21ST.

The Inmates of Broadmoor Asylum.

Mr. MARKHAM asked the Secretary of State for the Home Department [illegible] een directed to a speech of one of His [illegible] many murderers were confined in Broadmoor Asylum [illegible] y sane; whether he would say whether the decision of the doctor of this asylum as to whether a patient was insane or not was final; and whether no examination either by a medical board or independent medical man was permitted.—Mr. GLADSTONE replied: I have seen a report of the learned judge's remarks and I think that the honourable Member has somewhat misapprehended their purport; but I may say in reply to his question that there are in Broadmoor persons guilty of murder who could not at the present moment be held to be insane, but who must be detained in Broadmoor in pursuance of the order of the court so long as there is a serious risk that, if set at liberty, they would relapse into the condition in which they committed the crime. In judging of the mental condition of patients I rely on the advice of the medical authorities who see them daily and who have exceptional experience of similar cases, and I should not be assisted by calling in other medical men who, however eminent, could not have the same opportunities of forming an equally trustworthy opinion. In any case, the present mental condition is by no means the only determining factor in deciding whether it is safe to release a man who in a state of insanity has committed a grave crime and who, if at large, might again become dangerous.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

Tuberculosis in Infancy and Childhood, its Pathology, Prevention, and Treatment. By Various Writers. Edited by T. N. Kelynack, M.D., M.R.C.P. Lond., Hon. Physician to the Infants' Hospital, Westminster. Price 12*s.* 6*d.* net.

A Manual of Surgery. For Students and Practitioners. By William Rose, M.B., B.S. Lond., F.R.C.S., Emeritus Professor of Surgery and Member of Council, King's College, London, and formerly Senior Surgeon to King's College Hospital, &c.; and Albert Carless, M.S. Lond., F.R.C.S., Professor of Surgery in King's College, and Surgeon to King's College Hospital, London, Examiner in Surgery to the University of London and to the Victoria University of Manchester, &c. Seventh edition. Price 21*s.* net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

A Dictionary of Medical Treatment. For Students and Junior Practitioners. By Arthur Latham, M.A., M.D. Oxon., M.A. Cantab., F.R.C.P. Lond., Physician and Lecturer on Medicine at St. George's Hospital; Senior Assistant Physician to the Brompton Hospital for Consumption and Diseases of the Chest. Price 8*s.* 6*d.* net.

A Manual of Bacteriology, Clinical and Applied. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Third edition. Price 10*s.* 6*d.* net.

CONSTABLE, ARCHIBALD AND CO., LIMITED, London.

From an Easy Chair. By Sir Ray Lankester, K.C.B., F.R.S. Price 1*s.* net.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, Dryden House, Gerrard-street, London, W.

A Text-book of Diseases of the Ear. By Macleod Yearsley, F.R.C.S., Senior Surgeon to the Royal Ear Hospital; Medical Inspector to London County Council Deaf Schools; Lecturer on Anatomy and Physiology to the Training College for Teachers of the Deaf, Ealing. Price 18*s.* net.

Tutonish. An International Union Language, under a Liberal Anglo-Saxon Leadership. By Elias Molee, Ph.D. Price 1*s.* net.

great variations in accordance with the frequency of cancer in their progenitors above and below the average given in the preceding table, the division of the population into groups with and without a family susceptibility would be practicable and the investigation of possible hereditary factors feasible in the case of man.

The segregation of the general population into such groups is, however, rendered very difficult, because the great frequency of cancer as a cause of death in adult life discounts very largely any value which might otherwise attach to a succession of cases or to its mere appearance and reappearance in a family as evidence of heredity; the peculiarities of its age-incidence make it difficult to know what proportion of relatives have suffered or would have suffered had they lived long enough. It is not so easy to ascertain how many attained to "cancer-ages" as it is to learn how many relatives, e.g., brothers and sisters, were born. It must be confessed that a segregation of families into those relatively liable to, and relatively exempt from, cancer has not as yet been satisfactorily attained, although attempted repeatedly. It is not difficult to collect a number of family histories of those who have suffered from cancer, but it is difficult to the point of impossibility to make these histories complete genealogical trees for three, and even for two, generations. What is of even more importance is the difficulty[2] of bringing the data for such limited members of families into relation with the population generally in a way which may justify a comparison between them, so as to be sure that cancer is really more frequent in some families than in others.

For the determination of the importance of heredity we are concerned with the comparison of the frequency of cancer in parents and children. It is immaterial whether we reason from groups of cancerous and non-cancerous children to their parents, or from cancerous and non-cancerous parents to their children. What we are seeking for is the evidence of the hereditary *transmission* of cancer and the relation between its occurrence in parents and children will be revealed as well by the one method as by the other if the data can be obtained. The evidence we have to rely on is, I am afraid, of a very imperfect kind and of the following nature. It may be considered under four heads corresponding to a grouping of the data obtained: (*a*) where no history of cancer was obtainable and the family history not properly recorded; (*b*) where no history of cancer was obtainable but the family history was recorded; (*c*) and (*d*) where a history of cancer was obtainable and the family history fully or imperfectly recorded.

In the two years 1906 and 1907 reports on 2932 patients suffering from malignant new growths in which the clinical diagnosis had been confirmed by microscopical examination were received by the Imperial Cancer Research Fund.

I. Of these 2932 cases the space assigned to records of the family history was not filled in at all, contained a record stating that the family history was doubtful as regards the occurrence of cancer in "ascendants" or "collaterals," or showed the family history had obviously been carelessly inquired into in 2263 cases. Therefore, in three out of every four cases there was either no knowledge on the part of the patient that near relations had suffered from cancer or carelessness on the part of the recorder of the incidents in the family history of the patient. It is *a priori* quite intelligible, as many investigators have stated, that the class from which hospital patients are drawn are ignorant of the causes of death and, even of the life-history of their ascendants and collaterals, the exigencies of existence causing them to fall out of touch with the family. The fact that no reliable statement was obtainable for 2263 out of a total of 2932 cases must be in the main referred to these circumstances, or to the circumstance that cancer as a matter of fact had not occurred in the family. The weight which will be attached to these alternatives will doubtless depend upon the bias of the inquirer. Those supplying the information to the Imperial Cancer Research Fund may be looked upon as reliable and unbiased observers and their inability to supply information was in all probability the consequence of insurmountable difficulties in attempting to elicit positive information. Nevertheless, the large proportion of patients corresponding to 4526 parents and a much higher but unknown number of collaterals in whom no evidence of cancer was obtainable is very striking. Even allowing for the imperfections of the records, these figures are an example of the kind of evidence which is advanced to show the occurrence of few cases of cancer in a large number of relatives. There are no data which permit us to deny that the 4526 parents of these 2263 cancer patients actually suffered from cancer in the same proportions as the general population—viz., 1 in 11 men and 1 in 8 women. The same may be said for the collaterals. The fact that no statement was made does not justify the assumption that the incidence of cancer in the parents of these patients was less than in the general population, and we must therefore restrict our reasoning to those family histories in which definite statements as to the occurrence or absence of cancer were made.

II. There remain 669 cases to be considered. It was definitely recorded for 358 patients, the number of whose brothers and sisters was also stated, and who, judging by this fact, were well informed of their family histories that no other case of cancer had occurred in the family. These 358 cases of cancer are therefore to be regarded as sporadic cases without heredity; 358 cases without family taint out a total of 699 families is such a high proportion that if su records are to be relied upon a family taint evidently is n the sole foundation upon which cancer develops.

III.-IV.—Cancer was recorded in one to four blood relativ of the remaining 311 cancer patients. Thus, out of 669 patien suffering from cancer whose family histories were obtainab cancer is recorded as having occurred in the relatives 311—i.e., in 50 per cent. But as we have already seen tl mortality from cancer is so great that in one of two cases cancer either a parent or grandparent will have died fro cancer without assuming hereditary predisposition. Henc the use made of such records to prove the occurrence of large number of cases of cancer in a selected number o families is not warranted.

The 311 patients with a family history of cancer had 35 cancerous relatives. The father was attacked 58 times an the mother 114 times, or 1 in 5·4 for fathers and 1 in 2· for mothers. This appears to be a very much higher rat than occurs in the general population for males and female above 35 years of age. A crude calculation of this kind appears to be the usual method by which the figures for family histories of cancer are utilised to bring out evidence of heredity. In it no account is taken of the families of the 358 cancer patients for whom complete histories were obtained, showing no occurrence of cancer in relatives. If it is, however, not justifiable to exclude them, since doing so appears to beg the whole question, then the 58 cancerous fathers and the 114 cancerous mothers occurred among the 669 male and 669 female parents of cancerous children, or 1 in 11·5 of the fathers and 1 in 6 of the mothers suffered from cancer. These proportions are as near those obtaining for the general population dying from all causes as can be expected from such crude data.

No detailed reference has been made to the numbers of additional cases of cancer recorded in the brothers and sisters of cancer patients, the reason being the very good one that no approximate estimate of their respective ages at death and no comparison with the general population is possible. It gives us no information whatsoever to find that 15 deaths occurred in 607 brothers born and 27 deaths in 596 sisters born, and we are no further if we take the brothers and sisters only of those patients who died over 50 years of age. However, Weinberg has been able to make an approximate calculation for cancer patients in the population of Stuttgart. In order to obtain a basis for comparison he ascertained how many deaths from cancer had occurred in the family of the deceased and also how many deaths from cancer had occurred in the families of their husbands and wives. According to data thus obtained there died from cancer of 100 relatives:—

	Of the deceased.	Of their husbands and wives.
Parents	6 6 per cent.	5 9 per cent.
Brothers and sisters	3 9 ,,	3 1 ,,

And he concludes that heredity does not play a dominant part. We have still to consider the importance attaching to

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[2] The difficulty is less when the question put is that of contrasting parents with the generation sprung from them, and with certain reservations it may be overcome in this case; but it is a counsel of perfection to assert that the question put should be a comparison between the frequency of canc the total number of relatives of one is a statement of a practi inquiry. The two statements, however, really involve one and the same problem.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeons for six months. Salary at rate of £65 per annum.

ISLE OF MAN ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, quarters, and washing.

LANCASHIRE EDUCATION COMMITTEE.—Two School Medical Inspectors. Salaries £250 per annum, increasing to £400, with reasonable expenses.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board and lodging.

LIVERPOOL EDUCATION COMMITTEE.—Two School Medical Officers. Salary £250 per annum.

LONDON COUNTY ASYLUM, Banstead, Sutton, Surrey.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

LUTON, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Resident Surgeon. Salary at rate of £80 and £120 per annum, with board and residence.

MENSTON, NEAR LEEDS, WEST RIDING ASYLUM.—Fourth Assistant Medical Officer. Salary £150 per annum, with board and apartments.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Grafton-street, Fitzroy-square, W.—Two Anæsthetists.

MIDDLESEX HOSPITAL, W.—Second Assistant in the Bacteriological and Clinical Laboratories. Salary £100 per annum.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Senior House Surgeon. Salary at rate of £100 per annum, with board, attendance, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Surgeon Laryngologist.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary £60 per annum, with board, residence, [illegible] laundry.

NORFOLK EDUCATION COMMITTEE.—Two Assistant Medical Officers. Salary £250 per annum and necessary travelling expenses.

PAPA WESTRAY PARISH COUNCIL, Orkney.—Public Vaccinator. Salary £90 per annum, with fees and house.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for Out-patients' Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester-square.—Assistant Dental Surgeon. Also Joint House Anæsthetist. Salary £30 per annum.

ROYAL NAVY, MEDICAL DEPARTMENT.—Fifteen Commissions.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Aural Surgeon.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SANITARY INSPECTORS' EXAMINATION BOARD.—Two Medical Officers of Health as Examiners.

SHEFFIELD, UNIVERSITY OF.—Demonstrator in Physiology. Salary £150 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ochiltree, in the county of Ayr; at Leuchars, in the county of Fife; at Ballaghaderrin, in the county of Mayo; and at Athlone, in the county of Roscommon. A vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, in regard to lead poisoning cases, for County Court Circuit No. 26 is also announced.

Births, Marriages, and Deaths.

BIRTHS.

CHAPLIN.—On Oct. 17th, at Angmering, Sussex, the wife of Clement W. Chaplin, M.D. Lond., *of a son.*

FORRESTER.—On Oct. 18th, at Bolton-street, Piccadilly, the wife of C. C. Forrester, M.B., Cairo, of a son.

LAWSON.—On Oct. 14th, at Harley-street, Cavendish-square, the wife of Arnold Lawson, F.R.C.S., of a daughter.

MADDEN.—On Oct. 15th inst., at 2, Pierremont Villas, Queen's-road, Broadstairs, the wife of Dr. F. C. Madden (Cairo), of a daughter.

MYERS-WARD.—On the 16th inst., at Kelvin House, Northwood, Middlesex, the wife of C. F. Myers-Ward, of a daughter.

DEATHS.

GLOVER.—On Oct. 14th, at Highbury-place, James Grey Glover, M.D., J.P., aged 76 years.

RIDER.—On the 18th inst., at 16, Garfield-terrace, Stoke, Devonport, Alonzo G. Rider, M.B. (London), M.R.C.S., L.R.C.P., aged 41 years, the elder son of Alonzo J. Rider, J.P.

TREVES.—On Oct. 14th, at Dalby-square, Margate, William Knight Treves, F.R.C.S. Eng., aged 65 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

During the week marked copies of the following newspapers have been received:—*Birmingham Daily Post, Springfield Daily Republican* (*U.S.A.*), *The Carlisle Patriot, Nottingham Guardian, Nottingham Express, Yorkshire Herald, Birmingham Post, Liverpool Post, Manchester Guardian, York Observer, Westminster Gazette, Leeds Mercury, Freeman's Journal* (*Dublin*), *Belfast News Letter, Lincoln Mercury, Taunton Mail, Liverpool Courier*, &c.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL MEN AND RUDYARD KIPLING.

To the Editor of THE LANCET.

SIR,—Referring to the report of Mr. Rudyard Kipling's brilliant and stirring address a few days since to the students of the Middlesex Hospital, perhaps I may be allowed to relate a story as an instance of the heroism which doctors can display under trying circumstances.

I have had the pleasure of meeting and being treated more or less by 22 medical men whose names I could recount, and therefore have had a pretty large experience.

The story is this. One of a large family, I had a younger brother subject to frequent attacks of hæmorrhage from the nose, and in those days the only means of saving such a sufferer from death seemed to be by plugging both nostrils. Indeed, some celebrities called to see the patient, and though they were pleased to call it a "very interesting case" they could not advise any other remedy, though one or two had been tried but failed. I can remember vividly being called up at about 3 or 4 o'clock one dark winter's morning with snow on the ground "to fetch the doctor." When I arrived at his house he put his head out of window, promising to come round as quickly as possible. My little part was to hold one of the lights at the bedside, but noticing that I was about to collapse he peremptorily ordered me to put down the light and go, which I did, and promptly fell into a fainting fit at the foot of the stairs. Recovering myself and meeting the doctor leaving the house, I tried to apologise for my weak behaviour but was told by him that few novices would pass through such an ordeal without the same result. The doctor said he had performed the operation under difficulty and expected we had thought him a little tardy in arriving, but all the time at the operation he had had his clothes pressing upon an abscess, and he had come through the snow and sleet leaving a wife at home in an almost dying condition.

Of course I may be wrong, but I can hardly conceive of more heroic behaviour on a battlefield, where acts such as these might be related in the newspapers to the public; but my story is only known to myself and a small circle of friends. The patient and doctor have passed away, but the patience of the former and the bravery of the latter can never fade from my memory. I may add that an old friend and physician had asked this doctor to make his fees light, as we were not in those days in what are termed comfortable circumstances. The bill arrived, with a graceful note accompanying it, saying the fees could have been made larger, but if we thought the bill too much, he would be perfectly satisfied with anything less we might hand him. I need hardly say that with such a man it was quite unnecessary, as the bill was so ridiculously small, and we insisted upon his taking a cheque for double the amount.

Hoping my story may interest and act as a stimulant to many a student,

I am, Sir, yours faithfully,

Oct. 17th, 1908. AN EASTBOURNIAN.

AN EARLY CLINICAL RECORD OF MYOMA OF THE UTERUS.

To the Editor of THE LANCET.

SIR,—The well-known record in the Gospels of the woman having an "issue of blood" (St. Mark v. 25, St. Luke viii. 43) is proof of the fact that myoma of the uterus was not only known in mediæval times, but that even then it was regarded as a peculiarly hopeless malady so far as medical treatment was concerned. A far earlier record, I believe, exists in the book of Genesis where the well-known clinical signs of a fibroid—viz., sterility for a number of years and obstructed labour—are mentioned and where the occurrence of severe hæmorrhage is strongly inferred. The patient in the case cited is Rachel, one of the wives of Jacob. Married soon after Leah, probably within a week of her sister, it was not until to the latter six sons and a daughter had been born that at last Rachel's hopes were realised and a son was born to her. If we allow a period of at least 10 years for this we shall be well within the probable limit, and during this time her sterility was a constant source of trouble to Rachel (Gen. xxx. 1), and what more probable than that she had had many miscarriages, for we find in her last fatal confinement that her midwife encourages her by saying "Fear not; thou shalt have this son also" (chap. xxxv. 17).

After 20 years in the service of Laban (chap. xxxi. 38) Jacob determines to leave and hastily mounting his wives and children on camels he sets out in secret, Rachel carrying with her her father's household gods. Laban pursues after the fugitives and after seven days' journey overtakes them and demands his teraphim. He insists on searching the tents for his lost treasures and enters the tents seriatim until at last he comes to Rachel's. The fearfully rough ride on camel back, combined with fear and agitation, had in all probability produced serious hæmorrhage or possibly an abortion, for we find Rachel reclining on the saddle or litter on which she had ridden, and making the excuse that owing to the "custom of women" being upon her (chap. xxxi. 35) she cannot rise. It is inconceivable that such an excuse would have been given or accepted for an ordinary menstrual period, but if a serious hæmorrhage had occurred, of which there was ocular evidence not only on her clothing but also on the saddle on which she had been riding, then it becomes apparent why she was not disturbed, for her appearance must have been one to

There are, therefore, constitutional conditions which are favourable, and others which are unfavourable, to the growth of cancer, and they can be induced experimentally at will. An analogous relationship may subsist between the subject of spontaneous cancer and the tumour—e.g., in man. Then the consequences of the circumscribed primary cancerous change would depend upon the condition of the "soil" in which it is taking place, from causes either within or without the body.

In conclusion, with nothing but negative evidence of the part played by inherited constitutional conditions before us, and with positive evidence of the important part acquired constitutional conditions can play in furthering the growth, perhaps the development, of cancer, we shall more profitably spend our time if we frankly seek to ascertain how they are acquired, than if we continue to preach the doctrine that they are inherited and that it is hopeless to contend against them.

THE INFLUENCE OF HEREDITY UPON TUBERCULOSIS.[1]

By ARTHUR LATHAM, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO ST. GEORGE'S HOSPITAL AND SENIOR ASSISTANT PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST, BROMPTON.

OUR knowledge on the influence of heredity upon tuberculosis is not precise. We can do little more than state certain more or less well-established facts and suggest possibilities. We know that the transmission of the tubercle bacillus from parent to child in utero is more common than was at one time supposed, but that it is so rare that it is a negligible factor. Certainly the number of instances in which there is clinical evidence of tuberculosis at birth is small. Thus, Schleuter in 1902 only succeeded in collecting 12 well-authenticated cases in man and 70 in animals. The theory that the children of tuberculous parents are born with tubercle bacilli within their bodies and that these remain latent for years is supported by insufficient evidence. It is in all probability true that several years may elapse between the date of infection and the appearance of definite clinical signs or symptoms, but it is impossible to prove that such infection took place before birth and not afterwards. We find that in the great majority of instances the organs of fœtuses born of tuberculous mothers give negative results when inoculated into guinea-pigs. If we neglect the rare instances of the hereditary transmission of the germ, what view are we take of the theory that the soil is transmitted, that there is a hereditary transmission of predisposition, constitution, or diathesis from tuberculous ancestors to their descendants? Modern knowledge has made such a theory less and less probable, for it is becoming clearer that the dominating factor in the incidence of tuberculosis is the opportunity for infection. We know of no instance of a naturally refractory animal or of an artificially immunised animal which is proof against infection by a sufficiently large dose of a sufficiently virulent strain of tubercle bacilli. Clinical experience leads us to the same conclusion in man. A general review of our knowledge shows that the greater the opportunities for infection the greater are the incidence and mortality of tuberculosis. It is difficult to give clean evidence of this, for the effect of environment cannot be wholly eliminated. Environment, however, merely acts by lowering the vitality and so makes a smaller dose of bacilli effective and diminishes the immunising capacity of the individual. The differing incidence of tuberculosis in different trades and in clean houses as against similar but dirty houses is suggestive of the part played by infection. So, too, is Cornet's investigation upon the death-rate from tuberculosis among certain religious orders devoted to nursing. In a review of 38 cloisters embracing the average number of 4028 residents there were 2099 deaths in 25 years. Of these no less than 63 per cent. were due to tuberculosis. Conversely we know that by limiting the opportunities for infection we can practically limit the incidence of the disease. Bang's classical experiment proves this. This observer isolated the calves born in a tuberculous herd and in this way was able to establish a herd which was free from tuberculosis. The same thing is shown by the effect produced by active preventive measures in man. Of recent years more active preventive measures have been adopted in New York City than in any other great town. As a result there has been a more rapid fall in the tuberculous death-rate in New York than in any great city in the world; and what is of interest to this discussion, there has been a decrease of 40 per cent. in the death-rate in children under 15 from pulmonary tuberculosis and tuberculous meningitis during the last ten years, notwithstanding the extraordinary difficulties—chiefly due to the immigrants—present in New York.

We know that infection can always be effective, no matter what the man's diathesis is, under certain circumstances, and we also know that in animals and in man the capacity for resistance differs in different individuals. Whether this difference of capacity for resistance depends on inherited characteristics or not in some instances, we know that whatever the resistance of a man may be to start with, it can be profoundly modified by various agencies. It is an established fact that a high mortality from tuberculosis in any community is always associated with imperfect sanitary conditions. Again, anything which leads to malnutrition leads to a lowered resistance and in consequence an increased mortality from tuberculosis. This is shown by the increase of tuberculosis which is associated with widespread unemployment and with overcrowded poor districts. Chronic diseases which are characterised by loss of nutritive capacity are stated to be associated with an excessive percentage of tuberculosis. Thus the incidence of tuberculosis is excessive in the insane, and the death-rate from pulmonary tuberculosis in young persons suffering from diabetes is stated to be greater than it is in non-diabetic persons of the same age. The influence of environment or disease would appear to act chiefly by lessening the resistance to infection and to be perhaps chiefly important in its effect upon the course of the disease. Environment in its most comprehensive term lessens the resistance to the disease, and hence it causes a greater number of persons to become victims of the ubiquitous infection. More important still, it reduces the immunising capacity of these victims, and hence persons who under better conditions would have acquired a partial immunity and so have been cured of the disease fail to get well, and by acting as carriers of the infective material lead to an increased incidence of tuberculosis. The influence of environment on the course of the disease was well demonstrated by Trudeau who found that rabbits inoculated with tuberculosis rapidly died if they were kept in a dark damp place, whilst others inoculated in the same way but allowed to run wild usually recovered. Similarly it is stated that efficient drainage of the soil at Salisbury, Ely, and Rugby was at once followed by a reduction in the mortality of pulmonary tuberculosis of 49 per cent., 47 per cent., and 43 per cent. respectively.

The parts played by infection and by environment are important when we come to the question whether persons who suffer from tuberculosis transmit a predisposition to this disease, because it is impossible to say whether these two factors have been given their true value in the various investigations made on this subject. Formerly the medical profession were convinced that a tuberculous taint was transmitted from one generation to another. At the present time our opinions are less dogmatic. If we look at infective disease as a whole we find little evidence on which to base the opinion that predisposition to infective disease is transmitted from parent to child. In syphilis it is true that the disease is transmitted in certain instances to the next generation. Such transmission is less frequent according as the parent has been adequately treated—that is, it varies directly with the degree of immunity acquired by the parent. Further, just as congenital tuberculosis is due to the direct transmission of the tubercle bacillus, congenital syphilis is due to the direct transmission of the spirochæta pallida. Lastly, inherited syphilis in the third generation is not an accepted fact. Those who hold that there is a hereditary predisposition to tuberculosis base their opinion largely, if not wholly, on statistics which purport to show the incidence of the disease—and chiefly of only one clinical form of the disease—in families of a tainted stock as compared with its incidence in families of an untainted stock. Several objections apart from the difficulty of excluding the influence of greater opportunities for infection and the

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[1] A paper read before the Fellows of
Nov. 18th at the adjourned discussion
ence to Cancer, Tuberculosis, and Disea

NORTH-EAST LONDON POST-GRADUATE COLLEGE, *Prince of Wales's General Hospital, Tottenham, N.*

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles). 4.30 P.M., Demonstration:—Dr. G. N. Meachen: Selected Skin Cases.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. Giles). *Clinics:—Medical Out-patient (Dr. Whiting)*; Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel). 4.30 P.M., Lecture:—Mr. H. W. Carson: Modern Methods of Treatment of Obstruction of the Large Intestine.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., *Surgical Operations (Mr. Edmunds). Clinics:*—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient Clinic (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.30 P.M., Special Lecture:—Dr. Rankin: Acromegaly, [illegible] Illustrative [illegible]

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Non-valvular Diseases of the Heart.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—The Treatment of Eczema in all its Forms.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. Tooth: Muscular Atrophy.

FRIDAY.—3.30 P.M., Sir V. Horsley: Surgery of the Nervous System

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), *Chelsea* (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), *City Orthopædic* (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (31st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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conditions of living now prevalent must have played some part in raising the resistance of the nation. Few will, I think, deny that part of this diminished mortality is due to improved medical knowledge and improved methods of treatment. It is unquestionable that a larger proportion of consumptives during this period have been cured in the popular sense of the term than formerly. As we are all infected at some period of our lives this tends to show that we have acquired a greater resistance to the disease. In other words, a larger proportion of sufferers have acquired at any rate a partial immunity to tuberculosis. Is it impossible that these people have transmitted a partial immunity to the disease to their descendants? This view was suggested by Dr. H. Maxon King at the London Congress on the basis of observations on 242 cases of tuberculosis which occurred in his own practice. It has so far received little consideration, but it merits investigation, for if there is any truth in it, it affords suggestive evidence to account for the fall in mortality in nations where adequate preventive measures are taken, and amongst which an increasing number of people are cured of the disease and so acquire for themselves a partial immunity.

Calmette's experiments throw a little light on this part of the question. This observer has shown that if an animal is infected with a dose of bacilli which is just sufficient to cause a lesion with which the animal is capable of dealing and from which it recovers, it is a matter of some difficulty to affect that animal with subsequent larger doses, at any rate of more difficulty than in the case of an animal which is in the first instance given a dose which is sufficient to produce a caseating lesion—that is to say, the first animal has acquired a partial immunity. The same thing is often seen in medical practice; for example, a child who has suffered from tuberculous glands and has got well is less likely, in our experience, than others to suffer from pulmonary tuberculosis in adult life. Man is therefore capable of acquiring a partial immunity to tuberculosis. Can he transmit this? As the immunity is partial we cannot expect much result in one generation if it is transmitted, but a succession of generations of persons with acquired immunity might lead to some transmission. In a community in which opportunities for infection are limited as much as possible and in which adequate medical treatment is rewarded by an increasing proportion of arrested cases—that is, of cases with an acquired partial immunity—it would appear that the incidence of tuberculosis diminishes. In a community in which fewer preventive measures are taken and in which medical treatment produces fewer cases in which a partial immunity is acquired, the incidence of the disease does not appear to show the same steady diminution.

If we look at infective disease as a whole there is some evidence to show that when such a disease has been endemic —as opposed to epidemic—in a community for a long period of time, it tends to become of a milder type. Thus syphilis is held by some to have become, in Sir Jonathan Hutchinson's words, a much less virulent malady in Portugal from this cause. The same thing is held to be true of small-pox, measles, and scarlet fever. Conversely, there is some evidence to show that when an infective disease is introduced to a new community—a virgin soil—it is of a more severe and fatal type than when it occurs in a community which, through many generations, has been accustomed to its prevalence. An example of this is the introduction of measles to the Fiji Islands in 1875. The natives had not previously suffered from this disease and this epidemic produced 20,000 deaths in four months. Another example is the introduction of syphilis to Greenland. So far as tuberculosis is concerned M. Cornil has reported that the natives of Patagonia did not know pulmonary tuberculosis before the installation of the English mission. The missionary's wife suffered from consumption. She collected a number of native children round her who were better fed, clothed, and housed than their brethren. In spite of this "a veritable epidemic of acute phthisis" appeared in their midst. M. Cornil states that the history of colonisation shows many other examples. One further instance is the report that of late years the incidence of tuberculosis has made enormous strides amongst the native population of South Africa who a few years ago were practically free of the disease. It is suggestive in the light of the above that Dr. Shrubsall has found, and my experience is the same, that an Englishman who contracts tuberculosis in the East, such as Singapore or a Chinese station, usually offers less resistance to the disease than the Englishman who contracts it in his own country, in spite of the fact that the consular reports seem to show that in the natives of these countries the disease is of a comparatively mild type.

My purpose has been to show that our knowledge on the subject of any hereditary influence on tuberculosis is far from complete. Certainly the evidence in favour of an inherited predisposition is not sufficiently strong to make me vary my practice of refusing to advise those who have suffered from pulmonary tuberculosis and who have acquired a partial immunity in the process of the arrest of the disease, to refrain from marriage.

A general survey of the whole subject suggests that the following conclusions are not wholly wide of the mark:—

1. The hereditary transmission of the germ is so infrequent that it is a negligible factor.

2. The incidence of tuberculosis depends in the main on two factors—(*a*) exposure to infection, which in turn is governed by the dose received and the virulence of the particular strain of bacillus; and (*b*) the undermining of the resistance of the individual by insanitary conditions and by disease.

3. The more adequate the preventive measures taken in any community the less are the incidence and mortality of the disease.

4. The more adequate the medical treatment—that is, the greater the proportion of persons in whom the disease has been arrested and who have thereby acquired a partial immunity—the less are the incidence and mortality of the disease.

5. As at death we all, or nearly all, show evidence of having at some time been infected with tuberculosis, and as most of us are able to overcome the infection, it is clear that the diminished opportunity for repeated infection, brought about by preventive measures and better medical treatment in this country, cannot wholly account for the diminishing incidence and mortality of the disease.

6. There is some evidence to suggest that the diminishing incidence and mortality of the disease may be in part due to a partial immunity inherited in the course of generations from tuberculous ancestors in whom the disease has been cured.

7. The theory that there is an inherited predisposition to tuberculosis is based on insufficient evidence.

Portland-place, W.

VICIOUS CIRCLES ASSOCIATED WITH DISORDERS OF THE DIGESTIVE SYSTEM.[1]

BY JAMIESON B. HURRY, M.A., M.D.CANTAB.,
PRESIDENT, READING PATHOLOGICAL SOCIETY.

DISORDERS of digestion are usually complicated by the presence of vicious circles. This liability arises in part from the interdependence of the chemical, physical, and vital processes associated with digestion; in part also from the close sympathy between the gastro-intestinal tract and other organs, even the most remote. Disease here sooner or later breeds disease there, action and reaction being in continuous operation. The vicious circles associated with digestion are too numerous to be dealt with exhaustively in a brief paper; but some typical examples will direct attention to the importance of the subject and to its bearing on diagnosis, prognosis, and treatment. For practical purposes a regional classification such as the following will be found convenient[2]:—

Group I., circles associated with the mouth.
Group II., circles associated with the stomach.
Group III., circles associated with the intestines.
Group IV., circles associated with the rectum and anus.

GROUP I.—*Circles Associated with the Mouth.*

To this group belong some circles of interest both to the medical and to the dental practitioner. Oral sepsis,

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[1] A paper read before the Reading Pathological Society, Nov. 12th, 1908.

[2] I have elsewhere suggested a classification of vicious circles based on their mode of origin (chemical, infective, mechanical, neurotic circles, &c.). Illustrations of most of these will be found below. Cf. Brit. Med. Jour., 1907, vol. i., p. 1104.

Three Lectures
ON THE
PATHOLOGY AND TREATMENT OF DIABETES MELLITUS, VIEWED BY THE LIGHT OF PRESENT-DAY KNOWLEDGE.

Delivered before the Royal College of Physicians of London

BY F. W. PAVY, M.D. LOND., LL.D. GLASG., F.R.S.,
CONSULTING PHYSICIAN TO GUY'S HOSPITAL; HONORARY PHYSICIAN TO KING EDWARD VII. HOSPITAL.

LECTURE I.

Delivered on Nov. 17th.

MR. PRESIDENT, COLLEAGUES, AND GENTLEMEN,—A faulty metabolism of carbohydrate stands at the foundation of the elimination of sugar that occurs in connexion with diabetes. When carbohydrate food is properly metabolised, it is placed in a position to be applied to utilisation and becomes lost sight of in the system. Not so in diabetes. Here the carbohydrate food fails to pass out of the condition of carbohydrate and filters off from the body with the urine in the form of sugar. To obtain a knowledge of where the fault lies, and what it consists of, it is requisite that we should have a knowledge of what transpires in connexion with the normal disposal of carbohydrate. This matter falls in the domain of physiology, and to physiology we have therefore in the first instance to look, for the groundwork to proceed upon. Such is the position in which physiology stands in relation to the subject to be dealt with, and unless we are here led in a right way, we cannot expect to be placed upon right ground for dealing with the problem before us.

By observation and methodically arranged experimental work, we obtain a knowledge of facts, and by the application of our reasoning power to these facts, we deduce from them governing laws or principles of action. As an outcome of the completion of this

INDUCTIVE METHOD

of procedure, the recognised facts no longer remain as isolated items of consideration, but fall into a correlated series, mutually linked together and fitting in with and supporting the deduction that has been formulated.

With the discovery of a law of action, an insight is given which constitutes a source of power by enabling us, through the agency of a designed modification of the conditions, to bring about a desired result. For instance, whilst nothing was known in the case of fevers, and such-like diseases, about the connecting microbe link standing at their foundation, we could only deal with them in an empirical way, and remained powerless to exert any intrinsic control over them. As soon, however, as their dependence upon the presence of a bacterial organism was discovered, a basis was supplied for a systematic extension of knowledge, which, spreading out in various directions, has vastly increased our power in the exercise of our medical art.

Diabetes constitutes the result of an erroneous procedure connected with the application of carbohydrate to the purposes of life It falls within the province of physiology to reveal to us the nature of the procedure normally taking place, and necessarily we must possess this knowledge before we can stand in a position to comprehend the nature of the error that is productive of the disease. The art of medicine, therefore, which is concerned in rectifying the effects of the error, appeals to physiology for a rational basis upon which to work, and for the attainment of working success, everything hinges upon the soundness or otherwise of the teaching supplied.

At first the disease was only known through the bodily symptoms produced, and it remained, till what may be spoken of as a not far remote date, for sugar to be recognised as an eliminated principle in the urine. Without any guiding conception as to the nature of the disease, it afterwards became empirically found out that

FOOD CONSTITUTED AN INFLUENCING FACTOR

in connexion with treatment. In 1848 our countryman, Dr. Prout, said "the first and chief point to be attended to in the treatment of diabetes is diet." Bouchardat of Paris in 1841 introduced gluten bread and gave cases to show the beneficial effect of its employment in the place of ordinary bread. At this epoch, a great move was made by the announcement in 1848 of Bernard's glycogenic doctrine, which formed the starting point for the active and widespread prosecution of the varied researches which have brought us to the position in which we now stand.

Without the knowledge of why or wherefore, experience, as I have said, had begun to suggest that dieting attended with a restriction of carbohydrate food, produced a beneficial effect as a measure of treatment in diabetes. To this the glycogenic doctrine gave no support, seeing that it implied the passage of the food carbohydrate through the circulation to the tissues in the form of sugar and the production of sugar by the liver when carbohydrate was not supplied from without. Thus it was considered to be an essential condition of life that sugar as a force-producing agent should be constantly flowing through the circulation for the purpose of utilisation by the tissues, and the mode of experimenting then adopted, and relied upon, sustained this view. I need not here enter into the consideration of the fallacious character of the evidence upon which the glycogenic doctrine was built. I have shown in my recent work on "Carbohydrate Metabolism and Diabetes" that the propositions originally formulated can be indisputably asserted to be no longer tenable.

It has been said that, at the time of the promulgation of the glycogenic doctrine, experience had commenced to point to the benefit derivable from the restriction of carbohydrate food in the treatment of diabetes. Reasoning based upon this doctrine now stepped in to exert a neutralising effect. See, for instance, the line of argument adopted by M. Rigodin and quoted in the first edition of my work "On the Nature and Treatment of Diabetes." Because the experimental work of the period had shown, as it was thought, that the presence of sugar in the economy was indispensable to life, M. Rigodin considered it rational to allow a diet in which sugar-forming substances entered largely upon the ground that patients suffering from the disease were losing large quantities of sugar.

The same kind of mischievous idea, as it may be truly styled, is found to have place in certain quarters even at the present time—viz., amongst those who take falsely grounded physiological views as their standpoint instead of the teaching derived from the facts revealed by the actual effect of food on persons suffering from the disease.

In support of this assertion let me refer to the recently published work

OF PROFESSOR VON NOORDEN

on diabetes mellitus. At page 81 of the English translation by Dr. Boardman Reed, 1906, the following words are to be found:—"Secondary over-production of sugar, on the other hand, plays an important part in diabetes. The cells (of the body) are everlastingly hungry for sugar, although they are immersed in a medium which contains an abnormally large amount of it. They cannot avail themselves of this sugar for reasons that have been already discussed. Consequently they are continually signalling for the mobilisation of fresh quantities. Where the carbohydrates of the food and the stored-up glycogen can no longer supply the demand, as is the case in all severe forms of diabetes, then proteid, and, as a last resource, fat are called upon to yield sugar. Thus groups of atoms are claimed for this purpose which are usually of service for other purposes. This process may be designated a secondary over-production of sugar."

Here, verily, is an illustration of the kind of dilemma that the glycogenic doctrine may give rise to. It is assumed under it that sugar in a free form has to be constantly flowing into the system to meet a demand existing for it. It is further assumed that, accompanying this flow, there is a concordant removal of the sugar as it is passing through the systemic capillaries, and that diabetes is the result of an error at this point, leading to a non-consumption of the sugar. Notwithstanding, in the state of things portrayed, the system is over-burdened with sugar and gravely disordered from its presence, it is paradoxically contended that more is wanted, and that the want should be met by the supply of carbohydrate from without, and if not met in this way, that protein and fat are called upon to yield it.

At present I will not pursue this matter further, but will leave it till other questions have been considered, and a more origin, protracted and uncontrolled repose may so derange the gastric functions and affect the general health that all inclination for mental and physical exertion vanishes. The patient becomes pre-occupied with his or her own sensations to the exclusion of other interests and affections. A vicious circle is soon established between the psychical condition and the digestive functions of the body. Gastric hyperæsthesia is frequently met with under these circumstances as Mathieu[12] points out: "La douleur, la diminution du coefficient général de la nutrition, l'inquiétude sur leur santé amènent souvent l'éclosion d'un état de nervosisme. ...... Ce nervosisme ainsi accru est une cause nouvelle d'hyperesthésie stomacale, de douleur plus intense et de spasme du pylore. C'est un cercle vicieux dont les affections dyspeptiques présentent de fréquents exemples."

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Lastly, one of the gravest of vicious circles accompanies a degenerating myocardium, a circle that may begin imperceptibly and steadily widen until it involves well-nigh every organ. *Vires acquirit eundo.* Gibson[14] thus describes it: "Sooner or later, according to its form and severity, chronic valvular disease with compensation itself disposes to failure, by establishing a vicious circle of slow progressive impairment of the viscera and their great vital functions—the lungs, liver, stomach, bowels, kidneys, indeed the myocardium itself."

Some drugs and food accessories create vicious circles, which from their origin may be termed artificial. Alcoholism, for example, excites gastric irritation and anorexia. This condition is followed by a sense of exhaustion and disinclination for work which tempts to further indulgence. At a later stage the chronic atony and dilatation of the stomach,[15] with the circles that have already been described, are apt to follow, and if the misguided victim still flies to the bottle for relief he but pursues a will-o'-the-wisp that will lure him to destruction. Tea is also associated with a circle, especially when infused long and drunk strong as in Ireland. For the resultant dyspepsia further recourse to tea is the usual remedy, a fresh brew being used to remove the very symptoms that former brews have produced. The morphia *habitué* is ensnared by the toils of a habit-circle from which escape is all but hopeless; for this drug, while satiating the immediate craving, creates an appetite for further indulgence and weakens that self-control without which no salvation is possible. A curious condition sometimes accompanies morphia poisoning due to hypodermic injection. A large proportion of the drug is first excreted into the stomach and intestines; it is then reabsorbed and re-excreted, thus setting up a vicious circle.[16] The injudicious administration of anodynes and narcotics may excite some reciprocal relations. For example, if insomnia, caused by dyspepsia, is habitually treated by opium or chloral a secondary dyspepsia may be provoked which keeps up the insomnia. Again, if in ptomaine poisoning the irritation is allayed by sedatives, when the irritant should be removed by an emetic or a purge, the result may be a prolonged retention and increased absorption of the poison leading to a further use of the sedative.

A mechanical circle may be caused by a stretching of the mesentery across the duodenum in cases of gastrectasis: "In some of the cases of acute paralytic dilatation of the stomach it would appear that the small intestines have been driven downwards and backwards into the pelvis by the enlarging organ, and that the mesentery has been drawn tightly across the duodenum. In such cases, in addition to the stomach, the duodenum is distended to the point at which it is crossed by the mesentery, and a vicious circle is thus established."[17] Albrecht[18] draws attention to a curious circle arising in such cases of obstruction owing to the fact that any water that is imbibed cannot reach the intestines, and consequently is neither absorbed nor quenches thirst. The result is that the unallayed thirst causes more water to be drunk, producing increased distention of the stomach, increased obstruction, and increased difficulty in satisfying thirst.

GROUP III.—*Circles Associated with the Intestines.*

Various circles referred to in Group II. apply *mutatis mutandis* to the intestines and need not be further described. Amongst such are the reciprocal conditions associated with visceral congestion and a failing myocardium, with defective peristalsis and fermentation of the ingesta, with enfeebled nutrition and dyspepsia, &c. Other circles only concern the intestines and are largely dependent on anatomical relations. Ordinary colic caused by the arrest in the bowels of some irritating food supplies a common example; indeed, any cause of increased motor activity of the intestine can set up colic, since "every acceleration of peristalsis in the upper loops causes an accumulation of contents and increased pressure in the adjacent intestine. A *circulus vitiosus* results: the peristalsis increases the stasis above the obstacle and the stasis excites the peristalsis.[19] Again, when a coil of intestine is strangled by a band of adhesion or a hernial ring its lumen is soon distended with blood and products of decomposition. As the resulting tension on the intestinal walls increases fresh coils of gut with their mesentery are drawn into the ring and in their turn strangled and distended. As the ring tightens the distension increases; as the distension increases the ring tightens.[20] A similar condition accompanies volvulus, which both causes, and is maintained by, meteorism.

Another circle is met with in intussusception, where the intussusceptum excites the intussuscipiens to vigorous peristalsis. The peristalsis in turn increases the length of the invaginated intussusceptum, cause and effect acting and reacting reciprocally on each other. In the case of hernia the ring tends to enlarge every time the gut descends, which enlargement facilitates a re-descent of the gut. A strangulated hernia associated with secondary vomiting supplies another example, since the strangulation provokes the vomiting and the vomiting increases the strangulation.

The close connexion between the intestines and the central nervous system is seen in membranous colitis with its frequent nervous complications. In fact, the local and the neurotic condition appear often to play into each other's hands, as Mathieu[21] points out: "Dans la côlite mucomembraneuse ...... il semble toutefois y avoir là souvent un veritable cercle vicieux; le nervosisme et l'affection colique retentissent l'un sur l'autre et s'exagèrent réciproquement." And again: "La côlite, les douleurs qu'elle provoque, les troubles de la nutrition qu'elle amène, sont de nature à créer ou à entretenir l'état nerveux. Le nervosisme à son tour exagère les phénomènes de côlite: c'est un cercle vicieux." Manson[22] has drawn attention to a "vicious pathological circle" associated with sprue, especially as met with in the half-starved populations of Eastern countries. In sprue digestion and assimilation are early affected, leading on to tissue starvation and in time to destruction of the secreting and absorbing mucous membrane of the alimentary canal. "As a result of this destruction ...... digestion and absorption cannot be effected; thus, so far from proving a benefit to the starving, good food and plenty of it does but precipitate death, inducing by its mechanical and chemical effects further irritative changes in the starved and eroded bowel."

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[16] Allbutt and Rolleston: System of Medicine, vol. ii., part ii., pp. 942-3, 956.

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[21] Traité des Maladies de l'Estomac et de l'Intestin, pp. 288, 304.

[22] Allbutt and Rolleston: System of Medicine, vol. ii., part ii., pp. 550, 557.

sugar into the circulation, it becomes at once proportionately apparent through the medium of the urine.

In the healthy state, the carbohydrate taken into the stomach does not reveal itself either in the blood or in the urine. There may be—say 200 or 300, or there may be 600 or 700 grammes taken, and the condition as regards both blood and urine remains unaltered, although as small a quantity as 1-4000th of the weight of the animal intravenously injected, in a pronounced manner affects them.

In diabetes, on the *other hand*, the carbohydrate *reaching the stomach* is *followed with the same* result as on being intravenously injected. This constitutes

THE ESSENTIAL DIFFERENCE BETWEEN HEALTH AND DIABETES

In the latter, *the* carbohydrate taken as food shows itself in the blood and urine, just as it *does* when *introduced in a* direct manner into the circulation.

Cases of diabetes *present* themselves in which a *certain* amount *of carbohydrate* can be ingested without producing any *discernible* effect. Taken within the specific amount, it follows the course that it does in health and becomes subsequently lost to view. Taken, however, beyond the special amount, the result observed is the production of glycosuria corresponding to the extent to which the carbohydrate has surpassed the extreme amount from which no glycosuria follows. *Up to a sharply* defined point, the carbohydrate taken in these cases behaves *as* it does in *the* healthy subject, and fails to be subsequently recognisable, whilst that which is taken in excess of the defined *point* flows *off in the form* of sugar with the urine just as it does in a bad case of diabetes, and just as it would do if introduced by injection in a direct manner into the circulation.

Here, then, carbohydrate within a certain limit comports itself *as it does under* normal conditions, and beyond the limit, takes the course that is followed in diabetes. An intervening line exists between the normal and the abnormal *states*, and it is *interesting and instructive* to give attention to the *facts* observable *in connexion* with the transition from *the one to the other*. To watch the condition closely, the circumstances should be such as *to permit* of the transition point being discernible. Cases vary much as to where the boundary line denoting

THE *TOLERATION POINT OF* CARBOHYDRATE

lies. The tolerating power may be little, or it may *be considerable*. In either case, the result *is* the same on overstepping the boundary line existing, and in the phenomenon, an explanation is seen of the *modus operandi* of the diet testing resorted to by the physician for the supply of diagnostic information in connexion with diabetes. For the sake of illustration, I will cite the following two examples, which show how quickly the change is wrought, and how marked is the effect that may be produced by a limited amount of carbohydrate.

The subject of *a mild* form *of* glycosuria—*that is*, a person who could *partake* to a fair extent of carbohydrate without passing sugar, partook at breakfast, which was finished at 10 A.M., of fish, some toast, a tablespoonful of raspberry jam, and a cup of tea with one piece of sugar in it. The time *of* his visit to me was 10.15 A.M. At 10 20, he passed some urine, which gave no reaction with *Fehling's* solution. Thinking, however, that sugar would be likely to show itself, I purposely prolonged the consultation and obtained urine again at 10.40. This was found to contain 32·8 per 1000 of sugar. It was, probably, to the sugar *taken*, and not the starchy matter, that the high figures were due, sugar being ready for immediate absorption whilst starch has to undergo a preparatory conversion into sugar. With reference to the figures, it has also to be taken into account that urine having been passed at 10 20, that which was obtained at 10 40 represented secretion *unmixed* with urine secreted before the food was taken. The urine of 10.20 would partly consist of this latter, and probably if it had not been present to dilute the other, a certain amount of show of reaction would have been obtained.

In the other case, the patient, 53 years of age at the present time, has been the subject of diabetes for seven years. During *the last* four years, full restriction from carbohydrate food has been necessary to keep the urine free from sugar. The patient resides in Ireland, and for business purposes comes to London about twice a year, upon which occasions it is usual for him to fall under my notice. I observe from my notes that on Sept. 27th, 1904, night and morning specimens were brought for examination and were found to be free from sugar. Curiosity *had* led the *patient* to take a little toast at *breakfast to* see if it would affect the urine, and I *find it noted* that urine passed a short time afterwards gave a *slight reaction* with Fehling's solution.

Having started with the *trial of* the effect of toast in the manner *mentioned*, he continued to carry it on at his subsequent visits, and I will give the precise results that have been observed. April 11th, 1905, no sugar was found in the night and morning specimen of urine brought for examination, whilst two hours after breakfast, at which a single piece of toast was taken, the urine contained 10·9 per 1000 of sugar. Oct. 9th, 1906, the night and morning specimens brought gave no reaction of sugar. Breakfast *had* been taken at eight, and included the test piece of toast. Some urine was passed at *8.30* and *9.30* and was brought mixed together. It gave a trace of sugar reaction. *Urine* was again passed at 10.30 during the visit, and this was *found to contain* 19·2 per *1000 of sugar*. March 13th, 1907, the night and *morning* specimens *gave no* reaction of sugar. Breakfast with the toast as before was taken at 9.15. The urine collected at 10.10 *contained* a trace *of* sugar, and that passed at 11, 10·9 per 1000. Oct. 8th, 1907, the patient breakfasted in a like manner to previously at 8.15. The night and morning specimens were free *from sugar*. Urine collected at 9.15 contained 7·8 per 1000, and that passed at 10.45, 12·5 per 1000.

This case exemplifies the remarkable steadiness associated with the elimination of sugar in diabetes. Here is a patient who, during a period of observation *extending* over three years, was found to pass no sugar whilst on the *properly* restricted *diabetic* diet, *and almost* immediately after
starchy *food in the limited* quantity named, passed ur
containing a decided amount of sugar. The facts
stand in strict accord with common experience in such case
There is a sharp line limiting *the extent* to which carbo
hydrate can be taken without affecting the urine, and it
within the bounds of possibility for the limiting line to
no variation not only for weeks and *months*, but even fo
several years. There is much diversity in *different*
with respect to where the line stands, but *no* matter wh
may be its position, as long as the carbohydrate tak
falls within the particular boundary existing, the
remains unchanged, whilst *if the* boundary is overst
by ever so little, the urine affords an indication of
fact.

In the instance of the particular case upon which th
remarks are founded,

THE BOUNDARY LINE

comprises the carbohydrate present in *the* diabetic
employed by the patient, *for it must be taken as* understo
that it is impossible absolutely to exclude all carbo
matter, however rigidly framed a diet may be. The amo
of toast that sufficed to produce the results that have
narrated may, from the statement made to me by th
patient, be computed at about 15 grammes, or a little
half an ounce. I find that ordinarily made toast cont
about 28 per cent. of water, and making deduction for
water, *the* 15 grammes will *contain* 10·8 *of* dry
matter, which, reckoned to contain *82* per *cent. of starch*
gives 8·8 grammes as the amount of carbohydrate produc
tive of the effects upon the urine described.

Interposed between the seat of elimination of sugar wi
the urine and the *seat of* absorption of sugar *from*
alimentary canal, we have the contents of the circulat
system. All are agreed upon the point that, in the gly
under consideration, the sugar escaping with the urine
derived from

SUGAR PRE-EXISTING IN THE BLOOD.

What is meant *then* by the appearance of sugar in the urin
is that it was previously present in the blood as a *result o*
the carbohydrate food taken, and, *reciprocally*, it may
said that the *presence of sugar in the blood leads to its pro*
portionate presence in the urine. That the two go togethe
is shown by the effect of the direct experimental introduc
tion of sugar into the circulatory system, and confirmed b
rational deduction from the molecular-sized condition o
sugar and water viewed in relation to the eliminati
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other small molecular bodies in escaping

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GROUP III.—*Circles Associated with the Intestines.*

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[22] Allbutt and Rolleston: System of Medicine, vol. ii., part ii., pp. 550, 557.

by insertion in italics, runs: "*The balance of evidence stands in favour of Bernard's theory.*"

No useful purpose will be served by entering into the details of the argument adduced. What are complacently spoken of, in the aphoristic propositions, as "facts," and "proofs," constitute, in reality, assumptions of the same order as those I have just been considering, and I *do not* admit that a faithful representation is given of the grounds of contention that emanate from me. The whole thing, in fact, stands upon too illusory a footing to permit of any conclusion bearing even an approach to substantiality being deducible.

A derisive footnote against my diction is inserted at p. 337 which I *do not feel disposed* to allow to pass unnoticed. The words of the footnote run: "He (Pavy) considers the intestinal epithelium the first barrier against the passage of *sugar into the blood*; what escapes *this* retention filter (*sic*) being caught up by the liver." I have searched and can nowhere find the solecism alleged to have emanated from me, and the style of expression is not such as I can recognise as belonging to me. I suggest that it has much more the aspect of coming from the writer himself, and possibly "caught up" since his transfer from the Physiological Department at the London Hospital to that at Chicago.

There is one point in the argument that ought perhaps to receive consideration because, from the frequency with which I have seen it referred to, it seems to constitute a stock datum for employment in support of the glycogenic theory. "*Thirdly*," the *text* runs, (p. 336) "the percentage of sugar in the blood of the hepatic is greater than that of the blood in the portal vein when no absorption of food from the intestine is in progress." In the criticism of what I have advanced upon this point, it is contended, that the quantitative analysis of the blood for sugar is a process which is technically very difficult and is subject to a considerable experimental error. Neither of these *propositions* I admit, but am content to let them pass. Then it is argued that if "the liver should add dextrose to the blood of the hepatic vein, the percentage increase *of* sugar thus created could be only very slight, on account of the enormous amount of blood which passes through the organ."

PROFESSOR HALLIBURTON,

whose writings we must all consider, whether agreeing with them or not, as entitled to respect, in his article on the subject of diabetes from the physiological standpoint, in the *Practitioner* for July, 1907, in a similar way deals with my having been unable to find more sugar in the hepatic blood than in the portal blood, saying (p. 3), "Other observers have found an increase in the sugar of the blood leaving the liver, but the estimation of sugar in a fluid rich in proteins is admittedly a matter of difficulty. Even (as the late Sir Michael Foster put it) if the increase is as small as hardly to be detected, it must be remembered that the whole blood of the body passes about once a minute through the liver, so that a very small increase each time would mount up to a large total."

The matter in question bearing

ON THE RELATION OF THE HEPATIC TO THE PORTAL BLOOD,

has become, with the progress of time, to a considerable extent shifted from the position it originally held. In the renowned experiment for showing the *sugar*-producing action of the liver, the animal was killed, and blood was afterwards collected from the portal and the hepatic veins. The two specimens were heated in capsules with sodic sulphate, and clear liquids obtained *for testing* with the copper solution. As a result, the contents of the test tube belonging to the portal blood were seen to retain their original blue colour, whilst those of the other showed the production of a copious orange yellow reduction. Upon this basis, and the fact that the liver gave strong evidence of containing sugar whilst the other organs did not, the glycogenic function was founded. The experimental collection *of blood* by catheterism during life constituted a measure employed by me to show that the hepatic vein blood during life was not in the condition that it had previously been assumed to be from the experimental collection after death. Such was the object of the experiment, and with the portal and hepatic venous blood examined side by side, no *difference* of behaviour was discernible between the two.

In reality, the proposition under consideration amounts to this. Without the supply of any fresh evidence in connexion with the matter, and upon the strength of the assumption that the hepatic venous blood contains more sugar than the portal blood, it is suggested that the amount of difference may be so small as to escape being susceptible of recognition by *analysis*, and yet, on account of the large volume of blood *passing* through the liver, the result might be attended with a large amount of sugar reaching the circulation. The superficial plausibility of this suggestion has produced a widespread effect upon the physiological mind and encouraged the idea that the proposition might in truth be looked upon as valid. The question has not been asked as to what would follow if the suggested passage *of sugar* into the circulation in reality took place.

In *former times*, when it was held that an active disappearance of sugar occurred during the passage of the blood

THROUGH THE SYSTEMIC CAPILLARIES,

the amount of difference in the sugar contents of arterial and venous blood was put down as something considerable. Citing one of Bernard's experimental records, the amount given for the arterial blood was 1·450 per 1000, and for the venous, 0·730, expressive of a loss of half of the sugar contained in the arterial blood in its transit through the capillaries. This is now fully known and *recognised to* be in error. Even by the French school, the *contention of* former days upon this point is no longer upheld. As long as credence was given to a disappearance of sugar in the systemic capillaries, feasibility existed for its passage into the circulation through the hepatic vein, but what is to occur if there is ingoing, as contended for, through the hepatic vein, and not the disappearance that was formerly conceived to be taking place within the systemic capillaries. The only issue that could follow would be accumulation in the circulation and outflow with the urine, *giving rise to glycosuria*, which is exactly what I affirm would constitute the state of things existing if the teaching of the glycogenic doctrine were actually carried out.

It must be borne in mind that the amount of sugar that would have to pass into the circulation from the hepatic vein

IF THE CARBOHYDRATE OF THE FOOD HAD TO BE TRANSPORTED

in the form of sugar through the circulation to the tissues for utilisation, would *oftentimes* be very great, and yet it is not found that any manifest show of it is to be recognised in the blood and in the urine. For instance, in connexion with the standard *daily* dietaries previously referred to, it was mentioned that the carbohydrate might mount up to 700 grammes. Now, whether the condition is viewed at a period *of fasting*, on animal food, or on a diet containing either a small amount or a large amount of carbohydrate, the state of things in relation to sugar in the blood and in the urine may be said to be practically the same, but how is this possibly reconcilable with transport through the circulation in the form of free sugar. When the carbohydrate of the food reaches the circulation in the form of sugar, as it obviously does in *diabetes*, the sugar is recognisable alike in the blood and in the urine, and in the state of health, I contend that the result would be the same if the carbohydrate *of the food* were similarly permitted to reach the circulation as sugar.

In the face of these considerations, it seems to me unquestionably evident that the carbohydrate of the food cannot pass into the circulation as sugar, as it is alleged *to do under* the glycogenic doctrine. The writer of the article in Hill's "Recent Advances in Physiology," to which reference has been made, sees the difficulty in *relation* to this point involved in the doctrine, and reckoning up the carbohydrate contained in the liver, blood, and tissues, states that it does not stand in accord with the absorption that may occur from the food, and admits that it must be concluded that a considerable amount becomes converted into fat or incorporated with proteid (p. 314).

As regards

THE LIVER, WHICH UNDOUBTEDLY PLAYS A PART

in checking the passage of sugar into the general circulation, (I have spoken of the organ as affording a second line of defence against the entry of sugar into the system, functionating upon the sugar that escapes being dealt with at crystals, no matter how big, which do not contain colloids may correctly be called gravel; and the most minute calcareous formation which by a laminated structure proclaims the presence of colloidal cement may properly be termed a stone. As the weight of concretions, which by virtue of their chemical composition must rank as calculi, may thus vary within wide limits, it is essential to the comparing of instances of multiple vesical calculi to know not only the number but also the weight or bulk of the stones. So far as is possible these data are given in the summary of cases which follows, but omissions are unavoidable owing to the incompleteness of many of the records.

The description "multiple vesical calculi" must be rigorously restricted to cases in which the simultaneous occurrence in the urinary bladder of two or more stones can be conclusively demonstrated. Instances of the coexistence of two stones are comparatively common; three,[5–8] four,[9–12] and five[13–16] are scarcely noteworthy unless of large size or removed under special circumstances; six,[17–20] seven,[21–24] and eight[25–28] are relatively rare, and examples of more than eight are so few as to merit a brief summary of those I have found in the extensive literature at my disposal here in Cairo.

Bellamy[29] records a case where there were 1 large and 8 small mulberry calculi; Godlee,[30] a chain of 9 stones—6 in the bladder, 2 in the prostatic, and 1 in the bulbous urethra; Raymond Johnson,[31] 3 fragments and 9 acicular phosphatic calculi, of which the largest was 7-8ths of an inch long; Smith,[32] fragments of between 10 and 15 separate stones which varied in size from that of a bean to that of a chestnut; Buckston Browne,[33] 12 uric acid "calculous masses," weighing 200 grains, which "arose from the spontaneous fracture and reunion of multiple calculi"; Sinclair Brown,[34] 14 uric acid stones, the largest 105 grains, the smallest 40; Thomas,[35] 15 uric acid stones, weighing 140 grains; and Brugnatelli,[36] 16 stones of about the size of small peas, composed of calcium carbonate. Sir George Humphry[37] refers to a specimen of 16 vesical calculi now in Guy's Hospital Museum and mentions a case, also of 16 stones, within his experience. Mansell Moullin[38] records an instance of 18 separate uric acid calculi in a man who previously had singly passed 5, and D'Estrées[39] one where the fragments arising from the spontaneous disintegration of a large stone formed the nuclei of 22 other stones: Keyes[40] cites Groves's case of 25 calculi but gives no details; Plowright[41] found post mortem 25 uric acid stones of which 4 were intact and 21 fragmented. Freyer[42] records an example of 25 also; Rivington,[43] of 26; Reginald Harrison,[44] of 35, weighing 660 grains; Thompson,[45] of 40 composed of uric acid; Brugnatelli,[46] of 48 small pea-like stones consisting mainly of calcium carbonate; Erichsen,[47] of 50 of uric acid, weighing 900 grains; Shattock,[48] of 50 also, probably prostatic, the largest being 2 centimetres in its longest diameter; Littlewood,[49] of 60; and Innes,[50] of 105, weighing altogether 3 ounces 69 grains, which he found post mortem in a case of peritonitis. Guy's Hospital Museum contains a specimen (No. 2213) of 142 ammonium urate stones, all of the same shape—cubes with rounded angles—removed by Sir Astley Cooper[51]; Physick's cases[52] [53] of 117, 242, and 307, calculi are widely quoted, but no data are given of the size of the stones; the same surgeon extracted over 1000 calculi,[54] none of which were larger than a small bean, from the bladder of Chief Justice Marshall of the Supreme Court of the United States. Murat[55] found 678 stones in the bladder and 1000 in the kidneys of an old man. Foster[56] washed out of a bladder "between 300 and 400 stones, some as large as a small pea and one the size of a bean"; "the bladder contained altogether over 1000 calculi." Smith[57] had a case in which there were several thousand pisiform uric acid calculi of a total weight of 3 ounces, and Ellis Blake[58] removed post mortem a woman's bladder "which was distended to about the size of a small fist, full of stones about the size of duck shot. …… They were not counted." Heath mentions a case of 200 faceted calculi (? perineal) in the *Indian Medical Gazette* (Vol. XXXVIII., p. 201).

In addition to these there are cases of recurring multiple vesical calculi which have been recorded by Buckston Browne (two),[59] Bruce Clark,[60] and Thomas.[61] In one of Buckston Browne's cases there were removed by suprapubic lithotomy at successive periods from the same patient: first, several (total weight 114 grains); next, three (total weight 46 grains); then one; then another; and lastly, a small sacful of stones which consisted of uric acid and phosphates.

My case is, so far as I can ascertain, unique. The specimen is now in the Museum of the Royal College of Surgeons of England. The total number of stones was 122; their weight, 459 grammes (16 ounces 95 grains); and their volume, 264 cubic centimetres. The single large stone was oval, grayish white, and fairly smooth. It weighed 119 grammes (4 ounces 22 grains) and measured 60 millimetres in the long diameter and 48 millimetres in the short. It was broken before extraction; on pressure being applied by forceps a friable outer shell separated in large fragments, leaving a central, slightly harder core, built of laminæ which were of similar chemical composition but of various densities. As it was approximately of the same composition as the small stones and equally as friable its large size must have been due to a comparative freedom from friction which it probably enjoyed, not only from its partial encapsulation by the bladder wall but also from its being the first formed. In this connexion the absence of facets from its surface is noteworthy.

The small stones varied considerably in size, the largest 6¼th grammes (96 grains). 11 weighed more than 5 grammes (77 grains); 10 more than 4 grammes (62 grains); 15 more than 3 grammes (46 grains); 26 more than 2 grammes (31 grains); 54 more than 1 gramme (15 grains); and 5 more than 0·5 gramme (8 grains). They were mainly white but many were tinged with gray and yellow. Their other physical characters were chiefly the result of their number; they had a tendency to a rectangular plan with rounded ends and angles and, in addition, many were concave-convex. By friction at numerous points of contact each stone had become much faceted. Constant rubbing also had made them dense and smooth, and although some were dull and lustreless many were highly polished and a few were even eburnated. As none showed any evidence of fracturing nor even of roughening of their surface, and as four I examined were not laminated, excepting that the outer layer was the denser, I thought each stone had had an independent origin. Moreover, their water-worn appearance and rounded borders also seemed to render improbable their common origin from the spontaneous disintegration of one or more large calculi. The following are the notes of the case.

An Egyptian fellah, aged 28 years, came to Kasr-el-Ainy Hospital on April 28th last complaining of painful micturition, blood in the urine, and a hard lump in the perineum. The pain had been present intermittently for about five or six months and the blood for several years, during which time small stones had frequently been passed per urethram. The perineal mass first appeared about April 15th and rapidly increased in size; at the same time, micturition became acutely painful and the urinary stream diminished to an incontinent trickle.

On examination a smooth, round, tender, non-fluctuating, hard, almost immoveable mass, of the size of a walnut, was felt in the middle line of the perineum about one inch in front of the anus. Per rectum, another much larger mesial mass, hard, smooth, globular, and slightly mobile, was found anteriorly; it could also be felt on deep palpation above the symphysis pubis but there was no bulging of the anterior abdominal wall. The urine was scanty, blood-red, alkaline, and of a specific gravity between 1015 and 1020: it contained blood and pus in considerable quantity and many bilharzial ova. The patient was somewhat emaciated and anæmic, the lungs were emphysematous, but otherwise the physical examination was negative. The passage of a sound was difficult: it proved the perineal tumour to be a stone or stones distending the urethra, and completely occupying its lumen except for a central canal large enough to admit a medium-size sound. The mass in the bladder also was found to be calcareous. The movements of the sound within the bladder cavity were very restricted.

On April 30th lateral lithotomy with a curved staff was performed; the constituents of the perineal tumour, three faceted white, smooth stones, were first removed from the urethra; the bladder was then found to contain quite a quarry of stones, loosely cemented together by a somewhat granular easily friable powder, so as to form a globular mass. There appeared to be no bladder cavity; the bladder wall was closely contracted around the tumour, forming a shell which seemed as if glued to the outer layer of stones. The von Noorden's work on Diabetes Mellitus, that the author announces himself to be an advocate of the restricted diet treatment of diabetes. At p. 173, he says, "The first rule that I must lay down is this: the reduction of the glycosuria to the smallest possible limit must be the goal that is never to be lost sight of." Again, at p. 180, after having, in the case of mild forms of glycosuria, advocated commencing the treatment with the restricted diet, notwithstanding even the existence of a certain amount of tolerating power of carbohydrate, and stated that carbohydrate is afterwards to be gradually added to the food, he proceeds: "Care must, of course, be taken that the amount always remains below the level of the toleration limit."

Although thus expressing himself upon principle of action in a manner to which no exception can be taken, what do we find amongst his practical recommendations? That the "oat cure" is added to the longish list of special food cures that have been introduced. In the course of my experience, I can recall the introduction of the "treacle cure," the "honey cure," the "skimmed milk cure," von Duering's "rice cure," and Mossé's "potato cure," as food cures for diabetes. To the list is now added

VON NOORDEN'S "OAT CURE,"

and the claim is made for it that it is superior to the other cures. At p. 195, the statement occurs: "In comparing the potato cure and the oat cure, as I often did for the sake of comparison in the same patient, allowing the one treatment to follow the other, I became convinced of the decided superiority of the oat cure. Severe cases of diabetes react much more favourably on oats than on potatoes. I must, however, acknowledge that there are exceptions, and in appropriate cases [the kind of case to be appropriate is not mentioned] I myself have gladly made use of Mossé's treatment."

Comment is made on the effects of the cures being peculiar and paradoxical, and the limitation of the carbohydrate to *one particular* kind is referred to as constituting an underlying principle. "It would seem," says von Noorden, p. 195, "that the diabetic organism is able—temporarily at least—to regain the power of assimilation for one particular carbohydrate, while still unable to utilise the infinitely smaller amount of the various carbohydrates contained in ordinary food. In my laboratory," he continues, "we have tried to discover whether under the circumstances mentioned particular diastatic or antidiastatic ferments, which effect only one particular carbohydrate, occur in the blood; but the investigations, so far as they have gone, have yielded no positive results. We are obliged to leave to the future the elucidation of this practically and theoretically important question."

I am entering to the extent I am doing into this subject because the name of von Noorden is authoritatively associated with the subject of metabolism and is therefore calculated to exert a weighty influence on the medical mind in connexion with the matter that is under consideration. I must confess, however, that I cannot understand how such a proposition as is set forth above could have emanated from the quarter it has done. The whole thing, as it stands, is a medley of misconceptions and incongruities. What can diastatic or antidiastatic ferments in the blood have to do with the particular kind of starch that may happen to be taken? Starch does not reach the blood. No matter what kind is taken, all are agreed that the starch molecule, whatever its source, is hydrolysed into dextrose preparatory to entrance into the system. How, then, can the source of the starch bear on the question of the utilisation of carbohydrate occurring within the system? Utilisation seems to have been mixed up with the prefatory breaking-down process needed to permit of the passage of the carbohydrate into the system. Speaking upon the strength of my own experience, I can unhesitatingly say that I have seen nothing to lead me to consider that there is ground for surmising that one kind of starch behaves differently in the system of the diabetic from another. Indeed, it would be altogether contrary to rational expectation that it should do so

As regards starch and sugar, the circumstances are different. Starch having to undergo transformation before absorption can occur, it is natural to conclude that it is placed in a position to be prevented entering the system as rapidly and freely as sugar, which is in a fit state for absorption at once. As a matter of fact, it is observable that glycosuria can be produced in the healthy subject by means of copious sugar ingestion, whilst it is possible, it seems, for starch to be tolerated to any extent without the production of glycosuria.

A large amount of fallacy is found to be mixed up with various matters connected with diabetes. Let us see how the "oat cure" stands in this respect. The origin of the oat cure is thus narrated by von Noorden (p. 190). "A few years ago I introduced the so-called oat cure into the treatment of diabetes. It was quite accidentally that I came to recognise its significance. A few patients in my clinic were suffering from severe disturbance of the stomach and intestine. I therefore permitted them nothing but oatmeal gruel. To my surprise the glycosuria did not increase, but became much less than it had been upon the very strict diet."

Now, what did the very strict diet include? We are told that it included the gluten food of Rademann of Frankfurt, mentioned in Table 1 (p. 199), which, it is stated, may find a place in even the most restricted dietary, and which the majority of diabetic individuals may have as much of as they may desire.

It has been my custom for very many years past to have the diabetic foods, foreign and otherwise, that I have been able in the course of practice to come across, analysed for the determination of their carbohydrate content, so that I might keep *au courant* with respect to knowledge of the nature of the supply obtained by patients. As a result I have a large collection of reports from which I often derive much serviceable information. In this way it happens that I have a record of analyses of samples of Rademann's food. The analyses were made a few years before von Noorden's work was published, and, therefore, are probably representative of the food actually referred to by him. One consisted of "diabetic white bread" examined in July, 1900. Taken in the water-free state, it contained 73·4 per cent. of starch. A sample of Zwieback (rusks), examined in March, 1898, contained 72·1 per cent. of starch, and another, examined in November, 1902, 64·8 per cent. of starch.

Where is the strict diet character to be found in connexion with these foods? The figures given for starch in ordinary wheaten bread in the water-free state, to which, for permitting of proper comparison to be drawn, all foods should be brought previous to analysis, run from about 85 to 90, or a little over, per cent. Oatmeal is known to contain less starch than wheaten flour, and the amount may not be greater, if it is not even less, than in the bread-stuff food belonging to the so-called restricted dietary of Professor von Noorden. Actual analysis in the accustomed manner has yielded the following figures:—Quaker oats 69·7 per cent., oatmeal groats 73·2, Scotch oatmeal 74·2. Hence, in the nature of things, there would be no justification for the surprise stated to have been experienced that the oatmeal food did not produce a greater glycosuria than what had been noticed to exist under the so-called very strict diet.

The illusory character of much of what is sold under the denomination of diabetic food has been the source of an immense amount of harm, not only from a practical point of view in connexion with the treatment of diabetes, but likewise through the erroneous impression brought to bear on our mental conceptions relative to the disease. It is easy to understand how readily false conclusions may be framed upon points connected with the disease by assuming a food to be constituted otherwise than it really is. I will leave this subject now but shall have occasion later to refer to it again.

The next point to which I will give consideration is the

STATE OF THINGS FOUND TO EXIST AFTER CUTTING OUT THE LIVER

from the blood circuit. Looked at in relation to the view taken under the glycogenic doctrine, the effect of the operation ought to be attended with the production of glycosuria after the administration of carbohydrate food. Special experimental procedures have been adopted for attaining the desired object, and let us see the nature of the result that has been obtained.

Minkowski, taking advantage of the anastomosis existing in birds between the portal and renal veins, as long ago as 1886,[1] experimented upon geese in relation to the point. It is found, through the anatomical condition existing, that the disease. The important part which the pancreas plays in carbohydrate metabolism is too well known to require elaboration, and the pancreatic reaction bears on carbohydrate metabolism. In 1904 Cammidge concluded from his investigations that in inflammatory lesions of the gland there is excreted by the kidneys a substance which on hydrolysis yields a body giving the reaction of a pentose. The results of my investigation, based on over 250 analyses, were published in the *British Medical Journal* in April, 1908. Since that time I have extended my observations very considerably, having now examined the urine of over 500 patients who were personally examined and also that of a number of others whose clinical history I know. My later results have not furnished any data which lead me to modify the general conclusions I then formulated, which were summarised as follows:—

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[1] Archiv fur Experimentelle Pathologie und Pharmakologie Band xxi., S. 41, 1886.

[illegible] sion arrived at by Mayo Robson and [illegible] and important relationship between [illegible] ne and disease of the pancreas. My [illegible] idge in so far that I have recorded a [illegible] positive results in cases similar to those that may have been included in that author's list of control cases. Cammidge found in a group of cases described as miscellaneous—other than those having a direct surgical interest in relation to disease of bile ducts and pancreas—that four only out of 92 gave a positive reaction. The higher percentage of positive results recorded in my series may possibly be due to the fact that I made use of many serious medical cases of a nature commonly associated with advanced arterial disease, and chronic catarrhal conditions in the intestinal tract, conditions that are frequently attended with degenerative or inflammatory changes in the pancreas and other glands. My results lead me to divide the cases in which the pancreatic reaction was present in my series in the following groups:—

1. A group in which there was definite clinical or pathological evidence of serious organic disease of the pancreas—for example, acute and chronic pancreatitis, usually associated with disease of the bile ducts.
2. A group in which the reaction in the urine is associated with pronounced arterial sclerosis, a condition usually accompanied by more or less sclerosis in different glands.
3. A group in which the reaction is dependent on congestion and catarrhal conditions of the gland ducts and substance, with associated toxæmia—for example, advanced heart disease, appendicitis, pneumonia, malaria, and the like.

This division is, it is hardly necessary to add, somewhat arbitrary, as most cases are in all probability of mixed origin. If these facts are kept in view, and this urinary reaction is carefully studied along with the other clinical features of a case, I have no hesitation in saying that this new test will prove of great value both to physicians and surgeons in the diagnosis and treatment of pancreatic disease.

As I have on a former occasion given a demonstration of the end reaction of this test I do not intend to dwell further on it. I would, however, draw attention to the practical importance of recognising the degree of the reaction in any given case. This is referred to in my paper. More significance necessarily attaches to an abundant deposit than to the presence of a few crystals which are only determined by microscopic examination.

Clinical types of pancreatitis.—I wish it to be clearly understood that I am excluding from consideration those cases of acute pancreatitis in which the clinical features closely simulate those of acute intestinal obstruction, fulminating appendicitis, and the like, cases which tend to a fatal issue in 48 hours or so if not relieved by operation. I am here only concerned with the clinical features associated with the mildly acute, the subacute, and chronic forms of inflammation of the gland. Cases can be conveniently divided into two groups, those in which jaundice is a prominent symptom and those in which jaundice is absent. A striking point in the clinical picture of pancreatic disease is its protean character. The clinical features of an advanced case may closely simulate those of severe or pernicious anæmia. Cases are on record in which this mistake has been made, and in my series I have seen one case of advanced, and afterwards fatal, pancreatitis in which the general appearances of the patient and of the blood were similar to those of pernicious anæmia. In the earlier stages the clinical features may simply be those of slight indigestion, sometimes associated with neuritic-like pains in the limbs or trunk. Yet again, as in the patient shown this evening, the chief symptom is physical weakness with little or no obvious morbid appearances; in this case in all probability the detection of glycosuria prevented a diagnosis of malingering. Progressive cases tend to a fatal issue, and there is reason to believe that many cases which have died from supposed deep-seated malignant disease in the region of the pancreas have been cases of pancreatitis. The clinical features are perhaps better described in the form of records of actual cases.

CASE 1.—A woman, aged 47 years, was admitted to Professor J. Chiene's ward in February, 1908, complaining of pain in the region of the stomach of about 18 months' duration. The salient points in her history are as follows. About 18 months before admission to hospital, when preparing to go out for a walk one day after dinner she was suddenly seized with acute pain in the region of the stomach, causing her to double up and remain in bed for a day. After some hours she vomited some yellowish-green fluid. About a month later she had a similar, though less severe, attack, and in the next 12 months she had eight or nine similar seizures, the attacks gradually increasing in severity, being later accompanied by pale stools, slight diarrhœa, general weakness, and more or less constant abdominal pain. An important point in the previous history is the fact that she has all her life suffered from bilious attacks, characterised by sickness, vomiting, and headaches of sufficient severity to confine her to bed for a day. On examination the patient was a well-nourished stoutish woman, presenting no obvious morbid appearances, with the exception of a wearied expression when the face was seen in repose. The pain complained of was referred to the epigastric region, at times radiating to the left. On palpating the abdomen a definite tumour was palpable in the region of the pancreas, the swelling being irregular in outline and hard in consistence. The liver, the stomach, and the other viscera appeared to be normal. The stools were large, imperfectly formed, somewhat pale in colour, distinctly fœtid, and chemical examination revealed an excess of fat, which, however, was not pronounced. No muscle fibres were detected on microscopic examination. Examination of the urine revealed a pronounced pancreatic reaction with slight glycosuria, the presence of glucose being confirmed by the fermentation test.

At the operation Professor Chiene found that the tumour was an enlarged and indurated pancreas, the surface of which showed numerous small white areas, resulting from previous fat necrosis. A thorough examination of the liver, gall-bladder, and larger bile-ducts revealed nothing abnormal and the abdomen was stitched up without further operative interference. Three weeks after the operation the patient had an attack of abdominal pain accompanied with marked diarrhœa, jaundice, and some febrile disturbance, these symptoms disappearing within eight days, and the patient was soon discharged. Eight months have elapsed since the operation and through the kindness of Professor Chiene I have been able to show you the patient this evening. Her condition has greatly improved since the operation; she has only had one slight attack and she has been almost entirely free from her old bilious attacks. She takes three moderate meals of a mixed character daily and is free from any symptom of digestive disorder. She still, however, complains of a feeling of marked general weakness, accompanied by a prickly feeling across the upper part of the abdomen and a sore feeling in the corresponding region posteriorly.

The next case to which I refer is representative of a group in which the clinical features pointed to deep-seated organic disease in the region of the pancreas, with no palpable tumour, and the case is instructive as showing the value of the pancreatic reaction in distinguishing between chronic pancreatitis and malignant growth.

CASE 2.—A man, aged 64 years, a railway porter, was admitted to the medical ward in the Royal Infirmary under the care of Dr. R. W. Philip in May of this year complaining of weakness, pain in the stomach, and jaundice. The weakness and pain had existed for three months, the jaundice being of from two to three weeks' duration. On admission the patient was somewhat emaciated and markedly jaundiced. The bowels were constipated, the motions being large and clay-coloured; and the urine contained much bile pigment and a trace of albumin. Physical examination of the abdomen gave negative findings; the liver was not enlarged, the stomach and intestines appeared to be normal, and nothing unusual was detected on deep palpation over the region of the pancreas. The clinical features led Dr. Philip to diagnose the condition as one of deep-seated organic disease of the pancreas, probably malignant, with secondary implication of the liver and bile ducts, and at his suggestion I examined the urine twice. On each occasion the pancreatic reaction was negative. This result strengthened the diagnosis of malignancy, and since this was confirmed at the post-mortem examination we have here a confirmation of Mayo Robson's view that the pancreatic reaction has distinct value in differentiating between chronic pancreatitis and from it. I think the tendency is not directly proportioned to the severity of the primary disease. There must be very many instances of several members of a family suffering from diphtheria and it is most important that the records should be so kept as to facilitate observation of the disease in another generation of the same family. Such search will be necessary in the case of many diseases and will involve a special method of indexing; nothing can be achieved unless it is begun.

It would be wearisome even to enumerate the maladies from which we cannot hope to obtain knowledge but I may mention one class of disease on which we may hope for some facts. Though they are not primarily of the nervous system they often affect it gravely. There are those that consist of deranged chemical processes in the vital laboratory of the human frame giving rise to endogenous toxins. We see it in the nerve disturbance which occurs in diabetes, probably due to other material incidental to that by which the excess of sugar is produced, whether or not it is the same as that which often causes death. The heredity of diabetes is familiar but its thorough study is a difficult task. A child not seldom suffers before a parent. The endogenous poisons of what we call gout are certainly many and some also occur without this constitutional state. Both kinds may cause symmetrical symptoms in the extremities but of their nature we know nothing. It cannot be doubted that the processes of the body are largely influenced by heredity.

The cases of disease of the nervous system in which the influence of heredity is marked seem to fall in certain classes. One of these consists of the early abiotrophies. I proposed this term some years ago[1] as a convenient designation for the cases in which certain systems of structure in the nervous or muscular system have an essential defect of vital endurance, in consequence of which their life slowly fails. A marked example is presented by the hair follicles of the scalp, in consequence of which early and extensive baldness occurs in father and son, a convenient subject for the study of heredity. It is seen in the nervous system, as in hereditary optic atrophy, in which the onset is sometimes excited by some extraneous cause, inadequate alone to cause the enduring effect. Hereditary ataxy, or Friedreich's disease, is another, and so are the various myopathies. By "early" I mean those abiotrophies which begin before the development which coincides with growth is over, and often not many years after birth.

The muscles are not usually considered part of the nervous system although they present a close relation to it in intimate structure and function. We may take the most typical form of pseudo-hypertrophic paralysis as a convenient instance of the heredity of the abiotrophies. The muscular fibres begin to waste during the first seven years of life but the bulk of many of the muscles is actually increased by interstitial overgrowth of fibrous tissue and fat; certain muscles are small and some may seem absent from the first. This disease is due only to heredity, but the heredity is maternal only; it never comes from the father. The tendency to it is thus germinal, a potential defect of development in part of the ovum, that part which will become the muscles. But it is not usually in all the ova; some sons escape. The female children seldom suffer in this typical form, but they inherit the tendency, or some of them do, and their sons are prone to suffer. In the ova from which the daughters develop, the potentiality of the disease is not in the elements that develop into the muscles, but only in that portion of the protoplasm which will become the germinal tissue for another generation. The same facts are true of other early atrophies, in hereditary optic nerve atrophy, &c.; sometimes they are limited to males, but they are only transmitted by females. If the tendency is thus fixed in the germ tissue, and differently fixed, according to the resulting sex, does not the fact make it probable that the sex is also predetermined? Many have held this view and it is not easy to see how otherwise the facts of these diseases can be explained. The disposition to the disease seems seldom to be present in every ovum. Sometimes it apparently is in every male ovum. Every son has died, as in the well-known family described in the "fifties" by Dr. Meryon, but in that one daughter has failed to transmit the disease; another daughter has had two sons and three daughters—both the sons have died from it, all the daughters are free. In an instance which came under my notice long ago four sons died but the fifth escaped and his sons, of course, are free, but the only daughter, herself free, has her only two sons both affected.

We have many similar instances of the disease in two generations. We have known it just long enough—sixty years—to find it in a second generation, but it is curious how seldom we are able to trace the typical disease in preceding generations, although we are not often able to exclude it from lack of knowledge. But I have met with it in the two sons of a lady (the third and sixth of seven sons) whose lineage and that of the mother of Meryon's cases can be obtained from the Peerage. (I cannot mention the names since members of the families are still alive.) The lineage presents a remarkable fact. Both mothers were descended from a certain duchess who was married in 1774, and in the case of each the descent is solely in the female line. The mother of Meryon's cases I will call Lady A and the other Lady B. Lady A was the granddaughter of the said duchess; Lady B is the great-great-granddaughter. There were sons in both lines, but from their ages at death in Lady A's family there can have been no case of the disease. In Lady B's there is only one that suggests its possibility. A son of her maternal grandmother died at 18, but some other cause is intrinsically more probable. We must, I think, regard it as of definite, though unknown, significance that both these maternal producers of the disease had a single ancestor, and, considering the relation of the disease to sex, their descent by the female line cannot be regarded as an accident. I can offer no suggestion of its meaning. But it is remarkable how free from the disease the ancestors of those who produce it generally seem to be. We may note that isolated cases are more frequent than groups, although the groups comprehend a majority of the actual cases. When females suffer males sometimes escape. Only once have I known the disease to occur in the offspring of first-cousins. There resulted four cases of albinism, one of whom had also pseudo-hypertrophic disease. Neither malady had occurred before. But there had been some previous instances of less close intermarriage during the preceding six generations, and, considering the relation of the disease to the ovum, it can hardly be ascribed to the consanguinity of the actual parents. Of the origin of albinism I hope we shall hear more in the course of the discussion.

Other forms of myopathy have been traced through several generations. The facial form of Déjerine and Landouzy has been traced through five generations. This form often does not begin early; its progress may go on through life, and males may transmit it. The first series of Déjerine and Landouzy, just mentioned, bears a distant but interesting resemblance to Mendel's facts. A man and woman married, the woman being atrophic. They had one daughter who was normal, who married a quite healthy man and bore three daughters, all affected. One of these married a healthy man and had two children, a girl, healthy, and a son in whom the atrophy only showed itself at 26, and did not become general until 50. He married a healthy woman and had nine children, six sons and three daughters. A son and daughter died in childhood; of the remaining seven, four were atrophic, two sons and two daughters. If we regard the normal state as dominant and the atrophy as a recessive state, its absence in the second generation, recurrence in the third, and equality in the fourth and fifth are noteworthy features. I have dwelt on these muscular maladies because they present features that are well defined, and because most, if not all, the early nerve abiotrophies agree with them in origin, even in their maternal heredity.

A second class may include the hereditary maladies which begin later in life, after the period of growth is over. They present persistent disturbance of function and are commonly hereditary, but from either side. In the so-called heredo-ataxy of Marie, the symptoms begin about 30 and are usually fatal in about 20 years. It has been found to depend on atrophy of the cerebellum associated with certain tracts of the spinal cord, at least in one case in which three generations were affected. Huntington's chorea begins usually in the senile period of life, but its heredity is well marked and so is that of the peculiar rigidity called Thomsen's disease, a life-long peculiarity of action of the motor nerve structures, also called myotonia congenita.

I must pass some interesting diseases, paralysis agitans, tremors, Graves's disease, &c., in which heredity can be

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[1] THE LANCET, April 12th, 1902, p. 1003.

In cases which do not respond to medical treatment surgical measures are called for. The operations recommended by authorities are: 1. Laparotomy and free manipulation of the gland. I have shown you this evening a patient who has greatly benefited by this operation. In all probability the favourable results of this operation are attained by the loosening or breaking down of adhesions and consequent relief of tension. In some cases it is possible that the free manipulation of the parts has dislodged a minute calculus obstructing the orifice of the main duct. In most cases, however, a more radical operation is recommended—either (2) cholecystotomy, simple drainage of the gall-bladder, or (3) cholecystenterostomy, permanent drainage of the gall-bladder into the intestines.

The advantage of the simpler operation lies in the fact that it gives an opportunity for the bile to find its way into the intestines by the natural route should the pancreatic swelling eventually subside; cholecystenterostomy, on the other hand, has the advantage of removing the necessity for a second operation should the pancreatic obstruction fail to subside. A large number of cases are now on record where recovery has followed the operation. In some of these cases the condition of the patient at the time of operation has been a very serious one, the state of the gland when seen and handled by the surgeon being clinically indistinguishable from malignant disease, the patient's recovery, however, establishing the diagnosis of chronic pancreatitis. An increasing familiarity with the clinical features of pancreatitis will lead, it is to be hoped, to earlier diagnosis and to successful operative treatment in a class of case which is at present allowed to advance to such an extent as to prejudice the patient's power of recovery. (At the same time I might parenthetically add that a more intimate knowledge of the disease in its earlier phases might lead to the adoption of prophylactic measures which would render the services of the surgeon unnecessary.)

The question of when to operate is essentially one for the surgeon, and on this point I would only refer to two points which have presented themselves to me. The first of these is the inadvisability of delay in cases of chronic jaundice due to the presence of stone in the common bile duct. I have had the opportunity of examining the urine in two cases of jaundice in which the causation was not clear, the diagnosis lying betwixt gall-stones, malignant disease, or chronic pancreatitis. Examination of the urine gave in each instance a negative pancreatic reaction, but prior to the operation, which took place from two to three weeks later, a marked positive reaction was obtained, pointing to extension of the inflammation to the pancreas. At the operation the condition was in each case inflammatory, associated with impacted stone, and extensive adhesions, making the operation a very serious one. In both instances the patients died and it appeared to me that the chances of the patients' recovery may have been lessened by the extension of the inflammation to the pancreas.

The second point has reference to the question of operative treatment in cases unassociated with jaundice, in which the leading features are gastric symptoms, some general constitutional disturbance, a marked pancreatic reaction in the urine with perhaps occasional glycosuria. Mayo Robson and Cammidge have recently spoken strongly in favour of operation in such cases, their recommendations extending to several cases of a genuine diabetic nature. I have no experience enabling me to speak authoritatively on the results of operative treatment in these cases, but it appears to me that great caution is necessary in recommending these cases for operation. Medical measures will in many instances suffice to restore the patients and free them from the subsequent serious risks of diabetes. At the same time we must recognise the importance of early recognition from the surgical standpoint. It seems to me that increased knowledge of pancreatic diseases which must follow the careful study of recent literature of this subject will lead to a better appreciation on the part of practitioners both of the possibilities of medical treatment and of the advantages in suitable cases of early operative interference.

It only remains for me gratefully to acknowledge my indebtedness to my senior colleagues on the staff of the Royal Infirmary for the facilities afforded me in the examination of patients under their charge.

Edinburgh.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.[1]

SURGICAL SECTION.

How and Why the Surgeon should Attempt to Preserve the Appendix Vermiformis.

A MEETING of this section was held on Nov. 10th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. C. B. KEETLEY read a paper entitled, "How and Why the Surgeon should Attempt to Preserve the Appendix Vermiformis; Its Value in the Surgical Treatment of Constipation, with a Series of Cases briefly reported." He said that the surgeon should try to preserve the appendix vermiformis. The observations of Macewen had shown that it was not the physiologically useless organ it was supposed to be.[2] It had also a high surgical value as a channel of ingress to, and egress from, the intestine. Suitable cases for this use—viz., for the operation of appendicostomy—were numerous, varied, and frequently occurred in ordinai practice. They might be tabulated as follows: (1) colitis (various kinds; (2) certain forms of intussusception (chiefl to prevent recurrence); (3) intestinal hæmorrhage; (typhoid fever, and certain other cases in which enteriti occurred; (5) cases of enterectomy and colectomy (as safety-valve); (6) intestinal distension in toxic conditions (7) cases requiring the administration of nutrient enemat *per appendicem*; and (8) intractable constipation. In th opinion of Mr. Keetley transplantation of the appendi vermiformis so that the whole or the greater part of i from its root in the cæcum to near its tip lay per manently imbedded in the abdominal wall, would pro duce the good results of excising it and in many case of appendicitis appendix transplantation should be pre ferred to appendicectomy for the following reasons Appendicitis was a dangerous disease, not on account of the nature of the appendix but because of its usual position—i.e., its relation to the peritoneal cavity. Among the cases recounted by Mr. Keetley were some which showed how trivial a malady even perforative appendicitis became when the appendix was imbedded in the anterior wall of the abdomen. Many appendices were in a condition dangerous enough to require operation without the organ itself being as yet seriously damaged—e.g., a fairly healthy appendix containing a large concretion. Concretions, kinks, twists, and strictures could be removed or cured, sometimes with difficulty, sometimes with ease, without removing the appendix. After, however, removing a concretion by what might be termed "appendicotomy," and after undoing a kink, foresight and prudence demanded that the appendix should be transferred from the peritoneal cavity. After removing kinks and twists non-recurrence was insured by transplanting the appendix. The cure of stricture by catheterisation absolutely demanded transplantation in order that the stricture might remain accessible. Examples of all these conditions were given in the cases reported by Mr. Keetley. He also considered that a further reason for preserving the appendix was the possibility of the truth of a part, if not the whole, of Professor Metchnikoff's teaching as to the evil influence of the bacteria of the large intestine in hastening the changes characteristic of old age. Through the appendix vermiformis the large intestine could be regularly washed out from end to end. Some of Mr. Keetley's cases illustrated that practice extended over several years, apparently with great benefit. In conclusion, Mr. Keetley said that appendicostomy was, on the whole, the best and most generally applicable surgical treatment of obstinate constipation because: (1) a long tube could be more easily and thoroughly washed out when open at both ends; (2) an appendicostomy gave direct access to the upper part of the large intestine; (3) medicines administered through it did not disturb the stomach and small intestine, while they reached the cæcum and upper part of the colon better than when given per rectum; (4) appendicostomy and appendix transplantation when we come to compare the differences in the incidence of cancer in the individuals of a species we are not on such certain ground. We know most about cancer in man. The extraordinary frequency of cancer of the skin of the abdomen in Kashmiris as compared with Europeans would at once suggest some racial difference were it not that we know the causative factor in this case to be one of custom. The Kashmiris wear a charcoal oven against the abdominal wall and Europeans do not. Many other instances could be quoted all pointing in the same direction. Taking the surface of the body as an example, the incidence of cancer in different races of mankind is characterised on the whole not so much by innate racial peculiarities as determined by extrinsic irritants. Why some individuals escape the consequences of peculiar practices involving chronic irritation and others do not it is at present impossible to decide. Disregarding all other hypotheses we fall back on an undefined susceptibility of the body which we conceive as being more exaggerated in some persons than in others. There is certainly no evidence for the inheritance of cancer as such, only the possibility of a predisposition can be discussed.

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[1] A report of the adjourned special meeting of this society which was held on Wednesday afternoon, Nov. 18th, will be found on p. 1544. The reports of the Clinical and Pathological Sections will appear next week.

[2] THE LANCET, Oct. 8th, 1904, p. 995.

To ascertain the part heredity may play in leading up to this predisposition we can resort to statistical or to experimental methods. It is quite possible to discuss the part heredity may play in the incidence of disease without discussing any other causative factor; but in any such attempt the investigator will be biased according as he believes that the particular disease under discussion is purely endogenous or purely exogenous in origin. Now although it would be without the bounds of my subject to make an excursion into the cause or causes of cancer I think it well to preface what I have to say regarding heredity by stating that in recent years a great deal of new evidence has been accumulated in support of the view that a malignant new growth contains nothing foreign to the organism attacked. I may instance two classes of new facts.

I. Carcinoma and sarcoma can be grown continuously only in other individuals of the same species of animal. The continuous growth which follows transplantation can only be prevented by vaccinating with the normal tissues or malignant new growths of the same species, and the degree of protection normal tissues confer is so much the greater the more nearly the tumour transplanted corresponds to the normal tissue used to induce protection. From these observations it is deducible that the malignant new growths of a species retain not only the tissue characters of the species but also the bio-chemical as well as the histological characters of the several tissues of the individual species.

II. Investigations into questions of metabolism—viz., into the relation of a malignant new growth to its host—have shown (*a*) for sporadic tumours in Murray's experiments; (*b*) for Murray's and Haaland's experiments on transplanted tumours; (*c*) for Cramer's and Copeman and Hake's experiments on the gastric secretion in mice affected with spontaneous and transplanted cancer; and (*d*) for Cramer's observations on the gaseous metabolism in rats bearing transplanted sarcoma, that the relations of a malignant new growth to its host are merely those of nutrition—of the demand for, and the supply of, the normal foodstuffs from which tissue is built up, and analogous to those obtaining between fœtus and mother. There is no evidence of pathological products, toxins, ferments, or what not, which *per se* cause ill-health. There is no analogy with any known form of infective disease. This being so, we may seek primarily for the cause of cancer within the body itself in the biological properties of its cells as contrasted with exogenous causes.

The fact that cancer may develop as a response to diverse external agencies, acting as mediate causes, is thereby not excluded, although the ultimate origin of cancer is sought in a biological alteration of what were normal cells. This conception of the origin of cancer seems to indicate that a variable and perhaps inherited predisposition or vulnerability towards excitants is not a possibility to be lightly dismissed. How otherwise are we to explain why one patient responds not at all, another, e.g., with a chronic ulcer, and a third with a malignant new growth at the site of irritation, in which series of events the nature of the irritant appears to be of less moment than the point to which it is applied, and the points of application themselves may be anywhere on the surface of the body? A direct endeavour to ascertain by statistical methods whether heredity selects those who suffer from cancer requires at the outset a clear conception of its distribution among the population as a whole, and of the nature of the evidence which would justify us in deducing that those who suffer from it are afflicted because their ancestors also succumbed to the disease. It is therefore necessary to point out how frequent cancer is as a cause of death, in those members of the community generally, who are above 35 years of age, and because this is so, to anticipate that if heredity play any part it will be a dominant part. On the assumption that an inborn tendency to cancer is transmitted we will expect to find, if we examine a large number of families of which one or more members have suffered from cancer, that the number of cases occurring in them greatly exceeds the average number in the population as a whole, regard being of course paid to distribution for age and sex. On a closer analysis of the family histories of those who suffer from cancer and of those who do not we would expect the population to fall easily and naturally into two groups: (1) in which the disease develops not at all or only as a rare variation; and (2) in which it appears and reappears with constancy in a very high proportion of all the lineal descendants who attain to the "cancer ages." If this easy grouping should not be attainable it will not be permissible to resort to subsidiary assumptions to explain why the disease appears to skip a generation or generations in the direct line of descent, or to make up for the deficiency of the evidence of lineal transmission by bolstering it up with the irrelevant occurrence of cancer in collateral descendants. To be obliged to have recourse to either the one or the other of these supports is tantamount to discarding the thesis that if hereditary then it will be so in proportion to the degree of concentration of the hereditary factor.

The great frequency of cancer is best illustrated by the returns of the Registrar-General which show that in 1906, out of a total of 141,241 deaths of males above 35 years of age 12,695 died from cancer, and out of a total of 140,607 deaths of females over 35 years of age 17,671 died from cancer. Thus, the chance, assuming no more heredity than is shown by an average member of the entire population, that a man over 35 years of age will die from cancer is 1 in 11 and the chance for a woman above the same age is 1 in 8. A calculation based on a similar approximation for 1905 shows how often, taking the proportions as 1 in 12 and 1 in 8, no death, or one, two, three, &c., deaths *from cancer may be expected to be recorded in 100 families*, half the members of which are men and half women, *no hereditary tendency being assumed* beyond what is indicated above and excluding all persons dying under the age of 35.

Number of deaths from cancer in family.	Per 100 families of 6 members, viz., 3 men, 3 women.	Per 100 families of 8 members, viz., 4 men, 4 women.	Per 100 families of 10 members, viz., 5 men, 5 women.
None	51	41	33
One	36	39	39
Two	11	16	20
Three or more ...	2	4	8
	100	100	100

The calculation establishes the fact that when no hereditary influence is assumed the frequency of cancer as a cause of death is so great that few families of large size escape and in one of every two families either a parent or a grandparent will on an average have died from cancer, supposing such parents and grandparents to have died after 35 years of age. Suppose a man and wife both of whom died from cancer 60 years ago; further suppose that of their children, three males and three females, all survived and married and that two of them, one male and one female, married children of parents who died from cancer like their own parents, while the others married into families with no history of cancer. Were it possible to follow the fate of all descendants of these six families the comparative frequency of cancer in those of double cancerous heredity and in those of single cancerous heredity might be expected to show whether a tendency to the disease is transmitted. Were accurate detailed analyses obtainable of the incidence of cancer in a large number of families, and if they showed to a general pyæmia as shown in the last case. These cases, however, seem to show that the organism is generally associated with other organisms such as the pneumococcus. The following post-mortem and bacteriological report was made by Dr. James Ritchie and Dr. Stuart Macdonald :—'Case 2.—There was a purulent subdural meningitis over the left hemisphere, a purulent pia-arachnoiditis in patches over the surface of the brain, and spinal meningitis about the lumbar cord. From the abscess in front of the ankle-joint, the elbow-joints, cerebro-spinal fluid, and peripheral blood a Gram-negative bacillus was obtained in long filamentous forms. It was motile, grew on all media, did not liquefy gelatin, and somewhat resembled the typhoid bacillus in its characters, giving a slight acid reaction in milk and glucose. There was in the case evidence of a terminal pneumococcal infection. The bacillus was pathogenic to monkeys and mice, very slightly to guinea-pigs and apparently to rabbits. It appears to break down the resistance of the animal to other pathogenic organisms. The importance of the case seems to rest in the production of the pyæmic process by a probably hitherto undescribed organism.' Dr. John Thomson and Dr. J. S. Fowler have kindly permitted me to refer to two cases (Cases 3 and 4) under their charge, the bacteriological findings in each case being similar to those above recorded. Without referring at any length to these cases I may say that they presented the symptoms and course of a post-basic meningitis. In Dr. Fowler's case head retraction appeared one week after the onset of the illness, which was ushered in with vomiting. Lumbar puncture on six occasions was performed and indefinite diplococci were found. The child was treated with Flexner's serum but died five weeks after admission to hospital. The bacteriological examination in these cases, carried out by Dr. Stuart Macdonald, gave a similar finding to that described fully in Case 2."—Dr. ALEXANDER BRUCE said that evidently this was a new disease which had to be added to clinical medicine. There was no reason to suppose that the organism was in a temporary stage. It was probable that infection might spread from the abdomen along the line of lymphatics which accompanied the nerves to the spinal cord.—Dr. J. S. FOWLER said that the meningitis differed from ordinary post-basal meningitis by the clonic spasm which it induced.—Dr. GEORGE ROBERTSON alluded to a branching streptothrix which he had observed in a case which was under his care and which exhibited many of the symptoms of general paralysis.—Dr. CHALMERS WATSON read a paper on the Diagnosis and Treatment of Pancreatic Disease. (The paper appears *in extenso* at p. 1519 of our present issue.)—Dr. J. O. AFFLECK said that there was a great difficulty in diagnosing diseases of the pancreas from diseases of the liver and many cases of supposed pancreatic disease had been shown by post-mortem examination to have been hepatic. Cammidge's test was one not easily applied by the general practitioner and Dr. Watson seemed to rely greatly on this test as a means of diagnosing pancreatic disease. Whether it could be taken as an absolute test of disease of this organ was very much open to question, as the test might give a reaction in other diseases. He thought that a good deal more research was required before one could arrive at an easy diagnosis of pancreatic disease. He desired to emphasise the grave responsibility the physician incurred in recommending exploratory operations which were not without risk. Dr. Affleck did not suppose that many, if indeed any, physicians in Edinburgh had had more of these operations performed for patients, and it was not without reason that he regarded the physician's part as a very important and a very serious one.—Dr. WILLIAM RUSSELL agreed with Dr. Affleck that the value of the communication lay in the large number of observations carried out with Cammidge's test. The subject of pancreatic disease was a very wide one and for the present the severe affections such as acute pancreatitis might be set aside. During the past 20 years or more there had been two periods when diseases of the pancreas were boomed. During the first, "pancreatic dyspepsia" was the fashionable diagnosis; during the second it was "amylaceous dyspepsia," and many people had it. It had to be remembered that the pancreatic juice was the most important of the digestive fluids, for it contained three powerful ferments. The pancreas was quite different from the liver, the one being a secretory, the other an excretory gland. Primary disorders of the pancreas with an anatomical basis were rare and the clinician was not entitled to assume the existence of conditions that those who had looked into the matter did not recognise. On the other hand, every chemical pathologist knew how the pancreatic secretion could be secondarily affected. Cammidge's test if it meant anything implied that pancreatic secretion was absorbed and excreted by the kidney. It was well known that in duodenitis, in gastro-enteritis, and in simple enteritis the catarrh affected the flow of the pancreatic juice and therefore influenced the whole process of digestion. A duodenal catarrh was sufficient to account for catarrhal jaundice and for the interference with the pancreatic flow which would lead to a positive urine reaction under such conditions. In some of the classes of cases referred to in the paper the differential diagnosis could be made without this test, and indeed the test could not possibly be of assistance in many cases where a differential diagnosis was of great importance. He thought Dr. Watson placed too high a value on the test, but the paper would lead him (Dr. Russell) to go into the subject again although he had tried it early and discarded it.—Mr. C. W. CATHCART, Mr. CARMICHAEL, and Dr. FRANCIS D. BOYD took part in the discussion.—In his reply Dr. CHALMERS WATSON said that the physiology of the test was as yet not known. The actual performance of the test was not easy and he had himself failed in trying it until he had had a practical lesson by the inventor. He said that the test was not pathognomonic of pancreatic disease. He believed that pancreatic disturbances were much more widespread than was supposed, and this his observations had proved. In the majority of cases this test was not essential in the diagnosis of pancreatic disease, but it ought to be taken in conjunction with other methods of investigation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Presidential Address.—Exhibition of Cases.

A MEETING of this section was held on Oct. 30th, the PRESIDENT, Mr. JOHN LENTAIGNE, being in the chair.

The PRESIDENT, in opening this the twenty-sixth session of the Surgical Section of the Royal Academy of Medicine in Ireland, said he had come to the conclusion that the most appropriate subject with which he could deal was the present condition and future prospects of the Academy. He could remember the wave of enthusiasm that spread over the profession 25 years ago when the Academy was founded by the amalgamation of the existing medical, surgical, and pathological societies. The zeal and enthusiasm that were excited produced rapid and remarkable effects in crowded meetings and papers so numerous that many could not be read. He could remember also how the wave of enthusiasm abated and how apathy and loss of interest grew until now the society had, in his opinion, reached the lowest possible ebb; and the prospects of the future were of the very worst. Unless a very great change took place decay and dissolution were inevitable. He had no desire to bolster up an effete or useless institution and if the Academy was of no value to science in Dublin then the sooner it was decently buried the better. He, however, asserted most emphatically that the Royal Academy of Medicine was a necessary and valuable asset to the scientific life of Dublin and it would be their own fault if they allowed it to dwindle into worthlessness as compared with similar institutions in London, Paris, and Vienna, or even in the smaller continental cities, such as Lyons, where societies like theirs were doing work of the most valuable kind for the entire world. In Dublin there were plenty of material, plenty of brains, and plenty of most excellent work being done, and they must make an effort to prevent its being wasted to the world as well as to the individuals themselves. He had summed up the causes of decay under three heads. The first was the apathy of the senior members of the profession. Allowance had, of course, to be made for overworked medical men advancing in years who had difficulty in coming out in the evening to hear papers on matters which they might possibly think of very little use to them. Still he thought public spirit should induce a man to support an institution that had once been of use to him, and there were very few senior members of the Academy who had not gained from it. There was no man those family histories with an exceptionally high incidence of cancer, or where, as pointed out by Butlin, the disease appears only on one side of the family, as if introduced by some grandparent or parent; e.g., such family histories as the following, kindly supplied to me by Mr. Edward Jessop, are certainly very suggestive, but unfortunately the information as to ascendants and collaterals gives out just where it would prove of value. A man, one of a family of nine, died from cancer of the liver, the others being all alive and well. The patient's mother was one of a family of 13, seven of whom (four males and three females) died from cancer. Two died from cancer of the bladder, two from cancer of the liver, and one each from cancer of the throat, uterus, and breast. In another family of nine children five died from cancer (four males and one female). The four males all died from abdominal growths (cæcum). The female died from cancer of the uterus. The mother and the mother's brother also died from cancer. The father died from phthisis. The son of the eighth son recently died from cancer of the bowel at the age of 23 years.

Family histories of this kind are, however, rare in proportion to the number of individuals attacked and they are mainly of interest as showing that if cancer be transmissible by heredity then transmission takes place both through the male and the female without anything corresponding to what is known for hæmophilia and colour blindness. These histories are so infrequent that they cause no surprise when the table of the relative frequency of cancer in the general population referred to above is considered, for did these forms of family history imply hereditary transmission then we should be able with ease to obtain tables of 100 families in which the figures for no deaths, one, two, three, or more were the inverse of what they are in the population, but this is not the case. The isolated instances recorded in the literature serve only to show how rare this phenomenon really is. When recorded it is more than probably to be looked upon as what would be expected to happen in the case of so frequent a cause of death as cancer, from a consideration of the distribution theoretically calculated according to the law of probabilities. To sum up the inferences which may be drawn from the crude statistical data in man there is nothing which one would be justified in submitting to the biometrician for nearer analysis. There is, in short, no evidence of cancer arising as a transmissible variation. It seems, then, that cancer is probably always acquired.

Turning to the experimental investigation of cancer in animals, alleged epidemics have often been recorded in them, especially for mice and rats housed together in small cages. Satisfactory proof that these aggregations of cases were due to infection has not been furnished and the alternative explanation that they arise as the result of in-breeding cancerous stock has naturally suggested itself. Our very detailed observations on many ten thousands of mice have not revealed in our laboratory anything which we would call an epidemic. When, however, we take into consideration the manner in which cases of carcinoma mammæ have been sent to us by breeders, we find the same kind of evidence as that which has led observers in France, America, and Germany to assert that epidemics of cancer occur in breeding establishments. We may illustrate this kind of evidence by the numbers of tumour mice sent in by four of the breeders who supply us with mice under a guarantee that no fresh stock has been introduced. From Jan. 1st, 1906, to Oct. 31st, 1907, Mr. A. sent us 10 cases, Mr. B. 6 cases, Mr. C. 35 cases, and Mr. D. 18 cases of carcinoma of the mamma. These figures, which are more remarkable than any others yet published, are no evidence that there was an endemic or epidemic occurrence of cancer in the breeding cages of Mr. C. or Mr. D. The proportion of mice supplied to us in the same period to cases of cancer were as follows:—

	A.	B.	C.	D.
Tumour mice	10	6	35	18
Total mice	1302;	1547;	9653;	11,842.

The number of tumours occurring in these stocks of mice has been determined solely by the number of mice of "cancer-age" under observation. This is brought out particularly clearly in the difference between the age constitution of the stock of Mr. C. and Mr. D., since the stock of the latter contains constantly a much higher proportion of young animals, and he supplies us with most of our young mice. Further, if we note the dates on which tumours are sent to us and arrange them in columns we find that the crops of tumours coincide with the aging of groups of mice. Thus those apparent aggregations of cases, wrongly called epidemics by too enthusiastic advocates of a parasitic origin for cancer, also give no indication of haphazard in-breeding leading to a preponderance of cases of cancer of the mamma. The incidence of the disease for mice continues to obey the laws of age and sex distribution even where in-breeding is proceeding haphazard.

We have therefore devoted great attention to systematic breeding experiments, of which the starting-point has been not merely mice of so-called cancerous stock but mice which had also *actually suffered* from cancer. Thus the objection has been met of those who might argue that unless the disease had been present in the parent there was no opportunity for its transmission. The question of heredity of cancer of the mamma, or of a predisposition to it, is now in a fair way to final settlement. The mouse has the great advantage that its life is short, and many successive generations can be accurately observed and age, dates of birth and death, parentage, cause of death, and post-mortem examination fully recorded. In addition a comparison with an average sample of the mouse population is possible. The surgical removal of spontaneously occurring mammary tumours of which the clinical course and the pathological examination leave no doubt whatsoever that the tumours were malignant epithelial new growths, has enabled us to prolong the life of many mice and to breed from them. Breeding from such elderly mice is not an easy matter and much patience has been necessary. By successively crossing other spontaneously affected animals with the offspring of cancerous parents, strains are being obtained in which the cancerous heredity is ½, ¾, or 15/16, and even higher. The concentration of a hypothetical hereditary factor in a *known* amount and in large numbers of animals of *known* age should in the course of a few more years definitely settle whether there is a family or only an individual liability to the disease. As yet we have obtained only a few cases of carcinoma of the mamma and no cases in other organs. Thus far there is no evidence that the liability to carcinoma has been enhanced by systematic in-breeding. I do not wish to anticipate the results of our observations, which are still continuing, but we have not as yet obtained even an indication that cancer is inherited. It appears to be very doubtful whether there is transmitted even a power of acquiring the cancerous modification under excitation; and it is not impossible that cancer may be really a late modification of healthy tissue acquired *de novo* for each individual and in which the bogey of inherited predisposition—the dying echo of ancient constitutional conceptions of cancer as a blood disease—plays no part whatsoever.

The question will be asked: If experiment does not as yet support the conception of an inherited predisposition, why does cancer arise in one individual and not in another who has been subject to the same irritant on the same region of the body? One of the most important results of experiment has been the absolute demonstration of the truth of the belief to which I suppose we all subscribe nowadays, that cancer is primarily circumscribed. The fact that occasionally there may be more than one primary focus in the same individual or that a single focus may comprise a number of centres does not fundamentally affect this view. Another important result of experiment has been the demonstration that the conditions of origin are fundamentally distinct from the conditions of mere growth into a tumour, and a third the proof that the soil provided by a mouse or a rat can be experimentally modified in two directions. It can be rendered absolutely unsuitable or more than normally suitable for the growth of transplantable carcinomata and sarcomata. It has been amply shown that the tame mice of England differ in their susceptibility to transplantation from those of France, Germany, or Denmark, and that German mice may be modified—e.g., by prolonged sojourn in Norway, and English mice by prolonged sojourn in Germany. Another form of constitutional influence which is of moment, at any rate in the case of some transplantable tumours, is that the presence of a primary tumour can effect a secondary modification favourable to dissemination and metastasis formation. Observations have also been recorded, but are as yet unconfirmed, that the histological structure of a tumour can be modified by the influence of the "soil."

of the infection of the arm the uterus remained unaffected. —The PRESIDENT said it was a most remarkable case because of the absence of uterine sepsis with the terrible infection in the upper limb, and because of the exceptional success of the result.—Mr. WHEELER said that he had a similar case in which tetanus supervened but the patient recovered. Where tetanus was likely, he thought the antitoxin should be given the whole way through, but the PRESIDENT said he had lost faith in antitetanic serum.—Mr. KENNEDY, Mr. HAUGHTON, and Mr. W. TAYLOR also spoke.—Mr. STOKER, in reply, said he had taken the line that when the woman was not losing any ground it would be better to delay the amputation a few days from the confinement, as she had been working hard and had not been well fed.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 6th, Dr. T. K. Monro, Vice-President, being in the chair.—Dr. A. G. Hay showed a case of Traumatic Paralysis of both Suprascapular Nerves caused by falling on the palms of the hands with the arms extended forwards. The supra- and infraspinati were atrophied and the shoulder-joints were painful; the arms could not be raised above the shoulder level or pressed firmly against the sides. The affected muscles reacted sluggishly to faradic and normally to galvanic stimulation. There were no sensory changes.—Dr. W. K. Hunter showed: 1. A case of Pure Motor Aphasia in a healthy man, aged 62 years. The condition came on suddenly at night. Four years before he fell down in the street and remained unconscious for half an hour but was able to walk home shortly afterwards. Six months ago he suffered from "cardiac spasms" but nothing abnormal was made out from examination of the heart. He had a facial paralysis lasting for from 24 to 48 hours but his inability to speak had remained absolute for three weeks. He could only say "yes" and "no," and "John." He tried to say the days of the week and made seven separate sounds which had a certain rhythm resembling the words. He could write well and understood everything said to him. His mental condition was quite acute. The condition seemed most likely to be due to a thrombosis. There was no cardiac condition to account for embolism and the blood pressure was too low to suggest hæmorrhage (105–120). 2. A case of Little's Disease in a child, aged three and a half years. There was a history of a difficult labour and artificial respiration had to be performed for half an hour. He had not learned to walk or to talk, though he seemed to understand what was said to him. There was no rigidity about the muscles.—Dr. R. Barclay Ness described: 1. A Fatal Case of Hodgkin's Disease in a man, aged 41 years. In childhood he had tuberculous cervical glands, and when aged 29 years the glands in the right axilla became enlarged and six years later those of the right side of the neck. A few months ago the glands of the left side of the neck and axilla and of the right groin rapidly became enlarged. There was some œdema of the right side of the thorax. Cachexia was marked, but there was no bronzing or jaundice. The spleen was considerably enlarged. Dyspnœa was marked and there were left-sided pleural effusion and ascites. Dr. John H. Teacher in a pathological report said that on section the appearances presented suggested a tumour rather than Hodgkin's disease. The glandular enlargements were quite characteristic of the latter, but the involvement of the liver and spleen took the form of a few large, rounded masses exactly resembling secondary carcinomatous tumours. There was, moreover, perforation of the trachea and œsophagus by the new formation and there were numerous small superficial growths on the peritoneum which were very suggestive of metastatic growths due to invasion of the cavity. The histological characters of all the growths were those of lymphoma or Hodgkin's disease. There had been a very old tuberculous infection of the lymphatic system and lungs which was represented by numerous calcareous masses. There was no recent tubercle. Tubercle bacilli could not be found. 2. A case of Carcinoma of the Stomach in a boy, aged 14¾ years. There was a history of abdominal pain for two years and of jaundice of two months' duration, also of a small umbilical tumour of three to four months' duration. Hæmatemesis was present on two occasions; melæna on one occasion. There were considerable tympanitic distension and tenderness. The abdomen was opened by Dr. Alexander MacLennan, fluid drained off, and an anastomosis made between the distended gall-bladder and jejunum. The nature of the case was made out after examination of the tumour mass removed. Dr. Teacher in a pathological report said that the primary lesion in this case was an ulcer, very like a simple chronic ulcer of the stomach, but with unusually thick edges and much diffuse thickening around it, situated on the lesser curvature about two inches from the pylorus. The thickening extended fully an inch from the edge of the ulcer, so that there was a clear strip of stomach between it and the pyloric ring. There was very widespread lymphatic dissemination involving the adjacent lymphatic glands, the gall-bladder and common bile duct, and the omentum and mesentery. The two last-mentioned structures were studded with small nodules. Microscopically the tumour was a very hard scirrhus carcinoma. The epithelial processes were very fine and had disappeared almost entirely from much of the tumour. A few traces of glandular structure persisted, showing clearly its gastric origin. It appeared probable that it developed upon a chronic gastric ulcer.—Dr. J. S. McKendrick reported a case of possible incipient Addison's Disease. The chief features of the case were: pigmentation of the skin with patches of white, consolidation of the left apex, expectoration with tubercle bacilli, anæmia, and enlarged spleen. The blood count was normal. Dr. McKendrick discussed the question whether this was a case of disease of the suprarenal capsules with secondary involvement of the lung and splenic anæmia or whether it was a case of Addisonism. The patchy nature of the pigmentation appeared to resemble that in cases recorded of leucodermia associated with Addison's disease.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Nov. 4th, Dr. A. T. Wilkinson, the President, being in the chair.—Mr. Garnett Wright described two cases of Traumatic Rupture of the Spleen. The first case was that of a woman, aged 35 years, who sustained a rupture of the spleen as a result of a kick in the abdomen. Slow hæmorrhage occurred and operation was performed 48 hours after the injury, the hæmorrhage being controlled by gauze tampons. The patient recovered. The second case was that of a child, aged two and a half years, who was run over and presented signs of internal hæmorrhage. Operation revealed a tear right through the spleen. Splenectomy was performed but the child died 10 hours later. Mr. Wright advocated a vertical incision through the right upper rectus muscle with a second incision running transversely to the left from this. In this way not only was good access to the spleen obtained but other organs could be examined. Tamponade was advocated in selected cases and splenectomy advised in the more severe injuries.—Dr. Charles H. Melland read a paper on the Diagnosis and Treatment of Severe Anæmia, with special reference to the differential diagnosis and treatment of pernicious anæmia. He drew attention to the main features of difference between pernicious anæmia and other severe anæmias of secondary origin, laying particular stress upon the difference in the character of the blood, and illustrating them by means of a number of microphotographs of blood films. He referred to the various underlying causes of severe anæmia and to the importance of making use of every method of physical examination in order to arrive at the cause of the disease, and the danger of relying upon the blood examination alone, since rational treatment could only be carried out if the cause had been sought for and discovered. He regarded the common view as to the prognosis of pernicious anæmia as much too pessimistic and liable to paralyse one's attempts at treatment. There was none, in fact, of the more serious diseases which responded more satisfactorily to prompt and efficient treatment. If recognised early some cases might be actually cured, whilst others might have several years of fairly comfortable life insured to them. He showed microphotographs of the blood from cases which had been greatly ameliorated or cured. Arsenic was still the most useful drug but it was useless unless given in increasing doses and its effect must be watched and guarded by periodic blood examinations. Oro-gastro-intestinal antisepsis was of almost equal importance, and, like the arsenic, must be kept on in a minor degree long after apparent recovery, the dose being increased if the blood examination showed any tendency to relapse. He had found raw red-bone-marrow effective as an adjuvant in some cases that were proving refractory to the other influence of environment may be brought forward to show that such statistics are probably misleading.

1. The statistics are nearly all based on comparatively small figures. It is probably owing to this fact that the estimates given by different authors vary greatly. Thus the estimates of the number of persons who have a hereditary predisposition to tuberculosis are variously given as being from 10 per cent. to 80 per cent. of the general community.

2. The statistics are based on answers obtained from individuals as to the cause of death or the occurrence of tuberculosis in their ancestors and relatives. In most investigations the answers given by uneducated people are accepted with little reserve. Hospital experience has shown us that such data are quite unreliable in the lower middle and poorer classes. An insurance experience which brings nearly 4000 family histories annually before my notice has convinced me that even intelligent members of the upper classes are strangely ignorant of the disease history of their families and that their statements as to the cause of death are frequently unsubstantiated by further investigation. Most medical men will agree with me when I suggest that statistics as to the incidence of tuberculosis which are based on the statements of relatives are absolutely unreliable.

3. Most of the family histories collected on this hearsay evidence are incomplete. In nearly all investigations children or others whose life-history is not at an end are included. In view of the fact that there is good clinical evidence to suggest that infection may occur and yet not give rise to the clinical symptoms of the disease for some years, it is clear that if we are to have a complete picture we must have completed family histories.

4. The statistics are all confined to the influence of one example of tuberculosis—namely, the pulmonary form—and in most instances all reference to the occurrence of tuberculosis of the glands, bones, joints, testicles, peritoneum, &c., is omitted. Recent research has shown that the organ or tissue which may happen to be infected is largely a matter of chance, which is determined chiefly by the portal of infection and partly by the age of the affected person. The differences due to the age of the affected person would appear to be dependent in part upon the distribution and arrangement of the lymphatic system at various periods of life. The transmission of any defective resistance to tuberculosis is probably independent of the fact whether we are dealing with pulmonary or bone tuberculosis, for it is no uncommon thing to find three or four different forms of tuberculosis in one and the same family. It has become clear that if we are to have clean evidence on the subject of the transmission of a hereditary predisposition in this disease, we must not confine our attention to examples of pulmonary tuberculosis but must embrace all forms of tuberculosis in our inquiries, more especially when we remember that all the various forms are capable of producing, and eventually often do produce, the pulmonary form in their host.

5. The statistical investigations are confined to tuberculosis which has been associated with definite clinical signs, and no differentiation has been made between persons who have become cured, and have therefore acquired a partial immunity, and those who have been unable to make any effective resistance to the disease. Further, all reference has been omitted to cases of pulmonary tuberculosis which have become spontaneously healed (cases, that is, in which a partial immunity has been acquired) without showing any evidence of the disease during life. How frequently tuberculosis undergoes a spontaneous cure, and in a large proportion of cases without ever having been detected during life, is shown by pathological records. It is generally allowed that there is evidence at death of tuberculosis having occurred in at least from 30 to 50 per cent. of the community, and that the proportion increases with age, that is as the risks of infection increase. Some authors go further and many of us will be inclined to agree with them; thus Naegeli found evidence of tuberculosis in 97 per cent. of 500 consecutive necropsies, and Osler has stated that if a systematic laboratory investigation is made tuberculous lesions are found practically in 100 per cent. of adult bodies. It is highly probable that persons who have acquired a partial immunity and have overcome the infection, and persons who are unable to acquire any real immunity or to offer real resistance to the disease have different effects on their descendants. It is possible that the one might represent the long plants investigated by Mendel and the other the short plants. No allowance for this possibility has been made in any investigation I have read.

It is clear to my mind that statistics which are based largely on old wives' recollections, on uncompleted family records, on a selected form of the disease, and in which no reference is made to the fact whether any immunity has been acquired or not, cannot give us a scientific insight into the question of a hereditary predisposition. It is also clear that any statistical investigation, if it is to be scientific and not futile, must be based on adequate post-mortem records of the grandparents, parents, and every member of the family.

If we consider these statistics which are based on family histories, and to the value of which I have brought forward the above objections, what do we find? Dr. F. C. Shrubsall, who has investigated the records of the Brompton Hospital, will tell you that it is difficult to arrive at any definite conclusions. Professor Karl Pearson's investigation, which is perhaps the most recent and careful one, but which has many of the faults to which I have alluded, is based on between 200 and 300 "fairly complete" family histories. Professor Pearson holds that his figures show that 50 per cent. of the offspring of tuberculous parents become affected with tuberculosis and adds that he is inclined to think that the theory of infection does not account for the facts and that the constitution or diathesis means almost everything for the individual whose life cannot be spent in self-protection. If we allow that 50 per cent. of the offspring of those suffering from pulmonary tuberculosis eventually suffer from this form of the disease owing to their inherited want of resistance, we should, I think, expect a progressive increase in the incidence of the disease and a progressive increase in the mortality. Now what do we find? Pathological evidence shows that most of us have tuberculosis at some time, but that most of us have sufficient resistance power to overcome the infection. In spite of the fact that all of us are infected, the statistics of this country show that each decade we are more able to resist the disease. The Registrar-General's statistics show that the total annual deaths from pulmonary consumption have fallen from 59,035 in 1838 to 39,746 in 1906, in spite of the enormous increase of the population during that period, and the death-rate per 10,000 living has been reduced during that period from 38·9 to 11·5. The factors of immigration and emigration cannot have affected these figures, for tuberculosis is an almost universal disease and the incidence in England and Wales is less than that of most countries. It might be that this enormous decline depended on the comparatively early death-rate of consumptives and their lessened capacity for producing children, but we find that from 1851-60 to the present time the age of maximum mortality from pulmonary tuberculosis has risen in males from between 20 and 25 to between 45 and 55 and in females from between 25 and 35 to between 35 and 45, and that therefore the capacity for consumptives to produce families and to transmit the predisposition, if it exists, has been very largely increased.

It is difficult to correlate these facts which are based on large and probably fairly correct figures with the assumption that an inherited predisposition to consumption is transmitted from one generation to another. They certainly suggest that further investigation of a more scientific kind is required before we can usefully draw conclusions from the statistical investigations which purport to show that there is an inherited predisposition to this disease. It is difficult to account for the progressive fall in the incidence of consumption. Still, it is worth while to make the attempt. The chart exhibited (taken from Dr. H. T. Bulstrode's report on sanatoriums) shows that the fall has been gradual and continuous. It further shows that such things as the Public Health Act of 1875, the discovery of the tubercle bacillus, the Housing of the Working Classes Act, and the commencement of notification and sanatorium treatment have produced no immediate or unusual fall. There can be no doubt that during this period preventive measures, which I have already shown can definitely affect the mortality from the disease, have had their effect. The limitation of the opportunities for repeated infection, perhaps more especially by segregation to which Dr. A. Newsholme has drawn attention, must be credited with some part of this improvement. The better splenic puncture and Colonel W. B. Leishman, R.A.M.C., had succeeded in obtaining developmental forms by cultivation in Novy medium. Photographs illustrating the parasites as recovered from the spleen and the developmental forms obtained were shown. Treatment had consisted of soamin (gr. 3) by intramuscular injections, x ray exposure to the spleen, and hetol by intravenous injection. On the whole, the patient had improved somewhat, especially as regards his blood condition and temperature.—Captain J. C. Kennedy, R.A.M.C., showed two patients. The first was probably a case of functional paraplegia, but in the early stage of the disease it was thought that the man was suffering from locomotor ataxia and the diagnosis was still to some extent open. The second was a case of paralysis of the oculo-motor nerve in which the diagnosis lay between the ophthalmoplegic migraine of Charcot and a neuritis of rheumatic or influenzal origin. Captain Kennedy pointed out that the possibility of the existence of a nuclear paralysis should not be overlooked. —Major H. W. Grattan, R.A.M.C., showed photographs of a case of Elephantiasis.—Fleet-Surgeon P. W. Bassett-Smith, R.N., contributed two pathological specimens: (1) Aneurysm of the Heart; and (2) Diaphragmatic Hernia. There was a large rent in the diaphragm through which the spleen and portions of the stomach and transverse colon had been forced.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 5th, Mr. R. F. Jowers, the President, being in the chair.—Mr. A. H. Tubby read a paper entitled "Arthritis Deformans (Rheumatoid Arthritis), with a Notice of Recent Surgical Treatment." He divided arthritis deformans into three groups: 1. Still's disease, which occurred in children before the second dentition, and was characterised by swelling of the joints, enlargement of the lymphatic glands and spleen, and arrest of bodily development. As treatment he advised arsenic and good food. 2. Rheumatoid arthritis, occurring mainly in females between 15 and 30 years of age and at the climacteric, usually subacute. It began by hypertrophy of the synovial membranes, while the ends of the bones became atrophic and transparent to x rays. It was a disease of debility and might be due to septic absorption from the uterus, carious teeth, a rectal ulcer, or auto-toxæmia from the intestine. Any possible septic focus should be treated surgically, and any joint which was much swollen or very painful should be opened and washed out and any excrescences of synovial membrane removed. He strongly recommended lactic acid milk diet to combat auto-toxæmia, guaiacol, arsenic, and iron as medicines, and locally radiant heat. 3. Hypertrophic or osteo-arthritis, a disease of the latter half of life, beginning in the bones, which became eburnised and sclerotic, bony spurs and Heberden's nodes forming, while the synovial fluid was decreased and the cartilages eroded. Removal of excess bone would sometimes help these cases.—The paper, which will be published in an early issue of THE LANCET, was discussed by the President, Dr. Walter Broadbent, Dr. E. Hobhouse, Dr. D. G. Hall, and Mr. G. Morgan.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 12th, Mr. G. B. Mower White, the President, being in the chair.—The President, in proposing that a letter of condolence should be sent to the family of the late Dr. James Grey Glover, spoke of the long association which Dr. Glover had had with the society and of the valuable services which he had rendered to it. One of the oldest members of the society, Dr. Glover had twice held the position of President. On the death of Dr. Syers at the beginning of the session 1906–07 the chair, to which he had been elected, became vacant, and Dr. Glover, with his accustomed unselfishness and at considerable personal inconvenience on account of his advancing years, very kindly stepped into the breach. All who heard the presidential address which he delivered at the close of the session on "The Outlook of the Medical Profession—Scientific, Social, Political, and Financial" will remember with pleasure the lofty ideals which actuated him and the hopeful view with which he regarded the future of the profession to which he was devoted. In conclusion, Mr. Mower White considered that Sir John Tweedy, in his "impressions of Dr. Glover"[1] had ably summed up his character when he said of his life work that it was the outcome of a fine and cultivated intellect, a just, generous, and religious spirit.—In seconding the motion, Dr. Alexander Morison spoke of his long and intimate acquaintance with Dr. Glover, and in a few touching sentences referred to his devotion to his work and to his kindly and generous disposition.—Dr. Morison then showed a case of Cerebro-spinal Meningitis in a child, aged five years, in whom marked improvement had followed the performance of lumbar puncture coupled with the injection of vaccine. He referred particularly to the good effect of drainage in these cases, where the symptoms are due to the intraventricular pressure. The child, who had been admitted to the hospital on Oct. 8th, was now practically well and was about to be sent home. Dr. Morison also showed a case of Heart Disease in a boy, in whom pain of a distressing and anginoid character was relieved by the performance of thoracostomy.—Dr. James Crabb showed a case of Developmental Imbecility in a boy, aged 13 years, in whom there were atrophy and defective movements of the tongue, due probably to a nuclear lesion in the medulla.—The President showed a specimen of an Abnormal Kidney removed by the abdominal route, and a case of Hallux Valgus cured by operation.—Dr. A. H. Pirie showed two cases, one of Idiopathic Keloid and the other a Lymphadenoma, which were undergoing successful treatment by the x rays.—Dr. T. J. T. McHattie showed a specimen of a Complete Gestation Sac delivered at the twenty eighth week, in which the placenta from its wide extent had become prævia.—Dr. Shaw showed microscopical slides of the Meningococcus and the Influenza Bacillus, and also Two Brains from cases of Meningitis.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 11th.—Dr. P. Boobbyer, the President, gave his introductory address on the Birth- and Death-rates of Nottingham during the Past 25 Years as compared with Other Towns. Taking the birth-rate first this showed a fall of 30 per cent. in the last 25 years; indeed, a decrease of some sort was to be found in almost all the civilised cities of the world with certain exceptions, such as those of Ireland, Spain, and parts of Austria and Russia. The probable explanation of the exception in these cases was the local maintenance of the old-fashioned religious beliefs regarding the subject of marriage and its objects. Writers were not wanting to point to the probable outcome of this tendency which was in the direction of the extinction of the families of the ruling and professional classes in favour of a reckless and thriftless proletariat. Turning to death-rates, in the matter of both the general death-rate from all causes and that from the principal epidemic diseases, Nottingham showed a pretty steady improvement like most other large towns, but after making due allowance for exceptional epidemics of measles, whooping-cough, and diarrhœa it seemed clear that progress in the right direction had latterly not been quite so rapid here as in the case of some other similar towns. This was especially true of the death-rate from enteric fever, in which other towns by radical reforms in the matter of scavenging or refuse and sewage disposal had out-distanced Nottingham. During the year 1907, as the result of severe epidemics of measles, whooping-cough, and autumnal diarrhœa all occurring in the same year, the infant mortality for Nottingham had headed that of all other big towns. Pointing out that the local death-rate from pulmonary tuberculosis was actually less than that for London, the speaker, as the result of 24 years of public health work in the county and city of Nottingham, drew the moral that further defects of sanitation would have to be faced and made good, instancing more particularly the demolition or improvement of slum areas, as well as the substitution of a water-carriage system for the present system of dry pail-closets.

LIVERPOOL MEDICAL INSTITUTION.—A pathological meeting of this society was held on Nov. 12th, Mr. T. H. Bickerton, the President, being in the chair.—Dr. W. B. Warrington showed a series of specimens illustrating the relation of different clinical signs, especially ascites, to various lesions of the liver.—Mr. Murray exhibited Typhoid Organisms recently isolated from the medulla of the femur of a patient who had suffered from trouble in this bone since an attack of typhoid fever 29½ years ago.—Mr. W. Thelwall Thomas for example, leads to dental caries; dental caries in its turn leads to oral sepsis. The deposition of tartar from the saliva gives rise to another circle by irritating the gum and causing it to recede from the tooth, leaving the neck and fang exposed. The exposed fang in its turn receives a coating of tartar, exciting further irritation and recession, and so the morbid process is continued, often to be only interrupted by the loss of the tooth. But oral sepsis has constitutional as well as local effects and frequently leads to gastro-intestinal catarrh and malnutrition. "Then a 'vicious circle' may become established; oral sepsis leading to systemic disturbance will tend to lower the resistance locally and to encourage the continuance of infection and absorption."[3] During infancy, while the eruption of the teeth is taking place, sepsis and defective nutrition may complicate the course of events by hindering the proper development of the maxillæ. Such imperfect development promotes dental caries and malnutrition. In the words of Goadby:[4] "Among children we find impaired nutrition and with it impaired growth; with this, again, badly developed maxillæ, and thus the vicious circle is complete."

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[1] THE LANCET, Oct. 24th, 1908, p. 1255.

GROUP II.—*Circles Associated with the Stomach.*

These may either concern the internal relations of the stomach or its relations with other organs. An example of the first occurs in atonic dyspepsia such as is associated with anæmia. The defective quality of the blood supplied to the stomach in anæmia leads to enfeebled peristaltic movements and hence to impaired nutrition of the stomach. From impaired nutrition results further weakening of the musculature, and thus is established one of the vicious circles so frequently associated with dyspepsia. But a weakened peristalsis has ill-effects extending in other directions. The adequate secretion of gastric juice depends largely on the peristaltic movements bringing the food pulp into repeated contact with every portion of the gastric mucosa. Hence any condition that weakens peristalsis diminishes gastric secretion. The result is that the ingesta are imperfectly digested, remain too long in the stomach, and set up irritation and congestion which further enfeeble the musculature.

Again, the weakened peristalsis which checked the adequate supply of blood and of gastric juice hinders absorption from the walls of the stomach, since such absorption is regulated by the movements of the stomach and by the activity of digestion. If the peptones are not removed at the proper time the necessary repose of the gastric glands is curtailed and digestion of the following meal is hindered. In brief, peristalsis, nutrition, secretion, and absorption are in such close reciprocal relation to each other that disorder in the one invariably involves the others. It matters little which function is first disturbed, the chains of a vicious circle are inevitably riveted round the dyspeptic. In atonic dyspepsia the food is often unduly retained, undergoes fermentation, and causes such an accumulation of gas that the stomach yields to the pressure and dilates. The dilatation in its turn increases the stasis and thus becomes progressive. "This *circulus vitiosus*," as Cohnheim[5] points out, "is aggravated by the fact that the products of the abnormal fermentations may act as exciters of inflammation in the stomach itself and may set up gastritis or add to its severity if already present. It need excite no surprise then that such conditions are, as a rule, very obstinate and are hardly ever perfectly recovered from except after the adoption of a really rational line of treatment." In many of these cases boulimia is a troublesome complication, resulting from, as well as aggravating, the gastric dilatation. Here also "a vicious circle is established and the morbid condition aggravates itself automatically."[6] Occasionally a mechanical condition contributes to the gastrectasis. The enlarged and loaded stomach sinks in the abdomen and pulls down the horizontal section of the duodenum. The result is a kinking of the latter which hinders the escape of the contents of the stomach. Hence follows, as Glenard[7] points out, a further tendency to dilatation and sinking of the stomach.

Another functional disorder of the stomach is gastric irritation or catarrh, generally caused by irritating ingesta. In the first stage there is increased secretion of the gastric juice (especially of hydrochloric acid) as well as increased peristalsis, these being compensatory and promoting the early evacuation of some of the contents of the stomach. The over-activity, however, is soon followed by exhaustion and impaired motor activity, as a result of which any food remaining in the stomach tends to ferment, setting up much the same circles as have been mentioned under atonic dyspepsia. In fact, the two conditions are closely allied.

Acute and chronic gastritis are severer disorders than those so far dealt with and are provoked by acute irritation or by excessive quantity of food. The associated morbid circles are similar to those already described but are complicated by an inflammatory condition. Ewald[8] gives the following description: "In diesen Fällen kommt es zu einer Störung der Saftsecretion und der motorischen Function des Organs, als deren Folgen entzündliche Processe der Schleimhaut entstehen, die ihrerseits wieder auf die Secretion verzögernd oder hemmend einwirken, woraus sich dann ein Circulus vitiosus in optima forma entwickelt. Derselbe wird durch die Bildung abnormer Zersetzungs- und Gährungsproducte . . . unterstützt." Another form of circle is associated with gastric ulcer, a disease from which recovery is often incomplete, leaving behind it a liability to relapse, and a diminished power of resisting fresh attack. The resulting lesion increases with each relapse until the cumulative effect may be extensive. Doubtless the impaired general nutrition due to the ulcer has some effect in rendering the mucosa less able to resist the extension of the mischief.

Somewhat wider circles embrace the intestines, the liver, in fact, the portal area. If, for example, imperfectly digested food escapes through the pylorus a catarrh of the intestines is set up which in its turn is reflected on the stomach. Ewald[9] goes so far as to say that this vicious circle (*Zirkelschluss*) is formed in all diseases of the stomach. Equally intimate is the correlation between stomach and liver. Every gastric and intestinal derangement reacts on the liver, while conversely every liver derangement reacts on the stomach. Lauder Brunton[10] who noticed how the composition of the blood made to circulate through an excised liver affected the rate of flow, suggests the following explanation: "Indiscretion in eating or drinking disturbs the digestive processes in the stomach and intestines; the products of imperfect digestion or of decomposition in the intestine being absorbed into the veins pass to the liver; they may there induce an obstructed flow through the hepatic capillaries; the venous blood returning from the stomach and intestines will no longer be able to find an easy passage into the general circulation, and venous congestion of the stomach and intestines will be the result. Such venous engorgement as this will interfere with gastric and intestinal digestion, and this again will react on the liver. Here, then, is a vicious circle which it is necessary to break."

The second division of circles relates to the stomach in its, so to speak, foreign relations, in its relations to organs unconnected with digestion. Hippocrates[11] has a famous aphorism:—

ὥσπερ τοῖσι δένδρεσιν ἡ γῆ, οὕτω τοῖσι ζώοισιν ἡ γαστήρ

(What the soil is to the tree the stomach is to the animal), and it is on this relation of the stomach to the animal that many circles depend. If the animal is out of health the stomach suffers. If the stomach is out of health the animal suffers. This vicious circle embraces the problem of nutrition in all its ramifications. But some organs are more susceptible than others. The delicate tissues of the central nervous system would on *a priori* grounds be likely to suffer early from gastric disorder, and such is found to be the fact. Defective nutrition of the nerve centres secondary to mal-assimilation quickly reacts on the gastric functions, stomach and brain reciprocally embarrassing each other. Worse still, if in consequence of stasis and decomposition of food poisons are brewed and the blood which should nourish the nerve tissues is itself tainted. Can one wonder that under such conditions a tangle of interactions is set up which it is not easy to unravel?

In neurasthenia, whether of spontaneous or of traumatic certainly earned the right to be heard, and his conclusions deserve the careful study of all who investigate this subject.

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[3] Spokes: THE LANCET, Feb. 24th, 1906, p. 509.

[4] Brit. Med. Jour., 1904, vol. ii., p. 440.

[5] Lectures on General Pathology, NSS., p. 859.

[6] Mitchell Bruce: Principles of Treatment, p. 471.

[7] Virchow: Archiv, vol. clvi., 1899, p. 306.

[8] Eulenberg, Real-Encyclopædie der gesammten Heilkunde, vol. xiv., p. 253, sub Magenkrankheiten.

[9] Eulenberg, Real-Encyclopädie, vol. xiv., p. 259; Lectures on Diseases of the Digestive Organs (NSS.), vol. ii., pp. 436, 437, 528.

[10] Disorders of Digestion, p. 25.

[11] Περὶ χυμῶν, § 11.

In the present work we find an immense amount of material which should prove of great value, and though we cannot endorse all the writer's conclusions we may at least express our appreciation of the manner in which he has carried out his task. In a chapter devoted to the geographical distribution of cancer a *résumé* is given of the frequency of malignant disease in different parts of the world, but it is certain that for many countries no real data are available. As to the increase of cancer the author considers that it is attributable to a general increase of material prosperity and urbanisation, or, as he says elsewhere, "out of these conditions, which comprise a more domesticated mode of life, want of proper exercise, and excess of food, I believe the present increased cancer mortality has sprung." Later we are told: "Probably no single factor is more potent in determining the outbreak of cancer in the predisposed than excessive feeding."

"Jensen's tumour" is not admitted to be cancerous by Mr. Williams but he does not appear to be aware that many other strains of inoculable tumours have been discovered and that these tumours are "cancerous' both histologically and clinically. In this connexion we might perhaps point out that in a subject so complex and uncertain as the etiology of cancer there is room for several opinions and that to dogmatise in the present state of our knowledge is hardly justifiable. The reader of Mr. Williams's work cannot fail to be struck by the very wide extent of his reading and no one will deny that he has accumulated an immense mass of facts, and inasmuch as references are given for nearly all the statements made the book will prove very useful to all workers on the subject of cancer.

A System of Medicine by Many Writers. Edited by Sir T. CLIFFORD ALLBUTT, K.C.B., M.A., M.D. Cantab., D.Sc., F.R.C.P. Lond., F.R.S., Regius Professor of Physic in the University of Cambridge; and HUMPHRY DAVY ROLLESTON, M.A., M.D. Cantab., F.R.C.P. Lond., Senior Physician, St. George's Hospital, Physician to the Victoria Hospital for Children. Vol. IV., Part I. London: Macmillan and Co., Limited. 1908. Pp. 764. Price 25s. net.

THE new edition of this "System of Medicine" will prove to be considerably larger than its predecessor; this is a matter of necessity, since much valuable work has been accomplished since the first edition was published. Any curtailment which would render necessary the omission of new knowledge, theoretical or practical, would naturally diminish its value and is therefore rightly to be deprecated. The editors have fully appreciated this principle and have acted accordingly. The fourth volume of the original System of Medicine has now been divided into two. The sections on Diseases of the Nose, Pharynx, and Larynx, which were originally condensed into 200 pages, have been removed and now, greatly expanded and accompanied by a section on Diseases of the Ear, will appear in a separate volume as Part II. of Vol. IV.

The present instalment, Part I. of Vol. IV., which contains the Diseases of the Liver, Pancreas, Ductless Glands, and Kidney, has undergone very considerable changes. Dr. A. Keith writes on the Anatomy of the Liver, and in a new article on Hepatoptosis supplements, so far as the liver is concerned, the more general article on Visceroptosis in Vol. III. He speaks favourably in regard to the operative treatment of hepatoptosis, quoting the 18 cases collected by Terrier, of which 15 were cured, one died, and in two the result was unknown.

Dr. William Hunter has supplied a new article on Delayed Chloroform Poisoning,' and after a criticism of the views hitherto held on the subject arrives at the conclusion that the condition is essentially a toxæmia of hepatic origin due to the poisonous action of chloroform on the liver cell, already depressed in its functional activity by pre-existing causes involving deficiency of carbohydrate food material and by excessive tissue proteolysis. The fat changes which are found are at once the expression of this deficiency and the measure of the degree of strain placed upon the cell in maintaining its energy. The various diseases connected with the blood-vessels of the liver, including multiple abscesses and suppurative pylephlebitis, are described by Dr. W. P. Herringham.

The article on Cirrhosis of the Liver has been rewritten by Dr. H. P. Hawkins. His remarks on the etiology of the condition are worthy of note. He concludes that alcohol is the predominant cause of the disease, but he also states that it is open to question whether its action on the liver is direct and immediate or whether some other factor is intermediate or conjoint. The view is widely held that alcohol should be regarded not as the immediate cause but rather as predisposing to, or assisting the action of, some other poisonous agent which is not yet actually determined; this agent may possibly be of a bacterial nature. Dr. Hawkins further shows that it is beyond question that a non-alcoholic portal cirrhosis is occasionally met with in adults, more commonly so in children, and evidence is forthcoming to support the hypothesis that this form of cirrhosis may have a toxic origin. Dr. H. Morley Fletcher contributes a new article on Biliary Cirrhosis. He describes two recognised forms: (1) hypertrophic biliary cirrhosis (*Hanot's disease*), and (2) obstructive biliary cirrhosis. An article on Tuberculosis of the Liver has been written by Dr. W. Hale White, and one on Syphilis of the Liver by Dr. Hawkins.

In place of the valuable contribution to the first edition of Dr. Fitz of Boston, U.S.A., new articles on Disease of the Pancreas have been written by Dr. W. C. Bosanquet and Dr. G. Newton Pitt. In describing chronic pancreatitis Dr. Bosanquet mentions that among the toxic causes of this condition the most important is probably the abuse of alcohol; he also alludes to the fact that in the majority of cases of cirrhosis of the liver the pancreas is simultaneously affected. The vast majority of cases of fibrosis of the pancreas are only discovered on the post-mortem table, and it is clear, therefore, that mild degrees of the affection can run their course without giving rise to any characteristic symptoms. Dr. Newton Pitt gives a good account of tumours, cysts, and calculi of the pancreas. For purposes of convenience the descriptions of infantilism (Dr. John Thomson), obesity and adiposis dolorosa (Sir Dyce Duckworth), and œdema (Professor W. D. Halliburton) are appended to the section on Diseases of the Ductless Glands.

Professor G. R. Murray has written a new account of Myxœdema. In discussing the treatment of the disease by preparations of the thyroid gland, he expresses the opinion that the liquor thyroidei yields the best results. The liquid should be freshly prepared once a fortnight and be prescribed undiluted; the patient should be instructed to measure out the required dose in a minim glass and to add a dessertspoonful of water. The other articles on Diseases of the Thyroid Gland have been almost rewritten by Dr. Hector Mackenzie.

Acromegaly now finds a place in this volume instead of in Volume III., as in the previous edition, and is described by Professor E. F. Trevelyan. In stating the various therapeutic measures which have been tried in connexion with this disease he suggests that when headache is intractable trephining deserves a trial; the operation has already been proved to be of service in a few cases.

Bacteriological research has brought to light a circle associated with cholelithiasis. In a large proportion of attacks micro-organisms that have reached the gall-bladder excite a catarrh of its mucous membrane, which results in a disintegration of the epithelial cells, amongst which cholesterin, bilirubin-calcium, and micro-organisms are deposited. In course of time these become aggregated into biliary calculi, which in their turn keep up the catarrhal condition to which they owed their origin. A circle may also be set up in those cases of appendicitis which are followed by recovery although there is no *restitutio ad integrum*. Recovery is at the cost of some permanent anatomical lesion and of lessened resistance to fresh attack. The first attack has bequeathed a liability to recrudescence on trivial provocation and each time the lesion increases. The acute attack and the lowered resistance act and react on each other, ending but too frequently in a fatal catastrophe.

Mention has already been made in Group II. of the circle associated with a failing heart and an impure blood-supply due to visceral congestion and stasis. If the stasis is so severe as to lead to ascites (including hydrothorax and hydropericardium) the abnormal pressure conditions will aggravate the heart failure and set up a condition of grave peril to life. The ascitic effusion, by pressing on the renal veins, may also impede the excretion of urine; the impeded excretion further increases the ascites.

GROUP IV.—*Circles associated with the rectum and anus.*

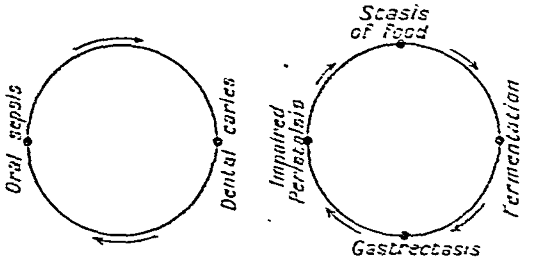
Various circles occur in conjunction with constipation[23] and defæcation. Dilatation of the rectum and constipation, for example, stand in reciprocal relations, each condition acting and reacting on the other. If fæcal masses remain long in the intestine or in the rectum, much of the contained liquid undergoes absorption, the fæces being converted into dry and scanty scybala. In course of time these scybala may cause obstruction and further increase the constipation, fæcal stasis being both cause and effect of fæcal stasis. Constipation is frequently complicated with hæmorrhoids, anal fissure, ovarian tenderness, or even trigeminal neuralgia,[24] all of which, owing to associated pain, cause inhibition of peristalsis and consequently aggravate the constipation. Strümpell[25] has drawn attention to the occasional connexion between neurasthenia and constipation. "The nervous affection ...... is often probably the primary disease, which is followed by constipation, while in other cases the habitual constipation leads secondarily to the nervous depression. The two conditions usually form a vicious circle, since each of them is able to keep up and to increase the other." Two circles may be met with in prolapsus recti. Prolapse causes tenesmus; result of the tenesmus—increased prolapse; prolapse also causes relaxation of the sphincter; result of the relaxation—increased prolapse.

An illustration of an infective circle occurs in persons whose rectum is infested with oxyurides. The consequent itching and scratching lead to the helminths or their ova being caught under the nails, conveyed to the mouth, and swallowed by the host. From the stomach the ova reach the intestines and rapidly attain maturity. Thus the irritation secures by auto-infection successive generations of the parasite. The present vogue of quack aperients and the impatience of over-zealous disciples of Æsculapius are responsible for the artificial circle often set up by the injudicious use of cathartics. The irritation of the mucous membranes brought about by indiscriminate drugging depraves the secretions and produces a condition which is urged in proof of the need of further evacuations. "And thus the practice proceeds in a vicious circle of habit from which the patient is rarely extricated without more or less injury to his future health."[26] The constipation is relieved but only to be followed by more obstinate constipation requiring stronger aperients.

Enough has been said to indicate the frequency of vicious circles in disorders of the digestive system. The list, however, is far from exhausted, for the various functions of the body are so linked together that disturbance of the equilibrium existing between them radiates far and wide, cause and effect acting and reacting continuously on each other. It was well said by Paget[27] that "the health of each part is a necessary corollary of the health of all the rest." Equally true is it that disease of one part involves disease of all the rest.

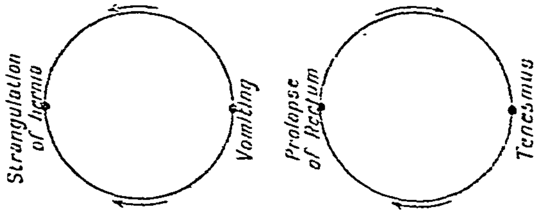
Conclusion.—The ἰατρὸς πολύτροπος may sometimes anticipate and prevent the establishment of a vicious circle if he is familiar with the course of pathological processes and intervenes at the right moment. *Melius est prevenire quam preveniri.* When a circle is present, a recognition of the reciprocally acting forces will solve many an enigma in obscure disease and pave the way for rational treatment. The graphic method of analysing a circle into its two, three, or more component factors, as shown in the accompanying diagrams, will be found of considerable assistance (cf. Figs. 1 and 2).

FIG. 1.



Oral Circle Gastric Circle

FIG. 2.



Intestinal Circle Rectal Circle

In the matter of treatment the removal of the exciting cause will at times insure recovery. Or the weakest link in the chain of actions and reactions may be snapped and the circle broken. In yet other cases each of the factors acting reciprocally on each other must be attacked. Never should it be forgotten that the presence of a vicious circle is a *signum mali ominis*, tending to aggravate and perpetuate disease. The wise physician will adopt as his motto the words of Ovid—

> "Principiis obsta; sero medicina paratur,
> Cum mala per longas convaluere moras."

Reading.

MULTIPLE VESICAL CALCULI.*

BY WILLIAM J. MALONEY, M.D. EDIN.,
RESIDENT MEDICAL OFFICER, KASR-EL-AINY HOSPITAL, CAIRO.

CALCAREOUS matter in urine was formerly termed sand, gravel, or stone according as it occurred in crystalline deposits, small, or large concretions. Natural characters by which to differentiate these forms were unknown, so arbitrary standards, based on a common property, weight, were used. Thus, Sir Henry Thompson[1] taught that a vesical concretion should not be deemed a stone unless it weighed at least 20 grains; this was rather an exacting standard, especially for concretions of low specific gravity, and it disdained as gravel what were indubitably stones. But the researches of Rainey, Ord,[2] and Carter[3] have shown that all stones contain colloid material as a characteristic and essential constituent which naturally distinguishes them from any other form of calcareous deposit. A concretion free from colloids is not a calculus; conglomerations of

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[23] Some of these circles associated with constipation might equally well have been placed in Group III., but for convenience sake are grouped together here.

[24] Allbutt: System of Medicine (first edition), vol. vi., p. 731.

[25] Text-book of Medicine, pp. 422-3.

[26] Sir Henry Holland: Medical Notes and Reflections (1839), p. 99.

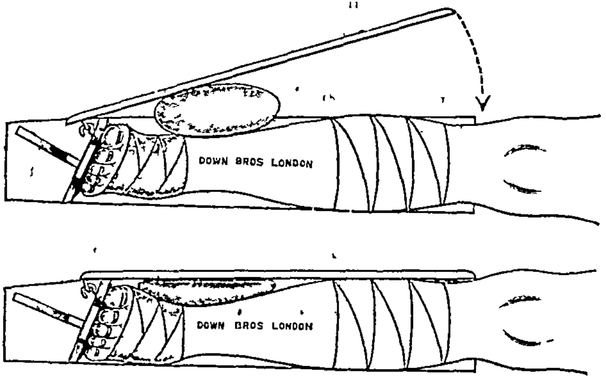
[27] Quain: Dictionary of Medicine (1894), vol. ii., p. 325.

* The superior figures refer to the bibliography at the end

New Inventions.

A NEW SPLINT FOR THE TREATMENT OF POTT'S FRACTURE.

I HAVE designed, and Messrs. Down Brothers have made, a new splint for the treatment of Pott's fracture. The apparatus consists of a short back splint with the foot-piece set at an angle to the back piece of about 30 degrees, so that the foot is brought into a position of inversion. There is also a single side splint of the same length as the back splint. The side splint is provided with two rings at its lower end, which fasten on to two hooks below the foot-piece at its inner end. When the leg has been fixed on the back splint a large pad is applied to the inner side of the ankle. The side splint is then brought up to the back splint and fixed with a bandage carried round both back and side splints. The side splint thus acts as a lever of the second order, the fulcrum being the hinge which fastens it to the foot-piece of the back splint. The lever makes pressure through the pad on the inner side of the ankle, above the inner malleolus, and forces the leg outwards, thus reducing the outward displacement of the foot, and the broadening of the limb above the ankle-joint due to separation of the malleoli. The splints do not reach up the leg as far as the knee, so that the limb can be put up with the knee in the flexed position.



GEORGE WILKINSON, M.B., B.C. Cantab., F.R.C.S. Eng.,
Honorary Surgeon to the Sheffield Royal Hospital.

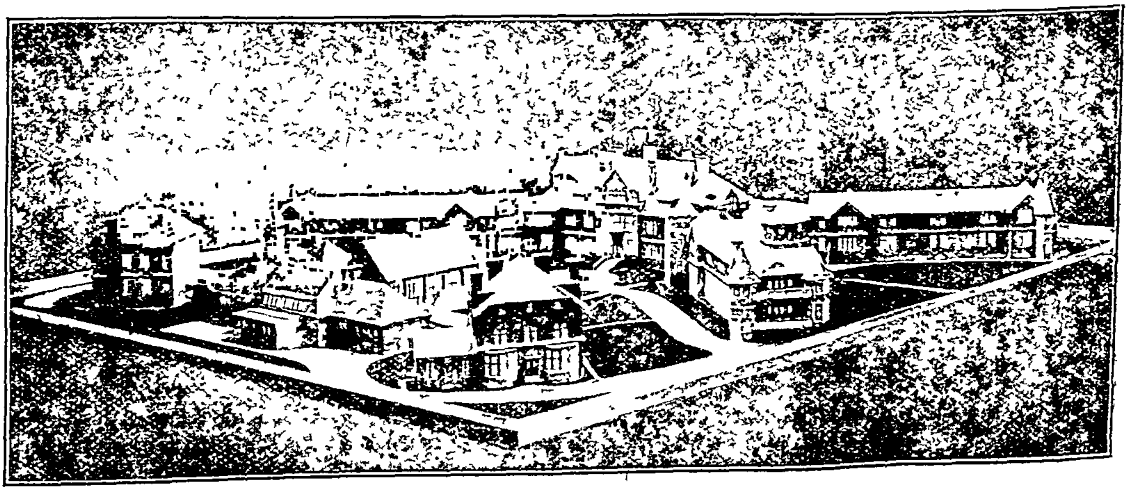
ELECTRIC ILLUMINATION FOR DIAGNOSIS.

Messrs. F. Davidson and Co. of 29, Great Portland-street, W., have shown us a very efficient and complete outfit for electric illumination of the eye, ear, nose, &c., and also for transillumination. The source of energy consists of what appears to be a very good form of dry cell. Two of these are fitted in each case but one is usually sufficient and the second, by a very simple device, can be thrown into circuit when the first shows signs of exhaustion. The small lamps give a very brilliant white light (but the intensity can be reduced if desired) which gives a very good transillumination of the antrum, &c. The set comprises the firm's new patent electric ophthalmoscope. There is also a full set of aural and nasal specula, a twin lamp for transillumination, and a cautery handle with some cautery burners, as well as extra lamps. If care be taken not to turn on the current longer than is actually required from 12 to 18 burnings can be done with the cautery before the cell is exhausted, and even after this the cell can be used for a considerable time for light. The cells cost 3*s*. each. The whole is contained in a very compact wooden case which is light and easily portable. It should prove of great use and convenience to specialists and others.

THE FRIMLEY SANATORIUM.

FROM all the civilised countries of the world there were sent to the International Congress on Tuberculosis at Washington exhibits in the form of drawings or models or both to show what was being done in the way of sanatoriums, and among these the sanatorium of the Brompton Consumption Hospital at Frimley received the great distinction of sharing the first prize with the Whitehaven Sanatorium, Pennsylvania. We may add that the Brompton Hospital received the first prize for institutions for the treatment of advanced cases.

We have already described this sanatorium at some length in THE LANCET,[1] giving also a ground plan and a picture of one elevation; we now show a reproduction of a photograph of the model which was exhibited. The model was made, to a scale of eight feet to the inch, coloured after nature, with real gravel paths, the grass being of green cloth. Our readers can see well from the illustration the plan of the building. The eight groups of buildings consist of the following: (1) gate lodge; (2) laundry; (3) engine and boiler house, with engineer's residence; (4) pathological block with mortuary, all placed near the road for convenience of delivery of coal, &c., and for keeping any hearse out of the grounds; (5) the patients' wards and the administration; (6) assembly hall, dining-rooms, kitchen, and stores; (7) medical officers' residence; and (8) nurses' home



Reproduction of a photograph of a model of the Frimley Sanatorium.

The problem which the architect, Mr. Edwin T. Hall, vice-president of the Royal Institute of British Architects, set himself to solve was to design the patients' building, so that there should be a minimum of distance from the administrative centre to the farthest ward; there should be only two storeys (ground and first floors) of wards, and the building should be divisible into units to admit of elasticity of classification and segregation. This eventuated very well in the design adopted

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[1] THE LANCET, August 5th, 1905, p. 398.

with the future water-supply needs of B and C so long as it can procure for itself an adequate supply of pure water. We do not think that there is much difference of opinion amongst those who have studied the water problem as to the pressing necessity before the water-supplies of the country are all appropriated of acting upon the recommendation of the members of the Royal Commission on Sewage Disposal, who in their third report proposed the formation of rivers boards which should have control over all the matters referred to and whose work should be focussed in some central authority. It is doubtful whether a measure comprising these recommendations would have to be regarded as a contentious one and, this being so, it is not easy to understand why the recommendations of the Commission have not as yet been acted upon.

"The Human Woman."

THERE can hardly be two opinions as to the importance of the question which is so prominently before the public at the present day. The questions of the civic and political status of women cannot be shelved nor do really thoughtful people desire to shelve them, however much they may resent some of the methods which have been adopted by a certain section of women. There is at the present moment a solid body of responsible opinion desirous of attaining the ends advocated, though certainly retarded, by these women, and conscientious citizens cannot afford to ignore this fact. Times have changed. The wilderness in which such prophets as JOHN STUART MILL and JOHN STUART BLACKIE raised their voices in the last century has become peopled by an advancing army no longer to be brushed aside as a group of idealists or despised as a "shrieking sisterhood." With the views of philosophy, however, though they have undoubtedly become of late more favourable to women's claims, we are not here concerned; we are considering only the arguments put forward by an army of women who are prepared to make intellectual rather than physical assaults upon the doors of political institutes hitherto sacred to their husbands and brothers. A very spirited assault of the former order has been delivered by Lady GROVE[1] in a book which we are constrained to think will become a powerful weapon in the armoury of her cause. "The Human Woman" is a book which merits the careful consideration of her opponents, for if they can silence her arguments effectually they will strengthen in a material manner the case for restraining women from sharing equal political rights with men. The evidence, for instance, adduced from the State of Wyoming where women's suffrage has been in force for a quarter of a century deserves careful consideration, and Lady GROVE's essay on "War and Woman's Suffrage" contains a shrewd refutation of the doctrine that only those who are prepared to defend the country with their bodies should have a voice in controlling its destinies. Indeed, the logical application of this doctrine would notably reduce the present suffrage. But although we are not concerned to discuss this question in its political bearings there are certain aspects of it which fall within the legitimate province of a medical journal and which are of vital moment to the topic.

We do not propose to deal directly with Lady GROVE's principal theme, the case for women's suffrage, but with what appears to us the inevitable sequel to its attainment,—the claim of women to enter Parliament, for they would hardly rest content to elect candidates not of their own choosing. To meet this problem she has written a chapter headed "Women in Assemblies," in which she seeks to show that the success of women on Local Government bodies justifies their promotion into Parliament itself should the country really desire it. Now here is the crux of the whole matter. In the first instance we may ask, "Do the women of the country really desire the suffrage, to say nothing of executive responsibility in Parliament?" a question of which Lady GROVE acknowledges the force; and secondly, are women as a whole as fitted mentally and physically for the business of legislation as are men? The question is so weighty that it must be decided upon general principles and not upon the performances of exceptional women. It is true that women have served, and are serving, with distinguished success on Local Government bodies, as many prominent men of affairs have testified in the book under discussion, but we submit that these are picked and pioneer women and hardly representative of the "average woman," and that they are, moreover, shining in a sphere where men have failed signally to realise their responsibilities. More honour to them, certainly, and more discredit to men grown careless, but nevertheless the case by no means necessarily applies in the affairs of Parliament to which its active members are accustomed to devote their talents strenuously and wholeheartedly. Are women fitted to supplement or to supplant men in the direct counsels of the nation, having regard to their mental equipment and physical disadvantages? We may say at once that we are convinced that a greater fundamental psychical sex difference exists between the average man and the average woman than Lady GROVE will admit, and we are further convinced that the preponderance of executive ability—the broad grasp of detail, the capacity of selecting the essential fact, and of seizing the decisive moment—resides in the masculine rather than the feminine mind. The talented author doubtless will disagree with us with vivacious eloquence and we have no other proof to support the faith that is in us than an appeal to experience, and we fear we shall hardly propitiate her or excuse our presumptuous attitude by confessing freely that the opposite sex possesses other and perhaps more glorious attributes of no less moment for the welfare of the race. We mean by experience rather a general experience of men and women than an examination of history; it would be hardly fair to point to the rarity of distinguished women, as compared to distinguished men, in every branch of human activity except those of the domestic life, in the past, for this may have been due to the handicap of their education—or lack of it—and of the convention of their upbringing. At the same time this has not prevented the sporadic appearance of genius amongst women—the recently deceased Dowager Empress of China affords a notable instance—but such genius has been infinitely stones were removed one by one by my finger and a scoop, while an assistant made pressure through the rectum and abdomen so as to keep the mass applied to the wound in the neck of the bladder and to afford some resistance to the delving action of the scoop; after 30 minutes 121 separate stones were thus removed, together with much friable débris like powdered chalk and the great globular mass in the bladder had disappeared; one large oval stone of about the size of a duck's egg still remained, situated about the fundus of the bladder which was so contracted around it as partially to embed it. As it was too big to extract unbroken I partially crushed it with forceps and carefully extracted the fragments. The bladder was drained through the perineal wound and washed out night and morning with boric acid solution. Ten days after operation the urine, which still contained pus in small amount, was passing in about equal quantities by the wound and by the normal route; in three weeks the perineal wound was quite healed, the urine was acid, and only a few pus cells and red blood corpuscles could be detected microscopically.

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[1] The Human Woman. By Lady Grove. London: Smith, Elder, and Co. 1908.

Six days after the operation the patient developed a virulent ulcerative stomatitis which rapidly spread till it involved almost the entire alveolar margin and exposed patches of bare bone on both maxillæ; this infection, without any rise of temperature, continued unabated for nine days and then began steadily to die down. His general condition improved considerably as his mouth healed but he contracted acute dysentery and died within 36 hours, on the twenty-sixth day after the operation.

The following is a *précis* of the post-mortem report furnished by Dr. A. R. Ferguson, professor of pathology, School of Medicine, Cairo. "Peritoneum normal. Bladder slightly enlarged, rather thin-walled; on inner surface superficial areas of yellowish discolouration (? necrotic) and a few small ulcers but otherwise mucous membrane healthy; pus exuded from orifice of left ureter. Kidneys, normal size, both very soft, capsules non-adherent; diffuse purulent infiltration of substance without definite abscess formation: ureters normal. Intestines, colon distended with large quantity of altered blood: extensive superficial ulceration suggestive of acute dysentery. Spleen, weight 150 grammes, soft atrophied pulp; does not suggest septicæmia. Liver, slight fatty infiltration; no gross lesion. Heart, soft, flabby, fatty muscular walls, no valvular lesion. Lung emphysematous; congested and œdematous at bases. Bilharzial worms were present in the portal blood. The relatively healthy condition of the bladder post mortem may have been due partly to the toleration alleged to be characteristic of the oriental bladder and partly to the rounded shape and immobility of the mass of stones. There was no appearance of calcareous matter in either kidney or ureter."

Mr. W. M. Colles, B.Sc., assistant professor of chemistry, kindly analysed a few of the small stones. They consisted of: Ammonium magnesium phosphate, calcium carbonate, ammonium urate, and calcium oxalate (traces). The large stone was of similar composition but contained relatively more urate.

As bilharzial ova were present in the urine I looked for them in four stones but found none.

The case was admitted to the wards of Mr. F. C. Madden, who kindly allowed me to operate and to conduct the after-treatment.

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Cairo.

THE DIAGNOSIS AND TREATMENT OF PANCREATITIS.[1]

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I HAVE often thought that one of the most interesting studies in medicine is the history of the stages in the evolution of our present knowledge of a particular disease or group of diseases. This is well exemplified in the case of pancreatitis. In the year 1672 Tulpius described pancreatic abscess of pyæmic origin; in 1799 Matthew Baillie describes what he calls a hard pancreas with the lobules distinct, which is what we now should call a case of chronic interstitial pancreatitis, and the same author figures a case of pancreatic calculi, carefully dissected, showing the relation of the bile and pancreatic ducts. Percival, in 1804, described a case of acute suppurative pancreatitis following an attack of acute gout, and Balser in 1879 first described acute pancreatitis with fat necrosis. No general attention was attracted to the subject, however, until Fitz ten years later published his important papers. The surgical study of the inflammatory diseases of the pancreas in recent years may be said to be the result of an inquiry into the causation of some of the complications of gall-stone disease, and, as W. S. Mayo has pointed out, our present knowledge of these affections is largely due to Mayo Robson who first noticed the disease in connexion with his operative work upon the biliary tract. This knowledge can hardly yet be spoken of as common knowledge, since many recent works on medicine give little or no attention to the subject; and in this connexion it is of interest to note that in the Transactions of our own Society there is no paper on this important subject.

The comparative frequency of the disease and the brilliant results which follow operative interference may be gathered from the writings of Mayo Robson, who, as far back as 1904, pointed to a record of 102 operations undertaken in patients where chronic pancreatitis constituted the chief disease, or where it formed the chief complication of the disease, with 96 per cent. of recoveries, giving a mortality of 3·9 per cent. An admirable survey of recent literature on the diagnosis and surgical treatment of subacute and chronic pancreatitis is given in Robson's and Cammidge's recent work on the surgery and pathology of the gland.

My interest in this subject was aroused in the course of the autumn of last year through the admission to Sir Thomas Fraser's wards, then under my care, of a case of chronic pancreatitis, in which this diagnosis had previously been established by operation. Through the kindness of Sir Thomas Fraser I was later able to show you this patient, who, I regret to say, succumbed some months later. My investigations of this case led me to make a lengthy investigation into the reliability of the so-called pancreatic reaction in the urine, a test devised by Cammidge and relied on by Robson as of great value in the diagnosis of pancreatic deal with it by operative procedures. The only operation which has been employed to any extent for spinal caries has been laminectomy and that has only been performed for consecutive paralysis, and there is no doubt that the general surgical opinion in this country is opposed to this operation for paraplegia following caries of the spine. The pressure on the spinal cord which leads to the paralysis, whether it acts directly or by the setting up of a transverse myelitis, is but little likely to be relieved by removing the laminæ of one or more vertebræ. The exudation mass giving rise to the pressure, for it must be very rare in spinal caries for the bone itself to exert any pressure on the cord, is situated at the anterior part of the spinal canal immediately behind the vertebral bodies and to a small extent on each side. It might therefore be reasonably expected that the mere removal of some laminæ would have no, or little, effect on the pressure exerted on the anterior aspect of the spinal cord. The results obtained by laminectomy support this theoretical conclusion. It is true that occasionally the paraplegia diminishes after the operation, but the proportion of cases in which this occurs is no greater than in those where the paraplegia is treated by prolonged rest in bed. It has therefore come to pass that most surgeons limit themselves to opening abscesses in cases of spinal caries but do not undertake any further operative procedures.

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[1] A paper read before the Edinburgh Medico-Chirurgical Society on Nov. 4th, 1908.

Dr. KIRK has confined the operations which he has performed to caries of the dorsal and lumbar regions, for in these the tuberculous disease is as a rule limited to the body of the vertebra, while in the cervical region it extends into the pedicles and the laminæ, and in the sacrum the whole bone is usually involved sooner or later. This limitation of the disease to the body in the dorsal and lumbar regions renders the lesion more amenable to treatment and more accessible to surgical interference. When a student and as a resident Dr. KIRK tells us that he saw several laminectomies done for paraplegia from caries and later he performed the operation once, but in all these cases the results were unsatisfactory. In 1896 he was asked to operate on a child who had suffered for long from complete paraplegia due to caries of the dorsal spine. He performed a costotransversectomy or MÉNARD'S operation with very good results. He was so satisfied with the effect of the operation in this case that he employed it in several other similar cases and in all the paraplegia disappeared. He was so much impressed by the success which he had attained that he employed MÉNARD'S operation in cases of spinal caries where no paraplegia was present but with palpable lumbar, iliac, or psoas abscesses; he evacuated the pus and removed the carious or necrotic bone. The results in these cases also were favourable. Dr. KIRK then determined to employ the same operation in early cases of spinal caries, for he was dissatisfied with the results of the usual treatment of such cases by prolonged rest in bed, fresh air, and good food, and the subsequent use of spinal supports. In early cases the disease is limited to the body of one vertebra, and if this vertebral body be removed the adjacent bodies fall together, and Dr. KIRK finds that the deformity which follows is very slight. The results of those early operations were very satisfactory and now Dr. KIRK considers that it is the best method of treatment of early caries of the spine in the dorsal and lumbar regions. The statistics which he gives are not complete, for he has been unable to trace many of the cases; but the results so far as known are as follows. In all he has operated on 61 cases of dorsal and lumbar spinal caries. There were five deaths immediately due to the operation. Three of these deaths occurred in adults who had suffered from the disease for many years. In one of these fatal cases in adults the operation was abandoned early as the anæsthetic was badly taken and the patient died a few hours later. In all the other fatal cases the patients had large abscesses. In all of the cases in which paraplegia was present the patient recovered from it after the operation. In ten cases with large abscesses the suppuration continued and eventually the patients died. The majority of the cases left the hospital in good general health, with sinuses discharging a small amount of pus, and in many of these when seen later the sinuses had healed. In 14 cases the wounds were completely healed before the patients left the hospital. The statistics, incomplete though they are, support, in Dr. KIRK'S opinion, his plea for early operation before any abscess has developed or pressure paraplegia has occurred. It is certainly worthy of note that not a single case died after the operation when performed at an early stage. The rate of mortality rises with the extent of the disease, the amount of abscess formation, and the presence of pressure effects on the cord.

The operation is as follows. A vertical incision is made immediately to the outer side of the tips of the transverse processes. If an abscess or a sinus or any indication of pressure on a nerve exists on one side the incision is made on that side, but if no indication exists the operation is performed on the right side. The centre of the incision should be opposite the vertebra affected, and it must be borne in mind that the most prominent spinous process belongs to the vertebra immediately above the carious body. The transverse processes of three vertebræ should be exposed, and in the dorsal region an inch of the ribs external to the tubercle should be cleared and the pleura should be carefully separated, for it is easily perforated. The ribs are then cut through with forceps and the transverse processes are also divided and these portions of bone are removed. The soft tissues are raised from the pedicles and sides of the bodies by a periosteal elevator and the carious bone is readily found. The hæmorrhage may be troublesome and this is best avoided by using the scalpel as little as possible. Three transverse processes require to be removed to give free access to the affected body. The carious bone is removed and then by means of a chisel or gouge the anterior and lateral walls of the cavity must be taken away so as to allow the level surfaces above and below to fall together and to obliterate it. The cavity is cleared out, dried, and packed with sterilised gauze soaked in a solution of picric acid. The superficial part of the wound may need to be reopened later. As soon as possible after the operation the patient is allowed to sit up, so as to bring together the bony surfaces; a spinal support is never employed. We have described the operation somewhat fully so as to enable surgeons to judge of the method employed. It is difficult without more ample statistics to form an exact opinion of the value of this method of treatment.

malignant disease of the gland, a fact of great practical importance. In appraising the value of this diagnostic measure we must, of course, keep in view the fact that a certain proportion of cases of malignant disease is complicated by general catarrhal or interstitial changes throughout the gland.

My third group leads me to refer to the etiology of so-called catarrhal jaundice. Mayo Robson, Sidney Phillips, and other writers have previously suggested that certain cases which are at present regarded as "catarrhal jaundice" may really be "acute pancreatitis," the blocking of the bile-ducts being the result of pressure from an enlarged and swollen head of the pancreas. In the course of the past year I have had the opportunity of, I think, establishing the correctness of this view. I have examined the urine of five cases of so-called catarrhal jaundice, four of which were personally observed. In three of the five there was a marked pancreatic reaction in the urine and in these cases a striking clinical feature was tenderness on deep palpation over the region of the head of the pancreas; in the remaining two the reaction was negative and free palpation of the abdomen in the region of the pancreas failed to elicit any pain. On the strength of these facts I venture to suggest that those cases of catarrhal jaundice which are associated with a well-defined area of tenderness in the region of the head of the pancreas are in reality cases of pancreatitis. The next case is typical of a group in which the pancreatitis is secondary to ulcer of the stomach or duodenum.

CASE 3.—A woman, aged 28 years, consulted me on account of pain in the abdomen and back and vomiting, the symptoms being of eight weeks' duration. Some years previously she had suffered from gastric ulcer. The pain radiated to the left side, its onset had no immediate relationship to the taking of food, and it persisted for some hours. On examination I found marked tenderness on deep pressure one inch above the umbilicus and to the right, the area of pain extending for about two inches, with dulness on percussion over the affected area. The motions were unformed, pale, and fetid; no microscopic examination was made. There was no febrile disturbance. Under treatment the condition gradually improved, all symptoms disappearing in four weeks, and for the past eight months the patient has enjoyed very good health. In this group I have seen two cases complicated by glycosuria, and one, a male patient under the care of Professor W. S. Greenfield, who developed glycosuria and also melæna when under observation in hospital.

Lastly, I will refer very shortly to the occurrence of pancreatic disease in some general constitutional conditions in which its existence has not, so far as I am aware, been previously recognised. I have notes of 20 cases of gout and rheumatoid arthritis and four cases of chronic alcoholism seen in private or in hospital practice in which the existence of pancreatic disease was determined by the presence of a marked pancreatic reaction in the urine with tenderness on deep pressure over the head of the gland. Since cases of gout, rheumatoid arthritis, and the like are in the majority of instances associated with a catarrhal state of the intestinal tract, as shown by the fetid state of the stools, &c., the existence of pancreatic disease in these conditions is not surprising, and its recognition is of practical importance from the point of view of treatment. I have on several occasions been consulted by patients who had previously been dieted for their gouty state along the familiar lines of a marked reduction in animal food, with relative and actual excess of farinaceous foods, in whom examination of the urine revealed a marked disturbance of the pancreatic function. In these cases recovery from symptoms followed the adoption of a diet—more protein, less carbohydrate—the advisability of which had been suggested by the results of urinary analysis. In this connexion it is of interest to refer to the observations of Dr. Katharine J. S. [illegible] of Craigleith Poorhouse, who, at my suggestion, made a histological examination of the viscera in some fatal cases of rheumatoid arthritis dying in the parochial hospital. In all the four cases examined striking pathological changes were present in the pancreas. I may add that more recently I have examined the urine of a case of rheumatoid arthritis in the same institution in which shortly before death the urine contained over 3 per cent. of sugar, and since this paper was written I have seen in Dr. A. Bruce's ward in the Royal Infirmary another patient with rheumatoid arthritis in which the urine contained 27 grains of sugar to the ounce.

Differential diagnosis.—It is not my intention to refer at length to the many points which are of value in the differential diagnosis of cholelithiasis and malignant disease of the liver or bile-ducts on the one hand and inflammatory or malignant disease of the pancreas on the other. My object is rather to record the results of my investigations into the reliability of recently devised tests for the determination of the existence of pancreatic disease and to refer to their practical importance both in diagnosis and differential diagnosis. The points to which I would draw attention may be shortly summarised as follows.

I. In cases of jaundice of doubtful origin assistance in the diagnosis is afforded by urinary analysis. (*a*) A negative pancreatic reaction points against the existence of pancreatitis. (*b*) In cases of cholelithiasis a positive reaction indicates pancreatitis and is very strong evidence that the stone is impacted at or near the duodenal end of the common bile-duct. (*c*) In cases where cholelithiasis can be excluded and the clinical features point to the existence of organic disease of the pancreas a negative pancreatic reaction points to malignancy.

II. Glycosuria, according to Mayo Robson, is of some value in the differential diagnosis of pancreatitis from malignant disease, this symptom being more common in inflammatory conditions of the gland. I have notes of four cases of malignant disease of the pancreas with distinct glycosuria, but it should be noted that these cases were all examined shortly before death.

III. The site and distribution of the pain have diagnostic significance. The pain of pancreatic disease is referred to the epigastrium and radiates to the left side; in disease of the gall-bladder and the bile-ducts the pain is referred to the right hypochondrium and radiates to the right.

IV. In acute cases with pain and pyrexia points strongly to an inflammatory affection.

V. Emaciation, anæmia, and asthenia may be present in pancreatitis to an extent equal to that present in advanced malignant disease.

With regard to pancreatitis unassociated with jaundice I would like to emphasise the following points.

I. In not a few cases of indigestion associated with flatulence, abdominal discomfort or pain having no distinct relation to food, constipation, and in some cases pale fetid stools, the primary derangement is to be found in the pancreas. In such cases a prominent clinical feature is the occurrence of pain on deep pressure over the region of the head of the pancreas.

II. In some cases of neurasthenia a marked pancreatic reaction is present in the urine. We have at present no data enabling us to determine whether this pancreatic disturbance is a result or a cause of the neurasthenic state.

Treatment.—In the early stages of the disease the inflammation subsides under simple remedial measures. The diet should be a light one and in cases where gastric symptoms are present an exclusive milk diet may be advisable for some days. Small doses of calomel frequently repeated, followed by a morning saline for two or three days, act beneficially in promoting a healthier state of the liver and small and large intestines. Where constipation is present, as it often is, one or more enemata may be called for. The pain may be relieved by ice-bags, hot fomentations, or, if necessary, subcutaneous injections of morphine. The excretory functions of the skin should be stimulated by an occasional Turkish bath, provided always that due care is taken in recommending such a measure and explicit instruction is given with regard to the necessary details. In the later stages the same rules apply. The diet should be carefully attended to, three meals a day at long intervals, sugar and starches being restricted, protein foods forming the staple of the dietary. With regard to drugs, in addition to calomel much value attaches, in my opinion, to lacto bacilline in the form recommended by Metchnikoff. An improvement in the state of the intestinal excretion may be rapidly attained and is shown in the character of the stools, which become formed and free of offensive odour. A course of intestinal irrigation has value in the same direction. In these cases it is of even greater importance to promote the functions of the skin and kidneys by appropriate baths and occasional diuretics. I have seen no decided benefit from the use of pancreatic extracts.

accommodation for 4530 million gallons which had been provided since the Board came into existence. That the £250,000 which this undertaking is to cost will be thoroughly well spent is certain, and this is made more certain by Dr. A. C. Houston's striking experiments upon the effect of storage of water upon typhoid bacilli, which we have reported in a previous article.[1] Where the money is to come from is another matter. The financial state of affairs disclosed at the meeting of the Board on July 17th last was eminently unsatisfactory, and still more unsatisfactory is the feeling which has been raised in the City by the new water assessment on the rateable value of business premises introduced by the Board. The late Lord Mayor, before retiring from office, presided at a meeting of protest against these charges which was held at the Mansion House, and we understand that in certain cases indignation has passed beyond the adoption of resolutions to the sinking of private wells, though this would not seem to be a means of escaping the rate. A body which exists for the public service is surely taking a wrong view of its functions when it adopts a policy which leads to this kind of retaliation.

THE CONTINENTAL HOTEL.

THE "hotel industry" has just had its International Congress in Rome, at which nearly every European country was represented. The motions submitted, discussed, and either carried or deferred to the Greek Kalends were numerous enough to convey an impression of the grave interests involved in the said "industry," but little was proposed, still less effected, in the way of innovation or reform so as to reassure the English-speaking contingent of the "great army of travel" that long-standing abuses would be done away with and long-desired conditions of health and comfort introduced in their stead. Much was said and something done as to the responsibilities of landlords in the matter of their clients' property when that has more or less mysteriously disappeared, if not left "in deposit" at the bureau; much debate, moreover, turned on the question of tips, *pourboires* or *mancie*—a question becoming yearly more clamant for solution; prominence was also given to the consideration of how to prevent the evils of competition, such as the spread of false news as to the health conditions of this or that rival resort, and kindred devices for detaining the client in one locality and preventing him from "patronising" another. These and questions of a kind more directly interesting to the landlord than to the public were duly formulated and considered; but nothing was said or even hinted at as to the essentials of sanitation in the hotel buildings themselves, as to the security of the *clientèle* in the matter of food and drink, as to the protection of the newly arrived guest from the "hotel rat," or *chevalier d'industrie*, so familiar to the travelling world on either Riviera. In fact, the "congressisti" in Rome committed the mistake that vitiates all the procedure of the cognate committee for "promoting the influx of foreigners into Italy," that of insisting on the secondary, and ignoring the primary, *momenta* in their brief. The committee referred to becomes eloquently expansive on the attractions, natural, historical, and artistic, of the Italian cities and the necessity of impressing these on an imperfectly appreciative world; but in ignorance of the fact that the said attractions are better understood and esteemed abroad than in Italy itself, it omits to satisfy the foreign guest (often an invalid) as to the health conditions of the locality which he affects as a place of sojourn, as to the quality of the food meted out to him, or the purity of the water-supply, or the genuineness of the wines offered for his consumption. Cases of poisoning from tinned meats or tinned fish have been frequent enough of late years to deter many an intending visitant from the scene of such a casualty; intestinal troubles of various kinds caused by adulterated wine or by "table-waters" that have long survived their *première jeunesse* have further reinforced the disposition to "fight shy" of the otherwise attractive sun-trap impressed with such or similar associations. The landlord interest is so intimately dependent on the reputation as to hygiene and diet enjoyed by the hotel that the wonder is that in such congresses as that just held in Rome, or on committees like those for the attraction of the foreigner, the medical consultant it not invited to bear a part in their deliberations. The advances made in hotel enterprise and organisation, in hotel management and comfort, are doubtless conspicuous and praiseworthy. We have but to recall the description of the mediæval inn in the "Colloquia" of Erasmus, or, better still, in Scott's "Anne of Geierstein," to realise the interval that divides the hostel available for the post-Renaissance travellers with the hotel he may alight at in any provincial town on the continent. But the superiority of the latter is still far short of what it might be, and the ideal hotel will continue to be a desideratum until the first conditions of health and comfort are provided in the direction above indicated—in the essentials of sanitation, local and domestic; of pure air and pure water; of adequate ventilation and genial "exposure"; of sound food, animal and vegetable; and of a choice of beverages, stimulating or non-stimulating, with which the "analytical chemist" of Dickens has as little as possible to do.

SUNLIGHT IN THE TREATMENT OF HIP DISEASE.

IN the *Canadian Journal of Medicine and Surgery* for November Dr. B. E. M'Kenzie has called attention to the value of sunlight in the treatment of hip disease. He began to treat cases of the disease in 1888 and in the first decade the mortality was about 10 per cent. In the next decade his results were much better. Careful scrutiny of the methods used showed that the improvement was chiefly due to the greater use of direct sunlight. The patient is kept upon a cot called a "Bradford frame." This consists of a rectangular frame about a foot longer than the patient and varying in width from 11 to 14 or 15 inches, according to the size of the patient, and covered with a sheet of canvas on which the patient lies. At each end is a bracket for attaching straps for extension and counter-extension. The patient is kept recumbent on this frame for months, not being allowed to rise even to the sitting posture. If much covering is necessary it may be wrapped around the patient and the frame and secured by safety-pins. A cage is thrown over the feet to prevent the bed clothing from resting upon them and producing a state of equinus or undue rotation of the limb and subsequent deformity. A pad is placed under the knee to maintain a few degrees of flexion. Extension is maintained by an anklet or gaiter with a buckle on each side from which a strap passes to the bracket at the lower end of the frame. Counter-extension is maintained by a pad in the perineum on the sound side round which passes a bandage to the bracket at the upper end of the frame. Dr. M'Kenzie finds this method of extension comfortable and more convenient than the use of a cord and weight. The cot can be carried from one place to another without disturbing the patient. Every day, whether in winter or summer, he is carried out of doors so as to be as fully exposed to the sun's rays as the grass. When the weather is suitable the affected part is exposed without any covering. This can be done during the greater part of the year without discomfort, and even in winter the patients are left out in the sunshine from morning till night on suitable days wrapped sufficiently prevented the cæcum from sinking into the pelvis; and (5) the value of appendicostomy in the treatment of constipation had now been demonstrated by experience.

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[1] THE LANCET, July 25th, 1908, p. 255.

Mr. L. A. BIDWELL said that he was not convinced that a kinked or perforated appendix was worth preserving in the anterior wall of the abdomen. The cases of intractable constipation which he had seen treated by Mr. Keetley's method had done well.

Mr. J. P. L. MUMMERY pointed out that there were many cases of constipation in which appendicostomy was the ideal operation but there were many cases in which it was useless, therefore the cause of the constipation must be sought for.

Mr. S. G. KIRKBY-GOMES referred to the value of appendicostomy in the treatment of chronic constipation.

Mr. W. G. SPENCER described the appendix from a developmental point of view as nothing more than a shrunken tip of the cæcum and could not see how such a remnant could perform any important function.

Dr. A. F. HERTZ contended that it was easier to wash out the colon from the rectum than by means of an appendicostomy.

Mr. R. P. ROWLANDS urged that in the treatment of appendicitis it was better to remove the appendix than to leave it in an inflamed and sloughing condition in the abdominal wall.

Mr. H. F. WATERHOUSE said that appendicostomy would be in the future the operation in cases of ulcerative colitis and in most cases of mucous colitis.

Mr. KEETLEY in his reply, referred to the teaching of Sir William Macewen on the function of the appendix. Concerning the washing out of the colon he maintained that it was best done by means of appendicostomy, and he said that to leave the stump of an appendix in the peritoneal cavity was as dangerous a proceeding as imbedding the organ in the anterior abdominal wall.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Leptothrix Infection.—The Diagnosis and Treatment of Pancreatic Disease.

IN the account of the inaugural meeting of this society on Nov. 4th, which was published in the last issue of THE LANCET, we were obliged to hold over the reports of papers read by Mr. E. W. Scott Carmichael and by Dr. D. Chalmers Watson with the subsequent discussions.[1]

Mr. CARMICHAEL, who took for his subject "Leptothrix Infection: a Case of Pyæmia with Meningitis, and Notes of Two Similar Cases," said: "In April, 1906, in consultation with Dr. T. Thyne, I saw an infant, aged four months, who had suffered from gastro-intestinal symptoms for a fortnight. Two days previously the child began to suffer from abdominal pain, which suggested to Dr. Thyne the possibility of peritonitis. The abdomen was swollen, tympanitic, and rigid, the child presenting locally all the symptoms of general peritonitis. The general condition of the child, however, was not such as one would associate with a general peritonitis due to the more common pyogenic organisms. The abdomen was opened, and general peritonitis, evidently of some duration, was present. The pelvis was full of a somewhat serous pus, and there were dense adhesions between the coils of intestine. These were especially so around the cæcal region, so that no attempt was made to find the appendix. Multiple drainage was used for the pelvis and lumbar regions. The child made an uninterrupted recovery and was dismissed some weeks afterwards completely cured. An ischio-rectal abscess developed a month later but since then the child has been in good health. The pus from the abdominal cavity was submitted to bacteriological examination. Mr. Richard Muir reported that the infection was a mixed one but that the predominant organism was a leptothrix probably of intestinal origin. The interest of this case lay in the fact that the child was very young (four months) and recovered after an attack of generalised acute peritonitis. The child was never so seriously ill as might be expected in a case of generalised peritonitis and has since been in good health. Recently it has been my good fortune to meet with another case. I am indebted to Dr. James Ritchie and Dr. Stuart Macdonald for the pathological and bacteriological investigations of the case. A child, aged 18 months, was sent by Mr. J. T. Dickie to Dr. John Thomson's ward on May 6th, 1908. The child had been ailing for about ten days with gastro-intestinal symptoms. Two days before admission to hospital swelling appeared in the right lower limb. Dr. Thomson asked me to see the case with him. There was general œdema of the limb up to the lower third of the thigh. There was no redness or inflammation, except for a small area of about the size of a shilling in front of the external malleolus. The temperature was 104° F. The diagnosis lay between an acute osteo-periostitis of the tibia or fibula and a subcutaneous œdema of septic origin. The child, though ill, was not so bad as to lead one to suppose that there was disease of the bone, and the absence of redness and the general appearance of the limb were not characteristic of acute osteomyelitis. There was no localisation of the swelling. The knee- and ankle-joints were freely moveable without pain, although they participated in the œdema. Although the clinical symptoms were against osteomyelitis I did not feel justified in not exploring the bones of the leg. Incisions were made down to the bone over the tibia and fibula, but except for a general œdema of the subcutaneous tissues there was no evidence of more deep-seated inflammation. The reddened area was incised and a small pocket of pus was found under the common extensor tendons in front of, and independent of, the ankle-joint. This was examined bacteriologically by Dr. James Ritchie. The child's condition continued much the same for the next three days, the temperature remaining persistently about 103° F.; the general condition, however, was well maintained. Bier's treatment with the Sang-apparat was carried out during this period. Discharge from the right middle ear with bilateral swelling of both elbows was then noticed. The joints were markedly distended, but there was no redness or sign of inflammation or marked local rise of temperature. Both joints were drained and contained a large quantity of thin odourless and rather pale cream-coloured pus. These were again examined bacteriologically by Dr. Ritchie. The child's condition became distinctly worse. There was very little discharge from the joints, much less than is present in streptococcal or pneumococcal affections. The child lived for a week longer with continued high temperature. Two days before death there was some swelling of the cervical glands. Lumbar puncture was performed and a turbid fluid was drawn off which was examined bacteriologically. What struck me clinically about these cases was that the general condition of the child in each case was not gravely affected while the leptothrix infection was localised. In the case of the first child, though young, the recovery was complete. In the second child, though there was high temperature, the general condition remained fairly good until there was general systemic infection, as shown by the otitis media and the double elbow-joint affection. A corresponding infection of streptococcal or staphylococcal origin gives rise, as a rule, to more systemic derangement. The œdema of the leg was not associated with any redness. There was no evident active inflammatory change. The condition of the limb resembled much more that of œdema of cardiac or renal origin than that due to an inflammatory state. I have seen from time to time in the out-patient department children brought up with a similar œdema of the hand and forearm, unassociated with inflammatory change. In one case I made an incision and endeavoured to cultivate an organism but with negative result. On looking back on these cases I cannot but think that they may be of similar origin. The œdema often persists for a week or two without affecting the general condition of the patient to any marked degree and then gradually subsides. One has considered these often of a mild streptococcal nature without being able to grow such an organism. The want of local inflammatory reaction was markedly seen in the case of the elbow-joint swellings. It is unlikely that these had been overlooked for more than a day or two but the appearance much more resembled that of a tuberculous affection. It was not like an acute arthritis due to the more common pyogenic organisms. The pus was thin, odourless, and of a pale creamy colour. In the abdominal case it was thin and more serous, odourless, much more like the fluid of a pneumococcal condition. The organism if it is the cause of these conditions does not appear to be an acutely virulent one but can lead it is asserted that thrift among the working classes of that country has not thereby been promoted. Under the original Act of 1897, unless incapacity arising from accident lasted for two weeks no compensation could be claimed, but under the Act of 1906 claim for compensation is created by a single week's incapacity for work, and incapacity lasting for a week entitles to compensation from the date of the accident. It is not surprising to hear that this change has led to an increase of notified accidents; and while the paper stated that malingering by injured workmen was undoubtedly one of the causes of this increase, it was mainly due to this change in the recent Act which tempted workmen to extend the period of incapacity into the second week, with a view to create a claim for compensation. It was at the same time suggested that the increase of accidents might be due to some extent to decreased care in the supervision of work and machinery by employers who are relieved of responsibility for accidents by insurance. The fact was also alluded to that workmen in receipt of compensation and also of sick allowance from friendly societies not infrequently drew allowances exceeding the amount of their wages when at work. It was, however, admitted that workmen are not exempt from the widespread effects of neurasthenia, tending to delay physical and mental recovery after accidental injury. In the discussion which followed the reading of the paper the interesting question was raised whether liability to accident increased with the age of the workman, on which point opinions were much divided. Sir John Brunner, referring to statistics on the subject recorded at the works of Brunner, Mond, and Co., stated that these statistics showed that the comparative liability to accident declined in constant relation to the increase of steadiness due to increased age of the workman. While it has been generally believed that the Workmen's Compensation Act would lead to increased litigation it is satisfactory to hear that the fear of this result has not been realised.

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[1] THE LANCET, Nov. 14th, p. 1447.

LIFTS AND HEALTH.

OWING to the increasing heights of new buildings the lift has become a necessity of modern life. The fatigue engendered by an ascent up the stairs to, say, the sixth floor of a hotel several times during the day would be intolerable, and without the lifts bedroom accommodation at such a level would appeal to nobody and would be so much space wasted. The same observations apply to offices in high buildings allocated to business purposes. The lift, in fact, was introduced to meet an enforced economy of space. Buildings could be pushed upwards but not outwards without encountering somebody else's property. Lifts, however, prove in the light of modern science to fulfil a much higher purpose than this. They bring within easy approach a healthier and purer environment. It is common knowledge that at the ordinary level of the highway we practically exist in a sediment of bacteria, amongst which pathogenic species may for certain be counted. Higher up bacteriological analysis gives a more satisfactory account. The refinements of bacteriology apart, chemistry also shows considerable impurities in the air at the ground level compared with the air, even at a small elevation, above. It follows that the air of buildings would be worst, both bacteriologically and chemically, on the ground floor, and then it would gradually show improvement as the floors above are reached until the cleanest air of all would be shown on the top floor. The lift may thus clearly take us out of the region of bacterial and other hurtful activities. Moreover, the health-giving properties of sunlight are more likely to be realised on the top floor than on any floor below. These facts render the policy of hotel-keepers and others perfectly illogical, which is that higher prices for rooms on the lower floors should be charged than for the rooms on the higher floors. It is, of course, in pure innocence that the hotel proprietor charges less for a healthier environment, and the visitor who has any regard for hygienic facts will not be slow to take advantage of this innocence. Doubtless there are those who reckon the ascending and descending of a building in a lift a source of inconvenience and delay or even of risk, but there are decided compensations, as modern science clearly teaches.

WATER ANALYSIS AND INSPECTION.

IN the *Queen's Medical Quarterly* Professor W. T. Connell of Queen's University, Kingston, Ontario, Canada, has called attention to a point insufficiently recognised by sanitary authorities, but often insisted upon in our columns, in the examination of water—the importance of inspecting the sources of supply. Samples of water are sent to a laboratory for analysis when inspection would at once reveal sources of contamination. Again, samples are sent to an analyst without sufficient data, such as situation of supply, proximity to sources of contamination, human or animal, and slope of the ground in the case of a well, to allow proper conclusions to be drawn. Inspection and analysis are complementary. Inspection reveals sources of contamination, while bacterial and chemical analysis reveals actual pollution, but in most cases cannot do more than suggest source of pollution. Professor Connell finds that too much dependence is often placed by local sanitary authorities on a few bacterial and chemical examinations. The sample passes a careful bacterial examination as it is of but small bulk and conditions of wind current and rainfall markedly affect its composition. An outbreak of disease afterwards occurs and sanitary inspection of the supply at once shows a patent source of pollution. Professor Connell does not desire to belittle analysis. Indeed, he looks upon it as the final court of appeal, but a sufficient number of tests must be made before a positive opinion can be given and inspection may make analysis unnecessary. On the other hand, a supply may pass inspection and be condemned by analysis, but further examination will then reveal the source of pollution. Sanitary water inspection is a matter for trained observers and such are not numerous in Canada. The need for them is shown by the prevalence of enteric fever in urban and rural communities throughout that country. Its development must cause increasing contamination of water supplies unless steps are taken to prevent it. Professor Connell thinks that some such legislation as the Rivers Pollution Act of Great Britain will be necessary. In the absence of sewage treatment and purification he thinks that the filtration of water has become important. He has studied mechanical sand filtration for some years. The water is filtered through sand under pressure after addition of a measured quantity of alum (varying with the quality of the water) to precipitate the chalk. The precipitate forms a scum on the surface which acts as a nidus for the usual water bacteria and also acts as an efficient filter, partly mechanically and partly biologically. Professor Connell reports unfavourably on samples of water from wells: 58 out of 102 were infected with the colon bacillus. Professor Shutt of the Central Experimental Station, Ottawa, has said that "the majority of farm well waters submitted to me for analysis are little better than cesspools." In rural districts pollution of wells usually arises from animal sources, such as manure and other stable refuse, and then the danger of acquiring disease, apart from diarrhœal affections, is slight. With pollution from human sources the danger is much greater. But it is not possible to distinguish colon bacilli of animal from those of human origin. Hence, again, the value who knew so much as to be beyond learning. He did not preach to them from any lofty pedestal of virtue. He had been slack in attendance and in the exhibition of work, partly from discouragement and partly from the usual causes which seemed to sap the energies of the seniors. But the responsibilities of office had made him reconsider the matter, and to decide to do his best to remedy the condition and to make others assist in doing so. The second cause of decay was the medical clubs—biological and clinical. They had come to stay and flourish, and long might they flourish. In proper circumstances they were distinctly helpful to the scientific life of Dublin, but they had exercised a pernicious influence in ways which it was easy to understand. There was no publication of work done by them. Men could discuss their cases in a free-and-easy way without committing themselves to statements which would be published. The clubs should be of special value as preparers for the Academy, and they should try to persuade members of the clubs of the great value of bringing their specimens and papers subsequently to the Academy. The third cause of the decay was the evil system of hospital appointments in Dublin, which had indeed existed at the foundation of the society. He alluded to the absence of proper apprenticeship for the profession. Men were often run into hospital appointments fresh from the schools without any training as an assistant or a registrar, or both, that they should have had. In some hospitals the assistant surgeon was merely a drudge to do the extern work instead of an assistant to a senior. In others he was at once put in charge of beds and given the responsibilities of a senior. Such a system resulted in immature surgeons who, from a consciousness of their own deficiencies, were afraid to speak in a place like the Academy; or it might result in over-confidence which would some time lead to a ludicrous mistake that would prevent them from entering into contest with others again. There were, however, he was glad to say, indications of improvement. Some hospitals now had real assistancies and registrarships and he had good hopes of them. The impetus to scientific zeal that must ensue from the establishment and endowment of the new university must also result in good work. He was, therefore, more hopeful than when he began to consider the question, and he would ask them all to endeavour to insure that the Academy would in the future not only rival the best work of the past but far surpass it, with lasting benefit to Irish surgery.

Mr. E. H. TAYLOR exhibited a woman who went to hospital for relief of Pain in the Left Shoulder. On examination a hard swelling was detected in the posterior triangle of the neck, which was diagnosed as a cervical rib. This was confirmed by a skiagraph, which showed a well-formed cervical rib on the left side and a smaller incomplete rib on the right. The patient did not present the nervous and vascular disturbances which were frequently found associated with the presence of cervical rib.—Dr. W. S. HAUGHTON said that in close on 8000 examinations with x rays he had only come across four similar cases.—Mr. A. J. M. BLANEY said he had shown some time ago a similar case, in which the whole of the forearm was blue, with pains shooting down to the fingers. The pulse was quite lost. The removal of the rib was easy; the result was a cessation of pain.—Mr. W. I. DE C WHEELER said it was remarkable that the symptoms in such cases seemed to come on in adult life.

Dr. HAUGHTON showed a boy, aged six years, suffering from Multiple Rickety Deformities, some of which had been treated by operation. On admission to the Orthopædic Hospital, amongst other deformities, he had considerable anterior curves on both tibiæ, double genu valgum, and severe curves of both radius and ulna of the left arm, limiting flexion and preventing pronation and supination. Skiagrams were shown demonstrating these conditions before and after treatment. Cuneiform osteotomy was first performed in the left tibia, the necessary wedge of bone to be removed being first accurately measured by placing the legs of a pair of compasses on the skiagram—one leg in the normal axis of the tibia, the other leg of compass along the axis of the lower end of the deflected portion of bone. The angle of deformity thus accurately measured was recorded by cutting a piece of aluminium to this angle. This formed a "sterilisable template," which when laid on the exposed surface of the tibia could be outlined by two cuts on the periosteum. By following these lines with a saw or chisel a wedge of bone would be removed the angle of which truly represented the "angle of deformity." The deformity was then forcibly reduced and apposition of the bones maintained in plaster-of-Paris. The double genu valgum was treated by "double condylotomy" at two sittings—"plaster-of-Paris" being applied in each—and the child was kept in bed for a prolonged period. Movements of the knee-joints were now good and the child, though not encouraged to walk much yet, could, nevertheless, walk with ease. The forearm Dr. Haughton proposed to treat also by osteotomy.—Mr. D. KENNEDY said that in children before four years of age he had frequently bent the bones into position with almost perfect results. The after-treatment of such cases had to be carried out for a lengthened period, otherwise relapse was bound to occur.—Mr. TAYLOR said he had always performed Macewen's supra-condyloid osteotomy which fulfilled the conditions of the case admirably.—The PRESIDENT commended Dr. Haughton's device for calculating the angle of deformity which would do away with the time lost in making repeated sections to get the bones to fit.—Dr. HAUGHTON, in reply, said his experience was that in cases where, in the dispensary, they thought they could obliterate the curves by straining movements the bones became so hard after six weeks of good feeding in the hospital that they could not be bent any more. In supra-condyloid osteotomy the angle of deformity was corrected but another deformity was produced. However, if the child was well fed and the limb was kept in plaster-of-Paris that method would give as good results as the other.

Mr. KENNEDY exhibited a patient on whom he performed the intra-scapulo-thoracic amputation for an extensive Injury of the Arm, due to a railway accident. The scapula was comminuted and the soft parts of the arm mangled and torn so high up that it was impossible to get covering for an amputation through the shoulder-joint. The operation was performed within two hours from the time of the accident. Mr. Kennedy attributed much importance to immediate operation in such cases.

Mr. LOUIS A. BYRNE exhibited a man, aged 21 years, who was admitted to Jervis-street Hospital on Saturday, Nov. 2nd, 1907, suffering from an Injury to his Head. The patient made the following statement. A short time previously he was "tricking" with a fellow workman and threw a dirty bag in his face; the other lost his temper, took up an iron bar, and struck him on the head. He fell to the ground; the ambulance was sent for, he was taken to hospital, and put to bed. On examination there was a slight swelling over the right parietal region, a very slight scratch; no other mark. His pupils were normal and responded to light. His senses were not impaired. The respirations were 20; there was no nausea or vomiting; the temperature was 98·4° F., and the pulse was 60. Finding the pulse so low Mr. Byrne decided to take him into the theatre and under an anæsthetic to dissect back the scalp and examine the skull, which he accordingly did, and found a gutter fracture extending about two and a half inches, the depression being most marked. He trephined the upper fracture at its anterior margin and elevated it but was unable to elevate the lower one. He then had to trephine the lower one in its posterior margin and successfully elevated it, but immediately very severe hæmorrhage took place which necessitated the plugging of the wound with iodoform gauze. He then covered the wound with gauze and had the patient at once removed to bed, where he made an uninterrupted recovery and was discharged on Jan. 4th, 1908. He returned to his work and has continued at it ever since and has not complained of any trouble.—Mr. TAYLOR said he thought that the hæmorrhage was meningeal. The probability was that until the bone was elevated the middle meningeal artery was compressed in some way, and when the bone was elevated the artery, which probably had been torn, started to bleed vigorously. In using a small trephine there was danger of wounding the artery.

Mr. GRAVES STOKER exhibited a woman whose arm he had amputated for Gangrene due to Acute Cellulitis. The patient received a small wound which became infected and gangrene set in two days after her confinement. She was in such an exhausted condition then that he did not consider operation advisable. The gangrene continued to spread for some days, but eventually some signs of a line of demarcation made their appearance. Amputation was performed on the tenth day after her confinement and she made satisfactory progress thereafter. Notwithstanding the virulence being sufficiently high. In the case of the fluid extracts of meat, which should contain from 50 to 75 per cent. of solids, several fell below the minimum figure. Some of these products cost more than a solid extract of meat, although they contain much more water. None of the samples of meat juice examined contained any appreciable amount of coagulable protein which should be present to the extent of not less than 35 per cent. of the nitrogenous bodies. It is possible to prepare a fresh meat juice by heating the meat to a temperature not exceeding 60° C. and expressing the juice. Samples prepared in this way in the laboratory contained practically one-half the nitrogenous bodies in a coagulable form, and in several cases a considerably larger proportion of the nitrogenous bodies were coagulable. The report includes a valuable discussion of the methods of analysis of meat products and a *précis* of published work on the nutritive values of gelatin and meat extracts and juices.

INEBRIATES' HOMES.

OUR Manchester correspondent writes: "Much regret was felt by those interested in the reformation of drunkards by the disappointing and discouraging report recently issued by the committee of the Langho Inebriates' Home. There was a note, too, of hopelessness, as if all efforts were useless, in the discussion at the meeting by the justices and others. The cures are reported to be no more than 20 per cent. Several letters on the question have appeared in the local papers; one from the lady in charge of a private home in Manchester, who takes a more hopeful view, giving two 'out of many instances that could be cited' where women 'sodden with drink' have recovered their self-control. In one case the woman earned her own living for years, and in the other, after being in the home from January, 1897, to March, 1898, returned home and 'has since acted the part of a true mother to her children whom formerly she neglected entirely.' This woman had been a habitual drunkard, spending a large part of her time in public-houses. Perhaps there is too great a tendency to take for granted that if a woman once gives way to drink she cannot be reclaimed, and so far as her family or society is concerned, is irretrievably lost. The honorary secretary of the Women's Union, Church of England Temperance Society, on the part of her committee, regrets the statements as to the impossibility of the reform of women inebriates deduced from the experience of the Government inebriates' reformatory at Langho. Rescue and preventive work have been carried on in the Manchester diocese for seven years, and instances can be cited where women drunkards have given up drinking and stood firm for five or six years. She believes that one great cause of the failure of the Government homes in the work of reform is that the cases are taken there too late. 'Under the existing law nearly all the women have so irreparably injured their brains through long-continued drinking that only life detention can be of any use.' As long as this is the case early treatment cannot be adopted, and the course advocated by another writer cannot be carried out—viz., that 'the care of the person who has begun to give way to habits of intemperance should be [illegible] only take in hand at the outset.' Another difficulty is the want of supervision and sympathetic guidance when these poor feeble-willed people emerge from gaol or home. The force of habit, and perhaps the acute return of the craving for drink, may undo in a moment any good that detention has seemed to effect; for the poor victim of this besetment may turn into the public-house, and unless she is on the black list can be at once served with drink. A woman from Rochdale, it is stated, was recently committed at Bacup for a month. The chief constable said it was her 181st known conviction and she had probably been convicted at least 200 times. In such cases as these, permanent detention seems the best thing for the women themselves and their families. It would be useless to send these cases to Langho unless they could be kept there for the term of their natural lives. Only last week a man was sent to prison for four months with hard labour for persistent neglect of his seven children and, it may also be said, of his wife. The children were ill-fed, badly clothed, dirty, of course, and the rooms they lived in 'reeked with filth.' His wife was too ill to be removed, but the children were taken to the workhouse and put under medical treatment. Since Oct. 10th the family had had parish [illegible] conditions it might have been thought th[illegible] for getting drunk would not be numerous, but on the 31st he contrived to get arrested for being drunk and fighting, and he was known to have been a drunkard for nine or ten years. Whether such a man is wilfully or involuntarily a drunkard he is a pest to society. What ought to be done with him? The injury he does to the State by being the father of—almost certainly—decadent children, injured still further by ill-treatment, ought to be prevented. But how? The solution that seems most promising to many is detention in a labour colony, where at least his keep ought to be earned, either permanently, or till there is good evidence of reformation."

THE POPE AS A "GOOD SAMARITAN."

THE "sacerdotal jubilee" of Pius X. has brought to the Vatican not only deputations and pilgrimages innumerable, charged with words of congratulation on the anniversary, but also messages, similarly inspired, by post and telegraph hardly less gratifying to the august Pontiff. Among these latter there is one which contains an incident thought worthy of a place in the "Vox Urbis," a monthly organ of the Vatican, written and published in the language of St. Augustine, or, the flow of its Latinity considered, of St. Jerome. The incident referred to must have relieved, in the Pope's mind, the monotony of the addresses and congratulatory letters, dealing as it does with the past, on which he has every right to dwell with satisfaction, and not on the present or the future, replete with the difficulties and dangers inseparable from "the head that wears a crown," still more from that which is pressed by a tiara. "Pius X. et Miles Austriacus," such is the title of the narrative to which the "Vox Urbis" draws the attention of its readers, and the tenor of which is as follows. In 1865, when the Venetian province was still a part of Austria, a soldier of the line, Johann Baier by name, during the autumn manœuvres, collapsed, footsore and weary, from his exertions, and was found lying in a ditch on the marching-route near the village of Tombolo. His condition was deplorable; heart failure seemed imminent, when there happened to pass by the priest of the parish, who gave him all the "first aid" that the "sagacité de cœur" could devise, refreshed him with food and drink and supplied him with the "sacro numismate," something more than the "two-pence" (δύο δηνάρια) given by a similar benefactor on a similar occasion. That priest—a "Good Samaritan" for the nonce—was Giuseppe Sarto, now in the Chair of St. Peter. Next year the same soldier, s[illegible] lines on the fatal field of Sadowa, was [illegible] id thereafter lived as a pensioner in [illegible] village of Litschen, where he kept a [illegible] years had elapsed when, readi[illegible] of Pius X., he thought that the Pontiff could be no other than the parish priest of Tombolo who had relieved him in his distress. Accordingly, he addressed the Holy Father in a modest letter, recalling the incident and asking if he were methods of treatment.—Mr. Henry Wilson and Dr. E. Vipont Brown described cases of Malignant Disease treated by Trypsin.—The following were Mr. Wilson's cases:—1. Lymphosarcoma affecting the cervical glands; first noticed June, 1906. After six months' treatment with hypodermic injections of trypsin and amylopsin the glands were much reduced in size and were now freely moveable. The patient was now in good health and able to earn his living. 2. Scirrhus of the breast. Excision (axilla being cleared out) Feb. 11th, 1906. Recurrence in cicatrix September, 1906. Multiple secondary growths appeared shortly after. There were acute pain, rapid wasting, and loss of strength. The patient was dependent on morphine. Trypsin treatment was commenced on Feb. 17th, 1908. In a month the patient was almost free from pain and did not require morphine; she slept well, the appetite returned, and she gained weight and strength. This improvement was maintained for five months; then, in consequence of discomfort caused by the injections, further treatment was refused and the patient was now going downhill. At no time during the treatment could any local improvement be detected.—Dr. Brown said that the first case which he had to mention was one of stricture (almost certainly malignant) of the œsophagus in a man aged 69 years. The treatment was commenced on May 25th and was followed by immediate improvement. Squire's preparations were used, a teaspoonful of their liquor pancreaticus fort being taken half an hour before each meal and one "sterilette" being injected every day. Three months after the commencement of the treatment a full-sized stomach tube passed into the stomach without any apparent resistance. Then the patient suffered from bronchitis, cystitis, and kidney trouble and the treatment was discontinued, with a consequent return of the stricture. He seems again to be responding to the treatment. The second case was one of carcinoma of the cervix, so severe as to be inoperable, in a woman, aged 56 years. The treatment was commenced on August 1st. In addition to the injections of Squire's "sterilettes" he also applied pledgets of wool soaked in Squire's lotio pancreaticus fort to the growth. Within a week it was evident that the growth was being dissolved away whilst the healthy tissues remained unaffected. Soon there was a large cavity to pack until the cervix was represented by a cavity continuous with the vagina, the examining finger passing directly to the internal os. There still remained much thickening around. The patient unfortunately was an alcoholic and drank herself almost to death during the treatment. She was still under care. There was no smell and very little pain.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this association was held on Nov. 5th, Dr. R. C. Buist being in the chair. — Mr. A. Don showed a patient upon whom he had operated for Abscess of the Liver and subsequently read notes on the case.—Dr. J. Mackie Whyte showed a young girl, aged nine years, with a chancre on the upper lip.—Dr. J. S. Y. Rogers showed a boy, aged 11 years, with well-marked and Complete Unilateral Hypertrophy of the Left Side, the head, face, arm, and leg, hard and soft parts, being involved in the condition.—Dr. G. F. Whyte showed a mother and child with Abnormal Thumbs. Several other members of the family had similar affections. X ray photographs were exhibited which showed the abnormality to consist of a long thumb, with three phalanges, as in a finger. —Mr. D. M. Greig showed a boy, aged 10½ years, with Neurofibromatosis. A large tumour had been removed from the back below the right scapula which was found to consist of neuro-fibromata. Scattered all over the body just under the skin were numerous elongated nodular masses which felt like atheromatous vessels, or "pieces of ipecacuanha root."—Professor A. M. Stalker exhibited the specimen of a Heart from a case of Slow Cardiac Death. The left auricle was filled with a hard striated clot firmly adherent to the walls, with a very narrow passage in the centre through which the blood passed. When first seen the patient, who had cerebral embolism, was at a very low ebb, and death appeared imminent, but he lingered on more dead than alive for several days. Professor Stalker also showed two specimens of Ulcer of the Stomach.—Dr. Buist exhibited a Four Months' Fœtus in which death had been caused by the umbilical cord passing under the right knee, then round the thigh and leg and thus constricting the part under the knee. He also exhibited an infant in whom, when born, the heart was found beating on the right side and there was dulness all over the chest. This was found post mortem to be caused by a diaphragmatic hernia, the whole contents of the abdomen with the exception of the liver and stomach being in the left side of the thorax.—Dr. Mackie Whyte read notes on a case of Aneurysm of the Descending Thoracic Aorta, which occurred in a man, aged 43 years, a baker by trade. For 12 weeks he had vomited about half an hour after food, this being followed by severe pain in the chest. He had lost flesh steadily and was very thin on admission. There were limited movement of the left side of the chest and dulness over the left lung behind from the mid-scapular region downwards, extending to the right border of the vertebral column. Over the whole left lung there were resonant and dull areas, and there was a striking absence of breath sounds and voice conduction. The heart was normal in size, there was an accentuated second sound in the aortic and pulmonary areas, there were no murmurs, the radial pulses were equal, and there was no thickening of the arterial wall. The pupils were regular. The condition remained unchanged for two months, except that the dulness increased towards the axilla and to the front of the chest. He lost weight steadily and died suddenly one morning. Post-mortem examination showed a large emphysematous right lung with old tuberculous nodule at the apex and a consolidated left lung with numerous small bronchiectatic cavities containing pus. The heart was normal; in the descending aorta there was a large irregular fusiform aneurysm with considerable secondary bulging which had ruptured into the anterior wall of the œsophagus four inches above the cardiac orifice of the stomach. The stomach contained a solid blood clot weighing 2¾ pounds.—Mr. Don read notes on a case of Intussusception of the Sigmoid caused by a Polypus. The patient, a woman aged 44 years, was admitted to the Dundee Royal Infirmary on Sept. 1st with prolapse of the bowel. On examination, the bowel was seen to protrude eight inches through the anus and at the apex was a polypoid mass. The lumen was patent and the bowel looked gangrenous. Chloroform was administered and partial reduction was made. As this was found not to be satisfactory the abdomen was opened and there was found to be an intussusception of the descending colon into the pelvic colon. This was reduced and a loop of bowel was sutured to the peritoneum and the skin, and the part with the tumour left outside, and two days later this was excised. On microscopic examination this was found to be an ordinary villous papilloma. The patient steadily improved and on Sept. 19th an attempt was made to close the opening. This proved to be difficult and tedious owing to the amount of the sigmoid which had previously been removed. On the night before the operation and also in the morning a hypodermic injection of one-quarter of a grain of morphine and 1-100th of a grain of hyoscine was given. This seemed to act well in preventing shock and lessening the quantity of chloroform required, only one ounce being used. The operation consisted in, first, a junction of the cut ends of the bowel by a lateral anastomosis and then a resection of the part of the bowel involved in the artificial anus. The patient made a satisfactory recovery. Mr. Don then read notes on a case of Abscess of the Liver upon which he had operated.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on Nov. 11th, Inspector-General R. Bentham, R.N. (retired), being in the chair.—Major C. G. Spencer, R.A.M.C., showed an officer, aged 43 years, who was convalescent after having suffered from a large single Tropical Abscess of the Liver which followed an attack of dysentery in February of this year. The abscess had been aspirated three times and the cavity injected with a 1 per cent. solution of quinine hydrobromate on each occasion. In all, 151 ounces of pus had been removed and 20 ounces of the solution injected. No living amœbæ could be found in the pus which was sterile on culture. The leucocyte count had been high throughout. The patient had gained more than 2 stones in weight and had recovered his normal health.—Captain L. W. Harrison, R.A.M.C., showed a gunner of the Royal Garrison Artillery who was suffering from kala-azar. The man had been stationed at Madras and had been brought into intimate contact with natives. The edge of the spleen extended three and a half inches to the right of, and three and a half inches below, the umbilicus. The temperature chart was shown and it illustrated the intermittent type of the pyrexia. The patient had marked leucopenia. The Leishman bodies had been recovered by the right lung of the subject many tuberculous nodules could be recognised as well as a large cavity. In fact, according to Dr. Severi's account, the condition of the body was much the same as that of a body which we inspected in 1901[1] and which had been preserved by MM. de Rechter by means of formaldehyde vapour. So far as we can judge by the descriptions supplied to us Cav. Chiarella's method seems both simple and efficacious.

A TELEGRAM from the Acting Governor of the Mauritius, received at the Colonial Office on Nov. 13th, states that for the week ended Nov. 12th there were 18 cases of plague and 11 deaths from the disease.

ROYAL SOCIETY OF MEDICINE.

DEBATE ON HEREDITY, WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.—(*Continued from p. 1469.*)

Professor W. BATESON (Cambridge) said he supposed that the object of inviting him to address that gathering of medical men was to say something of the results which had been obtained in the study of heredity by the application of experimental methods to animals and plants. The work which had been done in the matter had been almost entirely by following up the hints obtained from the work of Mendel. He would have no difficulty in showing that the conclusions to which Mendel came were applicable with considerable precision to the descent of disease or congenital deformity in man. The first principle was shown by crossing tall with short plants. Biologists knew that a plant or animal in the ordinary way was a double structure, having received a series of elements from its father and a series of elements also from its mother. The confusion people used to get into when they tried to trace out rules of heredity in animals and plants was due largely to the fact that they did not realise sufficiently that a plant or animal was a double structure. As a matter of clinical experience it was not found that the union of tall with short produced plants of a height intermediate, but a certain number of plants as tall as one parent and a certain number as short as the other parent. Mendel made the discovery that in all cases to which his rule applied when dissimilarities met in one individual there was a separation between the two elements, which might be represented diagrammatically by lines representing respectively the male and female cells: that was the phenomenon of segregation. Biologists had been accustomed to talk of dominants and recessives. With regard to the inheritance of disease, the consequence of the recombinations of those cells produced by hybrids were obviously that in some cases there would be a meeting of long to long and short to short, and in other cases of long females with short males, or long males with short females. It was known by experiment that the short plants bred pure, just as if they had never had a cross at all. They bred pure because they had none of the quality of tallness in them. The interest in the theory lay in the fact that it enabled one to make analyses of the composition of the animal or plant so far as Mendelian principles could be traced. The plant could be analysed into its component units. The animal must be thought of as a great number of things: height, colour, and other characteristics were separately transmitted. Many attempts had been made to form pedigrees of the descent of eye colour. It was impossible to define the various colours of eyes by using words; but the difference between dark and light eyes consisted in the fact whether there was or was not pigment in front of the iris. In the ordinary blue eye there was no pigment in front of the iris. When the pigment was there it could be transmitted, but when there was none the children of such people had none of it. With regard to deformities and disease he showed photographs of a case of brachydactylia, in which the adults had only two phalanges in the fingers and toes. That condition behaved like the character of tallness in a plant and became a dominant. The individual might be pure to that condition, in which case all his children must have it, or he could be impure to it, like the plant in the case of tall and short. In all cases where disease existed it was the smaller number which dominated. That was the general rule. In the case of the fingers the reduction from three to two was dominant, and it was found also in the case of the Manx cat's tail in which the vertebræ were packed together in an irregular fashion instead of being divided out. The Manx cat was an imperfect dominant. He also showed a pedigree of cataract, the infantile form, in which the condition was seen at, or soon after, birth. The affected could pass it on and again it became dominant. Another slide showed the pedigree of a female with keratosis palmæ, in which condition the skin of the hands was abnormally thick. It behaved with one doubtful exception as a dominant and it was passed on through the affected. With regard to tuberculosis and cancer, biologists had no evidence which was direct, but a fact which had an indirect bearing of importance was that tuberculosis was an invasion by an infecting organism and it was not improbable that cancer might have a similar causation. Biologists could not trace on ordinary naturalist lines any ordinary heredity about those diseases. The case regarding nervous diseases was different. Another pedigree was from epidermolysis bullosa. There were exceptions in that but generally the persons who had the condition passed it on. A chart was also shown of retinitis pigmentosa in which the condition was passed on by those who had it. Dislocation of the lens, as worked out by Mr. A. Stanford Morton, was another condition which was transmitted. He also showed the largest pedigree of a human malformation or disease which had yet been worked out. It related to a condition known as night-blindness. It referred to a family which was investigated in the South of France in 1828. It was traced back to a person in the seventeenth century, who came into the south of France with the condition and all those who had it could be traced in a direct line. Human descent was most difficult to follow and anyone who had had experience of it could bear out what Sir William Gowers had said. There were departures from simple Mendelian rules which ought to be dealt with eventually. It could not be hoped that insanity would be regularly traced, chiefly because it depended in many instances on environmental influences and upon opportunity for development. The numbers arrived at in an investigation were 117 affected and 99 unaffected, which was as near equality as could be expected from the rough medical records available. With regard to recessives, that meant generations in which something was absent. The albino was a case in point: it lacked the normal amount of pigment. The rule for recessives was the reverse of that applying to dominants. With regard to the descent of sex-limited conditions, the best known of those were pseudo-hypertrophic muscular paralysis, hæmophilia, and colour-blindness. Pseudo-hypertrophic paralysis and hæmophilia were both so serious that it was impossible to hope to get pedigrees of the descendants of affected persons in sufficient quantity to enable an investigation to be made of them. But colour-blindness was not seriously damaging to the chances of life and therefore could be investigated. He thought they had been able to produce a scheme of descent which represented the facts so closely that there could be no reasonable doubt that it was very nearly the actual scheme In the case of females the female would not be colour-blind unless she had two doses of colour-blindness; she must be pure in colour-blindness. But the male might show colour-blindness if he had only one dose of it. And that was represented in the scheme which he showed. When the female had only one dose she did not show it, although she might transmit it to her offspring. It meant that colour-blindness was dominant in males and recessive in females. Night-blindness might have been thought to be due to the absence of something in the body, but it was known that it was a condition due to the presence of something, possibly something the effect of which was comparable to nicotine poisoning. In some of the cases of disease many of the subjects had not lived long enough to show whether they could reproduce their species, and, if so, what the result would be.

Dr. G. H. SAVAGE said that his contribution to the debate would consist in bringing forward the impressions formed by a long clinical experience and he would do no more than and Dr. J. Murray Bligh showed: 1. Carcinoma of the Ovary removed from a girl, aged 14 years. There was a history of wasting. The tumour occupied the greater part of the abdominal cavity and weighed 6 pounds. 2. Adenoma of the Tongue from a woman, aged 39 years. It was a sessile tumour situated at the base of the tongue. Large veins coursed over its surface and these had been responsible for severe hæmorrhage. 3. Naso-pharyngeal Fibroma removed from a youth, aged 19 years. It occupied the whole of the naso-pharynx and right nasal cavity. Breathing and swallowing were seriously obstructed and severe hæmorrhage had occurred. The growth was fibromatous, containing large blood-vessels.—Mr. D. Douglas-Crawford and Dr. H. Leith Murray showed: 1. Adenoma of the Tongue removed from a baby three days old. The tumour grew from the base of the tongue, was pedunculated, and gave rise to serious attacks of spasmodic dyspnœa. The tumour very closely resembled the gland tissue of the breast. 2. Adenoma of the Wall of the Maxillary Antrum removed from a woman 18 months ago. She then had a history of trouble for five years. The tumour had recently recurred; there was now proptosis but no invasion of the cheek or glands. The tumour showed apparently a simple cubical-celled adenoma.—Professor B. Moore gave a demonstration of Oxydases in Relation to Scorbutic and Antiscorbutic Foods. He showed by tests that these bodies were absent in foods showing scorbutic tendencies, were present in unboiled milk, while absent in boiled milk. Fresh vegetable juices contained them, but boiling or drying destroyed them. Prolonged boiling was necessary in the case of the potato. He showed a colloidal suspension containing oxydases obtained from the potato by precipitation with 20 per cent. alcohol.—Dr. T. R. Bradshaw did not consider that it was proved that scurvy was due to the absence of the antiscorbutic properties from the food. He considered it would be unwise to discourage the boiling of milk.

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[1] THE LANCET, Nov. 9th, 1901, p. 1279.

HUNTERIAN SOCIETY.—A meeting was held on Nov. 11th, Dr. A. T. Davies, the President, being in the chair.—Dr. Purves Stewart showed a large Tumour of the Pituitary Body, which had caused bilateral temporal hemiopia, drowsiness, and voracious appetite, a group of symptoms which he regarded as typical of tumours in this position.—Mr. H. M. Rigby showed a Hair Ball which he had removed from the stomach; it formed a complete cast of the viscus.—Dr. Russell Andrews showed a Large Fibroid Tumour which he had removed from the uterus during pregnancy without producing abortion; also some specimens illustrating Wertheim's method of performing hysterectomy for malignant disease of the cervix of the uterus.—Dr. W. Langdon Brown showed a Series of Intracranial Vascular Lesions, including two ruptured aneurysms of the anterior communicating artery, red softening following cerebral embolism in mitral stenosis, syphilitic thrombosis of the vertebral artery, and a lenticulo-striate hæmorrhage in a patient with infective endocarditis, presenting unusual symptoms. He spoke of the assistance that observation of the blood pressure had been in the diagnosis of some of these cases.—Dr. O. K. Williamson showed a Hypertrophied Heart from a case in which the blood pressure had been persistently high; the splanchnic vessels were more diseased than the thoracic aorta.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Nov. 11th, Professor William Stephenson, the President, being in the chair.—The following office-bearers were elected for the ensuing session:—President: Professor Stephenson. Vice-Presidents: (senior) Dr. F. W. N. Haultain, and (junior) Dr. A. H. Freeland Barbour. Treasurer: Dr. W. Craig. Secretaries: Dr. G. F. Barbour Simpson and Dr. Angus Macdonald. Librarian: Dr. Haultain. Editor of Transactions: Dr. W. Macrae Taylor. Members of Council: Dr. J. Lamond Lackie, Dr. D. J. Graham, Dr. A. T. Sloan, Dr. R. P. Ranken Lyle, Dr. J. W. Ballantyne, Dr. W. H. Miller, Dr. A. M. Easterbrook, and Dr. W. E. Frost.—Professor Stephenson gave his presidential address on a Historical Study of our Forefathers in Midwifery, discussing the views on various obstetric subjects held by William Smellie, William Hunter, Thomas Denman, Professor Hamilton (senior), Dr. John Binns of Glasgow, Dr. Ramsbotham (senior), and others.

Reviews and Notices of Books.

Lumley's Public Health Acts Annotated, with Appendices containing the Various Incorporated Statutes and Orders of the Local Government Board. Seventh edition, in two volumes. By ALEXANDER MACMORRAN, K.C., JOSHUA SCHOLEFIELD, and S. G. LUSHINGTON. London: Butterworth and Co. and Shaw and Sons. 1908. Vol. I., 1–1220 pp.; Vol. II., 1251–2444 pp. + Index 224 pp. Price £3 17*s.* 6*d.* for two volumes.

WHEN a standard work of this importance and magnitude reaches its seventh edition it has already established its claim as judged by the conditions of supply and demand to be regarded as practically without a rival, and whatever may have been the case formerly the amount of information which the two volumes here in question contain is greater than any other two volumes on the same subject with which we are acquainted. Clearly the next edition must run to three volumes if the work is to be handled easily.

Since the last edition of the work, some six years ago, Parliament has passed many public health statutes and the Local Government Board has issued many circulars on the subject, and all these are included, annotated and commented upon in the present issue. Moreover, the value of this edition is very materially enhanced by the inclusion of notes on the practice of the Local Government Board, as well as notes relating to the construction to be placed upon difficult provisions of the statutes. As the authors observe it is in many cases the "practice of the Board" which constitutes the law. The opinions of the Board are also of value in that they are the views of experts who have spent their life in this work, while in some instances such opinions are those of the law officers of the Crown. The work is admirably arranged with a capital table of contents at the beginning and a clear and helpful index at the end, considerations of no small importance in dealing with a treatise of this magnitude.

Vol. I. contains the Public Health Act, 1875, together with other measures more particularly associated with it, while Vol. II. contains in the first part (Appendix I.) numerous other Acts relative to municipal work and dating from the Knackers Act of 1786 to the Notification of Births Act and the Small Holdings and Allotments Act of 1907. The second part (Appendix II.) embodies circulars, forms, and regulations of the Local Government Board as well as certain orders of the Home Office and the Board of Agriculture. It is a little puzzling to find that Vol. I. ends at p. 1220 and that Vol. II. begins at p. 1251.

Although this work is intended primarily for, and is used mainly by, clerks to local authorities, barristers, and others of the legal profession, and a copy is probably to be found of one or another of the editions in practically every office of a local authority, there can be no doubt that its possession will prove a pillar of strength to all those medical officers of health who wish to understand without much effort the general provisions of any public health statute and to learn the decisions which have been given with regard to them.

The Natural History of Cancer, with Special Reference to its Causation and Prevention. By W. ROGER WILLIAMS, F.R.C.S. Eng. London: W. Heinemann. 1908. Pp. 519. Price 21*s.*

THERE has never been a time in the history of medicine when more books were published on cancer than the present, and it may also be truly said that nowadays the divergencies of opinion as to the cause of malignant disease are greater than ever. From the extent and duration of his researches into various phases and questions of cancer Mr. Williams ha produced by the virus of syphilis. Another subject on which he hoped later to give precise details was in regard to tuberculosis. He believed tuberculosis was not acquired in asylums. Patients in those institutions were of low vitality and they developed tuberculosis because of that. The disease got rid of many of the unfit, especially amongst cases of insanity. For the first three or four decades there were records of more than 2000 necropsies and there were certain types of insanity the subjects of which were especially liable to tuberculosis: especially adolescent insanity, melancholia, and the hereditary forms of mental disturbance. He believed that in those people there was a favourable soil which led to the easy development of the tuberculous organism. The incidence of tubercle at the same age inside asylums was from 15 to 20 times as great as outside asylums. Investigations on the air-shafts, &c., in asylums showed that the air was not impure there, and the nurses and attendants who were always in the asylums did not develop the disease except with distinct rarity. A very interesting point was that he had never found a case of tuberculous meningitis among the enormous number of cases he had seen. With regard to alcohol, he agreed it was a most important exciting cause of insanity, but among 2000 necropsies which he had made at Claybury he had only found cirrhosis of the liver with ascites in one, and that was Jane Cakebread, who was convicted 400 times before it was found she was incapable of taking care of herself. If it was such an important cause it did not show itself in any very marked degree in the organs. But the potential lunatic was readily acted upon by alcohol, and the subject of it was brought to the asylum earlier than he otherwise would have been.

The discussion was then adjourned.

At the adjourned meeting on Nov. 18th

Dr. CHARLES A. MERCIER said that he proposed to point out some of the fallacies with which the subject was beset and to indicate some of the precautions that might be taken to avoid them. The usual mode of determining the existence of a hereditary propensity to a disease was to ascertain whether there were in the parentage or ancestry or among the near relatives of the deceased person instances of the same disease; if such instances were found it was concluded that the disease was derived by inheritance. The most obvious trap was in the application of the method to diseases of frequent occurrence. Supposing a disease so common that it affected 19-20ths of the population, then nine out of every ten persons would have both parents affected by it and only one person in 360 would have both parents free from the disease. Such a large percentage of apparently diseased persons would justify, according to the method in use, the conclusion that the disease was certainly hereditary, and thus they would arrive at the conclusion that a common cold was a hereditary disease. It was argued that insanity was a hereditary disease because persons who were insane were frequent in the families of the insane, but until very recently no attempt had been made to ascertain whether such persons were not as frequent in the families of the sane. The various manifestations of nervous instability were so common that it was unjustifiable to draw from their frequency in the families of the sane any inference as to the heritability of insanity. He (Dr. Mercier) was impressed with the number of insane persons (not including general paralytics) in whose families exhaustive search failed to discover any insane relative within a reasonable degree of consanguinity; he was more impressed by the number of sane and normal persons who possessed near relatives that were either insane or subject to allied nervous disorders. When a comparatively rare disease such as hæmophilia was found to exist in the parents or near relatives of the diseased person, such a distribution of the disease was usually regarded as conclusive proof that the disease was hereditary; that inference, however, was quite unwarrantable and was usually shown to be so when the cause of the disease was discovered. A disease might be limited to a certain family without heredity having anything to do with the limitation, it was not justifiable to conclude that it was heritable merely because it exhibited family limitations. If it was established beyond question that insanity fell with special virulence upon certain families and left unaffected other families whose circumstances were the same, and if it could be established that the members of the families so affected had certain stigmata, still it was not justifiable to draw any conclusive presumption that insanity was heritable; all that they were justified in concluding was that it was probable that inheritance played a part in its production; something contributory to the disease might be inherited in such cases, but it did not follow that what was inherited was the disease itself; it might be a special vulnerability of the tissues or a special quality of blood which rendered the person so inheriting unable to resist the attacks of the noxious agent which was the true cause of the disease. For these reasons he (Dr. Mercier) believed that they were too apt to talk a little over-glibly about the inheritance of diseases. Supposing, however, that they had guarded themselves against all sources of fallacy and were justified in concluding that a disease was indisputably inherited, then they had to estimate the significance of that conclusion, and the significance for the members of the family in which the disease occurred would differ according to whether the disease was merely a variation or whether it was a true mutation. If it was a mere variation—that is to say, a mere pronounced deficiency or excess of some quality which generally varied in quantity, then it had little significance as a racial peculiarity. Such variations had a strong tendency to return to the average. When, however, the quality was not a mere exaggeration of a frequent variation but a true mutation—that is to say, a quality appearing *de novo* in the race—then it would breed true. Whenever a disease was distributed in successive generations in accordance with Mendelian laws it could not be doubted that the disease was truly inherited; but they were not entitled to assume the converse and to limit the inheritance of disease to those instances in which the numerical proportions required by the laws of Mendel were strictly observed. It was probable that there were disturbing factors which interfered with strict numerical accuracy, and it was manifest that the number of offspring of any one pair of human beings was too small to allow the laws of Mendel to be asserted completely. The Mendelian laws were never *strictly* true except in the long run—that is to say, when applied to an infinite series—but the series never was infinite, the run was never long, and in the human race it was a very short run; therefore, the laws of Mendel never could be strictly true except by accident, though they always tended towards truth. In conclusion, Dr. Mercier said that there had been no attempt made to estimate the number of the sane members of any family and the insane members, so as to compare the sane and the insane numerically. The compilation of the statistics of inheritance which appeared in the reports of the Commissioners in Lunacy was a waste of time and labour. The statistics were of no value at all for any practical or scientific purpose. As far as his (Dr. Mercier's) own observations of the family history of the insane went, they seemed to show that in some families the insane members were distributed approximately in accordance with Mendelian laws and in some they were not; in some instances insanity seemed to appear *de novo* as a mutation, in others it was clearly a variation.

The discussion was continued by Professor KARL PEARSON.

Dr. ARTHUR LATHAM then opened the discussion on Heredity in Tuberculosis, which will be found at p. 1512 of this issue. This was discussed by Dr. J. E. SQUIRE, and a report of his speech and of Professor KARL PEARSON'S speech will be published in the next issue of THE LANCET.

Dr. E. F. BASHFORD opened the discussion on *Heredity in Cancer*, and his paper is printed at p. 1508 of this issue.

The debate was then adjourned.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Nov. 12th, Mr. HENRY MORRIS, the President, being in the chair.

In accordance with the report of the Court of Examiners it was resolved to issue diplomas of Membership to 91 successful candidates.

A letter was read from Mr. G. H. Makins resigning his seat

An important new article on Nephritis by Professor J. Rose Bradford takes the place of the article in the former edition on "Diseases of the Kidney Characterised by Albuminuria," by Dr. W. H. Dickinson. Professor Bradford discusses the condition known as "physiological albuminuria"—that is to say, in a "large but variable number of persons apparently healthy, the urine is found to contain protein matter in small quantities." This form of albuminuria has received considerable attention, and we agree with Professor Bradford when he says, "It is extremely doubtful, however, whether all such cases of albuminuria should be called 'physiological.'" It is quite possible that in some of the cases no serious kidney lesion is present, yet, on the other hand, such kidneys cannot with certainty be considered quite normal. The subject is of great importance in connexion with life assurance, and it is desirable that some statistics should be forthcoming as to the future history of those individuals who exhibit "physiological" albuminuria in young adult life. Other diseases of the kidney which are on the border-line between medicine and surgery are described by Mr. Henry Morris who has added a section on Malformations and Diseases of the Ureter. His remarks on renal calculus are particularly worthy of note.

We once more congratulate the editors on the success of their labours. The present volume is a valuable addition to the "System of Medicine." It contains much new matter and will serve as a most excellent work of reference.

A Text-book of the Principles of Animal Histology. By ULRIC DAHLGREN, M.S., of Princeton University; and WILLIAM A. KEPNER, A.B., of the University of Virginia. New York: The Macmillan Co. 1908. Pp. 515. Price 16*s.* net.

THIS work covers the general field of histology and is not restricted in the main to human and mammalian forms. It is intended to teach principles and deals with histology as a pure science. Here and there fundamental facts are illustrated by reference to the vegetable kingdom. Having regard to the fact that it deals with comparative histology it may be compared with Schneider's "Lerbuch der Vergleichenden Histologie der Thiere," although the arrangement is quite different in the well-known German work. The order of description follows a functional rather than a morphological sequence. After elementary chapters on protoplasm, the cell, and epithelium, we come to the supporting tissues, tissues of motion, electric tissues and those that produce light and heat, the circulatory tissues, and so on. There are a freshness and freedom of treatment of the subject which make the work peculiarly interesting to the reader who has a moderate knowledge of zoology, while the functional aspect of the tissues and organs described is prominently set forth. The amplification of body surface obtained by the corrugation, evagination, and invagination of surface is illustrated by excellent diagrams.

On p. 77 Cohnheim's fields are given as "Conheim's." The authors regard Engelmann's theory as so far the best theoretical explanation of the motion of the fibrillated muscle cell. The histogenesis of muscle is traced upwards in its evolution from the Medusa, and almost every group of animals is drawn upon to illustrate the structure and development of the motor tissues. The chapter on Tissues of Light-production is particularly interesting and includes a description of those all too little known mechanisms for the production and reflection of light in the cephalopods and the pholas. The importance of surface as a factor in the operations of the animal body is again insisted on and well illustrated in the chapter on circulation.

The chapter on the blood itself is short but suggestive. It does not give detailed descriptions of the leucocytes and their importance in health and disease. The authors speak of the nerve cells as organs of perception, conduction, and stimulation, the term "perception" being used in the sense of "perceiving or being stimulated by the outer conditions directly or indirectly through the stimulus of another nerve cell, cell product, or foreign substance." Bold, vigorous sketches are given of the varieties of nerve cells and also of the tissues associated with touch and equilibration. A good and readable account is presented of the eyes and other sense organs in invertebrates as well as vertebrates, which makes the chapter on the sense organs particularly interesting. Even the gas-secreting tissues are dealt with pretty fully, such as the float of Physalia, or Portuguese man-of-war, and the "gas secretion" of the teleost fishes. To each chapter some reference to the literature is added. The "technic," however, is given in "general outline."

We have said enough to show how interesting the whole work is in its all-round survey of animal histology in its wide sense. The work will prove eminently useful to the zoologist, but in it the physiologist and comparative anatomist will find much to excite thought, and any student who masters its contents will have laid a broad basis for future study of morphology, embryology, and the more strictly medical sciences. To this end the authors have chosen the functional rather than the embryological methods in developing their account of "Animal Histology." The illustrations—470 in all—are admirable, clear, bold, and effective. We have had much pleasure in perusing the book and cordially wish it the success which it deserves.

Clinical Bacteriology and Hæmatology for Practitioners. By W. D'ESTE EMERY, M.D., B.Sc. Lond., Clinical Pathologist to King's College Hospital and Pathologist to the Children's Hospital, Paddington Green, &c. Third edition. London: H. K. Lewis. 1908. Pp. 252. Price 7*s.* 6*d.* net.

THE first and second editions of this book were reviewed by us at length and in terms of warm approval when they appeared, and we are glad to see that a third edition has been called for in so short a time. Since the book has been very slightly modified the present edition requires no detailed comment. The description of the methods used for the collection of blood for bacteriological examination is somewhat fuller and certain points of detail criticised adversely in the review of the second edition have been modified and improved. The method of lumbar puncture is also given with more detail and with additional illustrations. The author finds that the examination of the cerebro-spinal fluid is of considerable use in the diagnosis of uræmia. A description of the methods used for making bacterial vaccines forms one of the chief additions to the book. Amongst the various means employed for the diagnosis of enteric fever no mention is made of the isolation of the bacillus typhosus by culture, though this plan seems to be of increasing importance. The author still holds that the presence of Hofmann's bacillus in the throat justifies the diagnosis of diphtheria. A method for the examination of pleuritic and other exudations for the bacillus tuberculosis and Leishman's method for staining the spirochæta pallida have been added to the appendix.

The typography and paper of the book have not improved. This work gives a very concise and accurate account of the subjects of which it treats and cannot fail to be of value to any practitioner who desires to carry out such methods of investigation as are described. It further enables him to select the right materials for examination and to interpret intelligently the results which are obtained by himself or the reports which are furnished by those to whom he has submitted the materials for investigation.

the county of Durham, was the originator of the lifeboat movement and chairman of the first committee.

Ruthin.—Mr. Thomas Owen Jones, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., the mayor of Ruthin, received his medical education at Anderson's College, Glasgow, and qualified in 1894. He obtained the appointment of medical officer of health of the Ruthin rural district in 1898, when he went to reside in the district. He is a Fellow of the Royal Institute of Public Health, deputy medical officer to H.M. prison and to Ruthin Union, inspector of school children, and lecturer and examiner to St. John Ambulance Association. For six years he was a member of the Ruthin town council but retired from active work on the council about three years ago.

Welshpool.—Mr. Richard David Thomas, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., who has been re-elected the mayor of Welshpool, is a native of Cemmes Bay, Anglesea, and has been resident in Welshpool for more than 18 years. He is a county district coroner, Poor-law medical officer and public vaccinator for Forden and Llanfyllin unions, medical officer of health of the Forden district, and medical inspector of school children. He first entered the town council in 1898 and has since been returned twice. In all that concerns the health of the borough he takes a most active interest.

NOTE.—By an error on the part of a correspondent we announced in our last issue that Dr. J. R. Hughes of Denbigh had been elected mayor of that borough.

MEDICINE AND THE LAW.

Prosecution for Practising under a False Description.

ON Nov. 5th before Sir Albert de Rutzen, at Bow-street police court, William Henry Tucker, *alias* John Dale Tucker, 58, was charged on a warrant with "falsely using the description of a Bachelor of Medicine and with acting as a doctor without being duly qualified." On Sept. 28th last the prisoner called upon Dr. J. Field Hall, managing director of Messrs. Field Hall, Limited, medical transfer agents, Strand, and stated that he was a medical practitioner and that he wished to dispose of his practice which he had been carrying on in Hackney. He was handed a printed form and this he returned duly filled up on the following day. His name then appeared as William Tucker, M.B. The premium which he asked for his practice was £160, which included the furniture. The reason which he gave for wishing to dispose of his practice was that he intended to go abroad. There were two William Tuckers on the Medical Register, but one was William Eldon Tucker and the other William Hancock Tucker. In 1906 the prisoner was convicted at Warwick Assizes of forging a death certificate in the name of William Eldon Tucker and sentenced to three years' penal servitude. At the trial he admitted that that was not his name. The magistrate said that he would not take the prisoner's conviction at Warwick Assizes into account. He imposed a penalty of £15 with £5 5*s.* costs. The practice of the healing art has long obtained legal sanction and recognition in this country. Practitioners were formerly divided into three main branches, known respectively as physicians, surgeons or barber chirurgeons, and apothecaries, whose functions and status were quite distinct, who were governed by different charters and statutes, and pursued their callings independently of, and sometimes in antagonism to, one another. Besides the above, there have always been, as there are still, persons who attended to human ailments without having any legally recognised qualification for doing so. The union of all qualified persons and their recognition as members of one profession are modern. By a statute passed in the year 1511 (3 Hen. 8. c. 11) no person was permitted to take upon him to exercise and occupy as a physician and surgeon until he had been examined and approved for that calling. The examination was in those days conducted under the sanction of, and the approval obtained from, the bishop of the diocese. Physicians obtained a charter of incorporation in the year 1518, and in 1522 their College got the right of examining and approving persons to practise physic concurrently with graduates of the Universities of Oxford and Cambridge. The bishop's licence was thus superseded (14 & 15 Hen. 8, c. 5). The College was also empowered to exercise control and supervision over all dealers in drugs. Surgery was originally practised by barbers. In the City of London the barbers obtained a charter of incorporation from Edward IV. in the year 1461. Many other skilled surgeons were, however, in practice, and in the year 1540 they and the barbers were incorporated and were given the exclusive right to practise surgery within the City of London and its suburbs (32 Hen. 8, c. 42). Under the title of "the mystery and commonalty of barbers and surgeons of London," the physicians and barber-surgeons seem to have attempted to monopolise all treatment of disease to their own profit, for in the year 1542 (34 & 35 Hen. 8, c. 9) an Act was passed declaring that it shall be lawful for any subject of the King "having knowledge and experience of the nature of herbs, roots, and waters, or the operation of the same, to practise, use, and minister in and to any *outward* disorder, any herbs, ointments, bettes, pultess, and complaisters, according to their cunning, or drinks for the stone, strangury, or agues, without suit, vexation, trouble, penalty, or loss of their goods." The company obtained a further charter in the year 1629 (5 Car. 1), giving it the right to examine and approve all persons who wished to practise surgery in London and Westminster, and empowering persons so approved to practise anywhere in England. In the year 1745 by Statute 18 Geo. 2, c. 15, the barbers and surgeons were separated into two companies. All the above liberties and privileges were transferred to the new Company of the Art and Science of Surgeons of London, who were empowered to make by-laws, &c., for their own regulation, ordinance, and government, and to examine candidates and authorising those who passed successfully to practise the art and science of surgery throughout His Majesty's dominions. It has been suggested that the above Acts, or at any rate the older ones, are obsolete. The Court of Appeal, however, in 1885 did not adopt the suggestion, though it did not expressly overrule it (Davies *v.* Makuna, 29 Ch D. 596). There have since that time been several general Statute Laws Revision Acts; but the above Acts, though amended in some minor points, remain on the list of statutes in force. In the year 1618 James I. granted a charter of incorporation to the apothecaries of London by virtue of which they practised their art and mysteries and enjoyed special rights and privileges for a period of two centuries. The charter was superseded in the year 1815 by the Apothecaries Act (55 Geo. 3, c. 194). By it the Master, Wardens, and Society of Apothecaries were empowered to regulate the conduct of members of their craft throughout England and Wales. Apothecaries are distinct from chemists in that they may administer medicines, while chemists may only prepare, dispense, and sell them. If a chemist prescribes medicine to his customers, as well as makes it up and sells it, he renders himself liable to a penalty (Apothecaries Co. *v.* Nottingham, 34 L.T. 76). The union of the different branches of the medical profession under one governing body was effected in the year 1858 by the Medical Act (21 & 22 Vict. c. 90). The original Act was amended in 1859 (22 Vict. c. 21), 1860 (23 & 24 Vict. c. 7), 1876 (39 & 40 Vict c. 40 and c. 41), and in 1886 (49 & 50 Vict. c. 48) These Acts are to be read together and are known as the Medical Acts. The Privy Council has now a general power of supervision over the General Medical Council. If at any time it appears to the former that the General Medical Council has failed to exercise any power or to perform any duty vested in or imposed on it by the Acts, it may notify its opinion of the same, and if the General Medical Council fails to comply with any directions of the Privy Council relating to such notification the Privy Council may itself give effect to its directions (Act of 1886, s. 19) Prior to 1887 the various constituents of the General Medical Council each granted their own diplomas, entitling their holders to practise in some one or more departments of medicine—e.g., as apothecaries or surgeons. More than one diploma was requisite for a man who was desirous of practising generally. Since June, 1887, no person may be registered unless he has passed a qualifying examination sufficient to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery (Act of 1886, ss. 2 and 3). Any person wilfully and falsely pretending to be, or taking or using the names or titles of, a physician, doctor of medicine, licentiate in medicine and surgery, bachelor of medicine, surgeon, general practitioner, or apothecary, or any name, title, addition, or description implying that he is a

THE LANCET.

LONDON: SATURDAY, NOVEMBER 21, 1908.

The Appropriation of Sources of Water-Supply: a National Problem.

THE steady augmentation of our population and the growing desire for cleanliness, comfort, and even luxury are leading in every direction to an increasing demand for water not only for drinking purposes but also for baths and the cleansing of streets. The question, too, of street-watering is assuming vast proportions in consequence of the rural exodus and the growth of towns which results therefrom, while the substitution of the water-carriage system of excrement disposal for that of storage in privies, pans, and cesspools which still obtains so largely in our midland and northern towns is likely in the near future to make a very material addition to the drain upon our existing sources of water-supply. At the present time these demands are met in a somewhat haphazard fashion. Municipalities and water companies introduce Bills into Parliament which, sometimes after very scant consideration and by means of throwing a sop here and there to interested communities and persons, are allowed to reach the statute book, and the natural sources of one part of the country are freely tapped for the supply of towns far removed from such sources. Illustrations of what may be termed this predatory instinct are furnished by the cases of Birmingham and Liverpool as regards our Welsh sources of supply and by the case of Manchester as regards the English lakes. Gradually and almost unconsciously our upland water-supplies in the shape of natural or artificial lakes and the upper reaches of our rivers are being appropriated without any very clear idea as to the manner in which the demands of the future are to be met, and in the meantime numerous centres of population are left unsupplied and unconsidered. But this is only part of the story. Not only are our lake and river supplies being taken up, but also, and in a way more stealthily because less apparently, our underground water. Wells are sunk by public or private bodies which tap the underground reservoirs of supply without sufficient regard as to the manner in which the level, hardness, or salinity of the subterranean lake will be affected by the pumping operations. Numerous instances could be furnished of these conditions and of the manner in which some waters, such, for example, as those of the chalk in parts of Essex, have had their salinity increased as the water level descends.

A useful illustration of the difficulties referred to is furnished by the annual report of Dr. HENRY HANDFORD, the county medical officer of health of Nottinghamshire, which contains an account of the water-supplies of the county and of the manner in which the sources of such supplies may be encroached upon by authorities beyond the county limits. The account in question was, we imagine, prompted by the proposal of the corporation of Lincoln to take water from the north of Nottinghamshire for the supply of the city of Lincoln, where the well-known epidemic of enteric fever revealed the dangers of the existing river supply. Dr. HANDFORD, whose report is illustrated by a useful map, has for many years made a careful study of the water-supplies of the county, and he is satisfied that a shortage of water is certain to occur sooner or later. As is probably well known, the difficulty of obtaining an abundant supply for the city of Nottingham itself is one of the obstacles in the way of substituting a water carriage system of excrement disposal for the conservancy system which now prevails and which has been held responsible by the medical officer of health for the undue incidence of enteric fever in that city.

Nottinghamshire is supplied with water mainly from the pebble beds of the bunter sandstone which has a narrow outcrop along the west of the county north of Nottingham. To the east this bunter sandstone is overlaid by the keuper marl which in places attains a thickness of several hundred feet. Although there is in this bunter sandstone a large reservoir of underground water, it is only near the outcrop that it is palatable and has a moderate hardness. Where it has been over-pumped and the level lowered the hardness is enormously increased, and where the water is reached by piercing the keuper beds its character is altered and its hardness is so great that it is not usable—a fact which the city of Lincoln discovered to its cost after boring for 2200 feet; and this city has now obtained powers to sink a well in the bunter sandstone at Elkesley near the outcrop from which to take 3,000,000 gallons of water daily over the Lincolnshire border. The usual arrangements have been made by virtue of which the people of Nottinghamshire through whose districts the Lincoln mains run "get the first drink," but nevertheless Dr. HANDFORD thinks that conditions may subsequently arise by which, while the bunter sandstone may be supplying water to Nottinghamshire, Lincoln, and parts of Derbyshire, Nottinghamshire will be obliged to seek its future supplies from the Derwent and from the Lincolnshire limestones. He questions, indeed, whether the bunter sandstone of the county will suffice even until 1941 to supply the needs of the city and county of Nottingham as well as to supply Lincoln with 3,000,000 gallons daily. We shall not follow Dr. HANDFORD into his careful and detailed consideration of the subject, as our object here is national rather than local. We wish to emphasise the need for dealing with the problem of the water-supply as well as other matters obviously incidental to it in a scientific as well as comprehensive fashion by the formation of large local bodies having jurisdiction over groups of catchment areas and exercising control in all matters relating to water-supplies and sewage disposal as well as, in estuaries, over shell-fish intended for human consumption. It is clear that so long as a river is in the hands of the numerous local authorities along its banks no real progress will be made in the purification of its waters. B will not purify its sewage so long as A pollutes the river from above and C contaminates it below, and similarly A will not concern itself were referred to the principal epidemic diseases, against 567 and 470 in the two preceding weeks; of these 434 deaths, 152 resulted from diarrhœa, 104 from measles, 60 from diphtheria, 45 from "fever" (principally enteric), 39 from scarlet fever, and 34 from whooping-cough, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·4 per 1000, against rates declining in the four preceding weeks from 2·0 to 1·5; in London the death-rate from these diseases last week did not exceed 1·3 per 1000. No death from any of these epidemic diseases was registered last week in Rhondda, Leyton, Wolverhampton, Northampton, Hornsey, or in ten other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 4·1 in Wigan, 4·4 in Huddersfield, 4·9 in Rotherham, and 8·6 in Middlesbrough. The 152 deaths attributed to diarrhœa in the 76 towns showed a further decline of 37 from the numbers in recent weeks, and were fewer than in any week since the end of July; the highest annual death-rates from this cause during the week were 1·8 in Preston, 2·0 in Great Yarmouth, 2·3 in Smethwick, and 2·5 in Middlesbrough. The fatal cases of measles, which had increased in the seven preceding weeks from 31 to 99, further rose to 104 in the week under notice; they caused death-rates equal to 2·5 in Rotherham, 2·9 in Tottenham, 3·9 in Huddersfield, and 6·0 in Middlesbrough. The 60 deaths from diphtheria showed a further decline of 13 from the high numbers in recent weeks, the highest death-rates from this disease being 1·0 in Hull and 1·3 in Reading. The 45 deaths referred to "fever" showed a further increase, and exceeded the number returned in any previous week of this year; the death-rate from "fever" was equal to 1·1 in Bolton and 1·2 in Wigan. The 39 deaths from scarlet fever also exceeded the numbers in recent weeks, and caused annual rates of 1·1 in Salford and in St. Helens, and 3·0 in West Bromwich. The 34 fatal cases of whooping-cough showed but a slight increase upon the low number returned in the previous week, but showed an excess in Willesden and in Wigan. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased in the nine preceding weeks from 2855 to 3852, had further increased to 3861 on Saturday, Nov. 14th; the number of new cases of this disease admitted to these hospitals during the week under notice was 500, against 507 and 512 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the four preceding weeks from 159 to 276, further rose to 310 in the week under notice, but were 23 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 47, or 0·9 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in Leeds, Bradford, Hull, Newcastle-on-Tyne, Nottingham, Leicester, and in 51 other smaller towns; the 47 uncertified causes of death in the 76 towns included, however, nine in Liverpool, six in Sheffield, five in Birmingham, and four in Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·2 and 15·4 in the two preceding weeks, rose to 16·9 in the week ending Nov. 14th. During the first seven weeks of the current quarter the annual death-rate in these eight towns averaged 14·5 per 1000, and exceeded by 0·3 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 11·1 and 11·9 in Aberdeen and Perth, to 18·5 in Leith and 19·1 in Glasgow. The 597 deaths in the eight towns showed an increase of 54 upon the number returned in the previous week, and included 68 which were referred to the principal epidemic diseases, against 71 and 55 in the two preceding weeks; of these 68 deaths, 24 resulted from diarrhœa, 17 from whooping-cough, 12 from diphtheria, and eight from scarlet fever, but not one either from measles or small-pox. These 68 deaths were equal to an annual rate of 1·9 per 1000, which exceeded by 0·5 the mean rate from the same diseases in the 76 English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 34 and 29 in the two previous weeks, further declined to 24 in the week under notice, and included 12 in Glasgow, five in Edinburgh, and two each in Dundee, Leith, and Greenock. The 17 fatal cases of whooping-cough showed an increase of 11 upon the low number in the previous week; 13 occurred in Glasgow and three in Aberdeen. The 12 deaths from diphtheria exceeded the number in any recent week, and included four in Glasgow, three in Dundee, and two in Aberdeen. The eight fatal cases of scarlet fever also exceeded recent weekly numbers; four were recorded in Glasgow and two in Edinburgh. The deaths referred to "fever," which had been five and six in the two preceding weeks, further rose to seven last week, of which six were certified as enteric and one as cerebro-spinal meningitis; all these seven deaths referred to "fever" occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 56, 86, and 116 in the three preceding weeks, further rose to 126 in the week under notice, and exceeded by 22 the number returned in these towns in the corresponding week of last year. The causes of 27, or 4·5 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 16·0, 20·4, and 23·8 per 1000 in the three preceding weeks, declined again to 19·3 in the week ending Nov. 14th. During the first seven weeks of the current quarter the death-rate in the city averaged 18·8 per 1000, whereas the mean rate during the same period did not exceed 14·2 in London and 13·2 in Edinburgh. The 146 deaths of Dublin residents during the week under notice showed a decline of 34 from the high number in the previous week, and included eight which were referred to the principal epidemic diseases, against 11, 9, and 15 in the three preceding weeks. These eight deaths were equal to an annual rate of 1·1 per 1000; the rate from these diseases in the same week was equal to 1·3 in London and in Edinburgh. Of the eight deaths from these epidemic diseases in Dublin last week, four resulted from diarrhœa, two from "fever," and one each from measles and whooping-cough, but not one from scarlet fever, diphtheria, or small-pox. The fatal cases of diarrhœa and of "fever" showed a decline from the numbers in the previous week. The 146 deaths from all causes during the week included 30 of infants under one year of age and 31 of persons aged upwards of 60 years; both these numbers showed a considerable decline from those in the previous week. Three inquest cases and four deaths from violence were registered, and 61, or 41·8 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·8 per cent., of the deaths in Dublin last week were uncertified; the proportion of uncertified causes of death in London last week did not exceed 0·1 per cent., while in Edinburgh it was equal to 4·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: A. H. H. Vizard to the *Leander*, for duty with torpedo-boat destroyers; A. I. Sheldon, to R.N. Hospital, Portland; and C. T. Baxter, to the *President*, additional, for three months' course at Middlesex Hospital. Surgeons: W. R. Harrison, to the *Imogene*, additional, and on recommissioning, undated; T. A. Smyth to the *Vernon*; P. M. Rivaz to the *Speedy*; D. D. Turner to the *Espiègle*, additional, for Dartmouth College; and Herbert Stone to the *Cochrane*. The following have been entered in the Royal Navy as Surgeons, with seniority of Nov. 6th: W. A. H. McKerrow, F. G. Hitch, T. R. L. Jones, C. F. Bainbridge, J. Glaister, A. V. J. Richardson, F. H. R. Black, W. Mearns, A. C. Wilson, E. J. H. Garstin, F. W. Quirk, S. L. McBean, G. R. McCowen, and W. Bradbury, all to the *Victory*, additional, for course of instruction at Haslar Hospital, and J. H. Burdett.

INDIAN MEDICAL SERVICE.

Lieutenants to be Captains (dated Sept. 1st, 1908):—Cadwallader Edward Palmer, Carl Henry Reinhold, Broderick rarer in its appearance than it has been amongst men, and we are entitled to consider that had it been present it would have come out as it has in many members of the male sex who have been severely handicapped by disadvantages of nurture and education. But certain women in former ages have enjoyed equal chances with men. An example comes readily to mind from the History of Medicine which tells of the mediæval lady graduates of the Salernitan school; but it is noteworthy that their successes did not make sufficient mark to enable women to retain the position won for them in medicine by Trotula and her compeers. It may be conceded fairly that medical women of the present day are entering the lists on equal terms with medical men, at least as regards education; it will be interesting to see what proportion of medical women as compared to men 50 years hence have contributed unmistakeably to the advancement of their science. And whilst speaking on this subject we desire to enter a protest against the common remark that women's equality with man will give the final blow to the "spirit of chivalry." Surely it should foster a new chivalry, greater than the old, extended by men not to *helpmeets* and *sympathisers* but to competitors who will still be entitled to it because they are women. In the calling of medicine the conditions appear to us to be singularly favourable to the exhibition of so knightly a temper in the professional relations of medical men to medical women.

But the point which it concerns us more to examine is the physical disability of women for executive government, an objection to which a contemptuously curt dismissal is given in "The Human Woman," which considers under this head the question of maternity only. It takes no account of the fact that every normal woman during the most useful years of her life is subject to a recurrent physiological process which is always liable to become pathological. This being the case, it cannot be said that women enjoy *equal health* with men. The assertion that women in primitive races or in peasant classes do what we consider men's work is beside the mark, for we have to consider the normal health of women of the cultured classes of a civilised nation on whom, if on any, the responsibilities of government would naturally fall. We are *repeatedly* assured in "The Human Woman" that 82 per cent. of the women of this country earn their own living. We should be interested to know what percentage of women suffer periodically from a physical incapability which may be prostrating and is for a few days in every month so severe as to interfere seriously with the sufferer's power of attention to work. We do not deny that many women work and suffer, but we cannot agree that such martyrdom, heroic though it be, can ever be compatible with such efficiency as is essential to the supreme guidance of State affairs. This argument may appear to cast a shadow upon the medical skill of the day, but it must be remembered that no physician can shield his patients from the tax which their bodies pay upon their heritage of civilisation. And even though it were possible that a perfect preventive medicine should in the future relieve women of the diseases incidental to their sex, the supreme blessing of motherhood will never be withheld from them whilst the race endures. It may appear a *reductio ad absurdum* to suggest the situation of a Cabinet Minister obtaining leave of absence at the call of maternity, but such a possibility must be considered resolutely before women are allowed admittance to Parliament. Lady Grove would minimise the inherent sex differences of human nature. Sex forms an infinitely wider psychical division in the human race than does any distinction of class when external things have been stripped away, and the reason is that the psychical kinship which binds together the members of each sex is the inevitable complement of their physical kinship. It follows that the antithesis of the two sexes must ever be the most ineradicable fact of human nature, though Lady Grove seeks to controvert the fact. Nietzsche hardly overstated the case when he thundered forth, "It has not yet entered into the heart of man to conceive how foreign to each other are the nature of man and of woman." But there may be firm alliance between foreigners, and with certain of the motives at the root of the struggle for "women's emancipation" many men must be in agreement. The story is as old as the human race, for in the woman's present protest there rings the echo of an exceeding bitter cry from out the ages, the cry of a weaker sex in a tyrannous and degrading subjection to a stronger, and in so far as women's emancipation means the wiping out of the last traces of concubinage from the state of marriage we are in full sympathy with it; but may this not be accomplished by the home influence of enlightened womanhood acting through their menfolk? We have no space to discuss the evolution of the present relations of the sexes into the origins of which Lady Grove enters in a boldly speculative manner, taking the view that the woman was in the beginning "the race" and man the mere fertiliser, but begging the question of how he came to be the "super-woman" in a piece of reasoning which we must qualify as superficial. It is something more than doubtful whether a substantial diminution of sexual self-consciousness will ever come about to lift the human race to the heights of which Lady Grove dreams, for the desire of the woman will ever be to the man, and of the man to the woman. We will leave the case to our readers with a quotation from this clever book which we have read with more admiration than conviction. The passage refers to the physical strength of certain rare women, and a Hungarian lady is mentioned who served in the Revolutionary army of 1848 and who, "under the name of Karl, attained the rank of first lieutenant of Hussars. At this point, however, an artillery major stopped her military career by marrying her," which we make bold to consider is the very best thing that could have happened to her: she showed herself a "human woman." And that, as the lawyers say, is our case.

The Surgery of Spinal Caries.

The presidential address delivered by Dr. T. S. Kirk at the Ulster Medical Society on Nov. 5th possessed much interest, for it dealt with the operative treatment of tuberculous caries of the spine, and it must be acknowledged that hitherto this morbid condition has not yielded much satisfaction to those surgeons who have ventured to

Frequently a patient dies here in whose case we have for months used the utmost efforts to cure or relieve, and make an accurate diagnosis, and then no opportunity is given of proving the correctness of the diagnosis. I am quite satisfied that if patients or their friends were informed that people would not be admitted into the hospital, except in cases of accident or sudden illness, unless permission was previously given to inspect the body in the event of death, they would consent to it, and it would be done as a matter of course. Under the present circumstances, in a large number of instances, when permission is at first refused, it is given as soon as we offer money. But this is a bad habit, and I seldom yield to it. Again, in a large number of cases, the persons who refuse permission are not the immediate relatives, but mere acquaintances; and though the former would consent, the latter urge them to oppose the measure, for the mere purpose of looking friendly, or exerting influence and being busy. It frequently also happens that patients are never visited while in the hospital by either relatives or acquaintances, so long as they are alive, but as soon as they die, ten or twenty persons come forward to prevent the body from being opened. I am quite sure that if it were made a rule to admit none (except indeed urgent cases) but with the understanding that they should be opened if they died, it would be cheerfully assented to. I am satisfied that the public feeling would change on the subject,—that the world might be brought to consider that we had not paid proper respect to the deceased unless we had ascertained by examination after death, the precise nature and cause of the complaint, and communicated the true state of the inside to the friends. This is always done in the case of the highest personage of the kingdom; and every soldier is opened, and whatever may be the part of the world in which he may have died, an account of the inspection is transmitted to the army medical board at Woolwich. Unfortunately, many do not distinguish between dissection and inspection—do not know that while dissection means cutting up piece by piece, inspection is merely making a cut, looking in, and sewing the cut up again. Whenever I die I hope to be carefully inspected.

Correspondence.

"Audi alteram partem."

THE LATE SIR HENRY A. PITMAN: A CENTURY'S RETROSPECT.

To the Editor of THE LANCET.

SIR,—The student of historical medicine cannot but note the passing away of Sir Henry Pitman. The historic imagination covets landmarks, and a life which covered a century and was passed in association with many of the leaders of British medicine may afford us such tokens. By these we may be helped to discern the march of our art, its periods and its masters, during the last few generations.

Sir Henry Pitman was born in 1808, the year before the birth of Darwin and of Oliver Wendell Holmes. (Many other men of note were born in 1809—Gladstone and Lincoln, Tennyson and Fitzgerald and Poe, Mendelssohn and Chopin; it was a "year of momentous births," like 1769, when Napoleon, Wellington, and other famous men came into the world.) When Sir Henry Pitman was born our country was in the throes of the Great War. He was already seven years old when that war was closed by the battle of Waterloo, and the leaders of medicine and other sciences in our own land and France could once more come together. English savants were again welcomed by Cuvier and Berthollet, by Dupuytren and Laennec.

The period from the death of John Hunter in 1793 until 1820 may be called the Epoch of the Pupils of the Hunters—Baillie and Abernethy and Astley Cooper and the rest—as it was, perhaps, in the northern capital the epoch of the pupils of Cullen and of the Monroes. Young Pitman knew the generation that followed these—the era when in London Lawrence and Brodie, Bright and the younger Babington were in their prime. He had heard Guthrie lecture; he would tell how W. F. Chambers kept the notes of his cases in Latin, of the mordant eloquence of J. A. Wilson, of the elder Southey, and Billing, and Aston Key, and Clift, and many more. But Sir Henry Pitman's life was bound up with that of the Royal College of Physicians. Of his long years of service to the College he loved to speak and to tell how he had read through its centuries of Latin annals, how he spent long years upon their index, and how the Grant of Arms was once lost until the precious parchment was discovered by one of the Fellows in a casual shop. Sir Henry Pitman knew 13 successive Presidents of the College, from Halford who came to the chair in 1820 down to the distinguished holder of the office to-day. He was indeed examined by Sir Henry Halford in Latin for the College Licence. Thus through the life now closed we seem to be brought into touch with the courtly figure of that most aristocratic of physicians, the trusted adviser of four successive sovereigns, and the undisputed head of his profession in London for 20 years from the death of Matthew Baillie in 1823. Sir Henry Pitman knew Halford's successor, Dr. Paris, an accomplished chemist rather than a man of extensive practice, whose chief fame rests on his literary work in pharmacology. It was under Dr. Mayo that Sir Henry Pitman began his work as registrar of the College; he found his President keen and intelligent, despite a certain hesitation in his manner.

But the ideal President of all his experience was Sir Thomas Watson. He was, Sir Henry Pitman would say, a most amiable man, with a felicitous manner, the outcome of his own happy nature. "I never heard him speak an evil word of any one. Any letter he wrote was short and beautifully expressed. Sir Roundell Palmer, responding at a Harveian dinner, said that if he wanted happy expressions and good language he would go to the Royal College of Physicians." In Sir Henry Pitman's earlier days the President was still chosen, under statute of Henry VIII., by the eight College "elects" from among their own number; it was not until 1860 that the choice was given to the whole body of Fellows. At the date of his birth the College was housed in Warwick-lane; its removal to Pall Mall East was celebrated with much ceremony in 1825. The changes of the century may be illustrated from the College Pharmacopœias. That issued in the year after Pitman's birth introduced chemical nomenclature and admitted arsenic and digitalis for the first time; quinine, morphia, strychnia, and ergot had to wait until 1836.

No attempt can, however, be here made to measure the advances witnessed by our venerable friend during his long life. The stethoscope, the microscope, the thermometer, the testing of urine and of blood,—all these were brought into use in medicine within that century of life and they have opened up undreamt-of vistas in the science of our art. It may be that therapeusis has not kept pace with diagnosis, yet the age has been so full of expanding medical knowledge that to pass from 1808 to 1908 seems like going from darkness into light. What may be looked for in the century to come?

I am, Sir, yours faithfully,
R. HINGSTON FOX.

London, W., Nov. 16th, 1908.

THE ETYMOLOGY OF ASPHYXIA.

To the Editor of THE LANCET.

SIR,—The difficulty in explaining how the word asphyxia has acquired its present meaning, "suffocation" or deprivation of air or oxygen, must have occurred to many of your readers. Asphyxia (ἀ priv. and Σφύξις the pulse) means pulselessness or stoppage of the pulse. Σφύξις is derived from σφύζω "to throb." But pulselessness is not a feature in what we call asphyxia, and under the heading Asphyxia in Sir James Murray's "New English Dictionary" the following comment on this discrepancy appears: "It indicates a curious infelicity of etymology that the pulse in asphyxiated animals continues to beat long after all signs of respiratory movements have ceased."

The pos-ible solution of the difficulty is that the ancients, noticing that the arteries after death contained air and not blood, believed that during life they were air-ducts ramifying from the trachea called the "arteria aspera." Therefore, the word artery is probably derived from 'Αήρ (air) and τηρέω (I guard); and as the pulse-beat itself was attributed to the rebound of air or "vital spirit" in the arteries or air carriers it follows that the word asphyxia acquired the double meaning, stoppage of the pulse and deprivation of air. In the latter sense the term has survived. Thus an ancient error

Most surgeons will not be in accord with Dr. KIRK as to the bad results of the ordinary methods of treatment in early cases; in fact, in the average early case of spinal caries immobilisation gives excellent results, bony union taking place without the formation of an abscess. It is very definitely an innovation to adopt operative procedures in early cases and we shall watch with interest the further development of the method.

Annotations.

"Ne quid nimis."

VEGETARIANISM AND PHYSIQUE.

PHYSIOLOGICAL considerations have long disposed of the view that a purely vegetarian diet ministers best to the needs of the human body, and although objection has been raised against physiological reasoning on the ground that it was largely theoretical a good deal of practical evidence has been forthcoming which has justified all speculation. It is well established, for example, that the individual who subsists upon an exclusively vegetable diet is far more susceptible to the attacks of disease than is the consumer of animal food. In short, the former's power of resistance to disease is decidedly weakened, for the reason that, after all, he is underfed, or in chemico-physiological terms, he fails to realise a sufficient intake of protein substance which makes for bodily energy, not to mention intellectual capacity. Every day as knowledge advances and powers to add to that knowledge are increased is the view strengthened that vegetarianism is a fallacy. The vegetarian school has pointed with triumph in its own mind to the oriental peoples as examples of physical strength and endurance supported alone by a vegetarian diet. These examples in the light of an exceedingly interesting practical inquiry on the subject can no longer serve the arguments of the vegetarian advocate. We refer to a study of the problems of nutrition connected particularly with the well-being and physique of the teeming natives of Bengal in relation to their diet which consists principally of rice. The investigation was undertaken by Captain D. McCay, I.M.S., the professor of physiology at the Medical College, Calcutta, and it will be admitted, we think, that he has added a masterpiece of physiological inquiry to previous contributions. Theoretical considerations may be left out, although they are obviously of interest compared with the results of practical observations. Experimental details, also, though full of scientific interest, may be omitted, but it is enough to say that the results fully justify the conclusions arrived at. Anyone, we are told, who has seen the ordinary Bengali coolie at work will not require much statistical evidence to convince him of the marked superiority of the European; men have often to be employed in India for work that women will do in England. Again, from an insurance point of view the life of the Bengali is very inferior to that of the European. In spite of the fact that the Bengali exists on a protein metabolism very close in amount to that stated by Chittenden to be sufficient, his powers of resistance to disease are impoverished owing to an unreplenished condition of the blood accompanying a low protein intake. Nor is the function of the kidneys the better for a low protein intake, for kidney disease is more common among natives than among Europeans, whilst amongst the upper middle classes the extreme presence of glycosuria would prove conclusively "that the danger of an excess of carbohydrate intake is even a more real and present one than that of proteid excess." From this it would appear that the human machine in health is able to eliminate more completely the toxic products elaborated from a generous diet of protein than from a diet overstocked with carbohydrate. At all events, in the latter case the resisting power of the tissues to disease is decidedly lowered, so that diabetes, pneumonia, tuberculosis, spreading gangrene, and so forth are very prevalent amongst the Bengalis who subsist on a beggarly protein diet. It follows that vegetable food, unless consumed in large quantities, does not yield a sufficiency of protein, and therefore, in order to obtain this sufficiency, a quantity of carbohydrates has to be consumed simultaneously which places a strain upon the resources of the body ultimately leading to a reduced vitality which is favourable to microbial invasion and its results.

THE METROPOLITAN WATER-SUPPLY.

THE report of the Water Examiner on the condition of the metropolitan water-supply during the month of August has been issued and does not call for any exceptional comment. The condition of the London water during the month appears to have been as satisfactory as can be expected under existing conditions, thanks to the absence of floods on the Thames, although the mean rainfall for August was all but an inch above the mean average for that month. It is probable, however, that this increase of rainfall will be reflected in the bacteriological report for September. As it was, 13·6 per cent. of 100 cubic centimetre samples of filtered Thames water contained bacillus coli in August. This report also contains tables giving a summary of the state of the various water-supplies during the three summer months—June, July, and August. Comparing this quarter with the same months of 1907 it is found that during this year the raw waters contained the more bacteria, and in the case of raw Thames and Lea waters a larger proportion of samples contained typical bacillus coli in one cubic centimetre of water. There were, however, slightly fewer microbes of intestinal origin in the filtered water, which is perhaps to be accounted for by additional storage before use. The report further states that "chemically, the *raw* Thames water was less turbid and discoloured, and also contained less albuminoid nitrogen and absorbed less oxygen from permanganate in the 1908 summer quarter than in the 1907 quarter. The *raw* Lea and New River waters were slightly worse in 1908, as judged by the foregoing tests, except as regards albuminoid nitrogen in the case of the Lea. As regards the *filtered* waters the 1908 results compare favourably with the corresponding 1907 results with the exception of the New River and East London (Lea) districts." The further improvement of the London water-supply depends now upon increased storage accommodation, and it will be within our readers' knowledge that extensive works are at present being undertaken by the Metropolitan Water Board to construct a new pumping-station and reservoir at Island Barn, West Molesey. It was high time that the Board took advantage of the powers which were obtained by the Lambeth Waterworks Company in 1900 but which hitherto have been resolutely opposed by the local authorities on financial grounds, and this in spite of the fact that the Lambeth water has often been notably unsatisfactory. The water is to be taken from the Thames through an open conduit taking eight feet of water when the river is at normal level. The pumping engines will be able to raise 25,000,000 gallons daily. Mr. C. E. Hearson, chairman of the works and stores committee of the Board, in an address which he delivered recently when Mr. John Burns "turned the first sod," said that the occasion marked the commencement of a series of reservoirs which would add a storage capacity of 4700 million gallons to the of, the enormous amount of work done by others on immunity and of the work which probably lies at the root of these experiments—I mean that done on cytolytic processes. Mr. Walker in his reply confessed, in fact, to ignorance in regard to this.

I hardly think it necessary to pick to pieces his criticism of my remarks, for he has so placed these, which were only published in brief abstract, out of the context, that I should have to write out what I said in full to make the position intelligible. To give an instance, surely "work on immunisation" is different from "immunisation," as quoted by Mr. Walker as a positive fact! I must therefore be general. In the first place, I never said that the results of the work of others coincided in every particular with the results of Mr. Walker's experiments—that would be too much to expect of any work—and I pointed out differences. In the second place I have a good imagination but I cannot recognise the ultimate difference between experiments on immunity and experiments on curative processes based on induced immunity. For Mr. Walker to say that experiments which "deal with the immunisation of mice beforehand to tumours which were subsequently introduced ...... have no bearing upon the treatment of already existing and well-established tumours" is—even if it were true, which it is not—to emphasise his ignorance of the nature of the process and the work done. Direct contradiction is given, if any were needed, by the experiments of Clowes and others on this very subject.

Then in regard to priority. In the historical portion of a paper by Bashford, Murray, and Cramer[2] they state that Jensen (in 1901) "observed the complete disappearance of tumours from mice that had been successfully inoculated. He added, however, that the 'results of attempts to cure mice of tumours have hitherto been uncertain.'"

Again: "Borrel ...... recorded suggestive experiments directed to obtaining a polyvalent immune serum against human cancer." Also: "Clowes ..... the animals in which spontaneous absorption had occurred were stated to possess a specific antibody in their serum which on injection into animals with transplanted tumours *exerted a curative effect*" (italics mine). And so on. There are several very important and interesting papers in the Third Scientific Report of the Imperial Cancer Research Fund dealing with the immunity established in rats to mouse tumours and the immunising effects of other tissues, including the work done with testis. Regarding Mr. Walker's claim to "cure" mouse cancer with "testis serum" I have already spoken—and the less said about it the better!

In conclusion, I only wish there were a hopeful outlook for the experiments, but I think if Mr. Walker will make himself familiar with work on cytolysins generally (of which he confessed ignorance) he will, when he fully understands all they imply, be as doubtful as other workers have been who have considered the question of making a cytolytic *serum* for human cancer on these lines. All my criticism would have been avoided if Mr. Walker had acknowledged the work of others—whether he conscientiously considered that he was first in the field or not. I make no attack on Mr. Walker and unwillingly allow myself to say this much in answer to his attempt to clear himself. I shall not, therefore, discuss the matter further.—I am, Sir, yours faithfully,

Liverpool, Nov. 14th, 1908. W. BLAIR BELL.

THE NEUROTONE.

To the Editor of THE LANCET.

SIR,—May I state in your able journal that I am not the inventor of "The Neurotone or Neurostone," as it is termed; but during many years of research work in electricity I have found it a perfect appliance to accomplish the object I had in view.

I am, Sir, yours faithfully,
J. A. GRANT.

Ottawa, Nov. 4th, 1908.

COW'S MILK: A SUGGESTION.

To the Editor of THE LANCET.

SIR,—I should feel very much obliged if some of your readers who have patients unable to take ordinary cow's milk would be so good as to try those patients with milk from cows which are not in calf. The milk that is supplied daily in this country is in 99 per cent. of cases obtained from cows in calf. My experience so far has been that patients, especially children, who were unable to digest the ordinary market commodity were when given milk obtained from cows not in calf able to take the latter and thrive on it. The difference between the two milks is considerable, as the drain of the embryonic calf must seriously interfere with the quality of the pregnant cow's milk.

I am, Sir, yours faithfully,
G. ARBOUR STEPHENS.

Swansea, Nov. 9th, 1908.

BELFAST HEALTH COMMISSION.

(FROM A CORRESPONDENT.)

(*Concluded from p. 1483.*)

WITH reference to the deplorable state of affairs in Belfast pointed out by the recent Health Commission, that the corporation is without information as to the details of deaths occurring in its district beyond the mere numerical particulars obtained from the Registrar-General's official publication—information without which no sanitary authority can adequately search for, or cope with, causes of disease and death—it is clear the excuse of the committee of the corporation, that it is the duty of the Local Government Board to promote the legislation suggested by the Health Commission in this direction, is mere fencing with the question. The corporation of Belfast should itself promote a Bill and "the most effective and natural way of dealing with it (the question of vital statistics) is to follow the precedent of the English and Scottish Registration Acts, even if such a method involves fresh legislation; and we recommend that this should be done," says the Health Commission, and it further adds: "In view of the importance of the information as to the details of deaths occurring within the city, we regret that the corporation did not fall in with the suggestion made to them in October, 1907, by the Local Government Board for Ireland, which, pending legislation, would have enabled them to get the information desired." There can never be any proper public health administration in a city until the medical officer of health has trustworthy vital statistics, and, as the Health Commission reports, any health reforms attempted without such information must be in the nature of leaps in the dark. Imagine a city where, as the Health Commission says, the corporation does not know the causes of death among the children, where "the corporation are completely in the dark as to the places where deaths in the city are occurring, even from such important diseases as phthisis, tuberculosis, pneumonia, cancer, diarrhœa, or from diseases which may be due to industrial causes, to poverty, or to any of the other conditions which may be thought of as associated with modern town influences." Dr. H. Whitaker, the former medical superintendent officer of health, often drew attention to the defects in his sources of information; nay, more, Mr. H. W. Bailie, in his report just issued for 1907, says in reference to this matter, "We are where we were a year ago."

In the face of these facts, why does the corporation not promote a Bill itself and get this matter made right, which is the very foundation of public health, and put into its Health Bill all other matters—the control of the milk-supply, certain powers for sanitary administration (as advised by the Health Commission), the getting rid of the abomination of double tenement houses, the reorganisation of the antiquated system by which there is a medical superintendent officer of health and 14 district medical officers of health, so as to make the medical superintendent officer of health the real head of his department, with personal control of everything pertaining to the public health, &c., so as to place Belfast on the level, in public health administration, with any city in England or Scotland? When anyone suggests to the corporation of Belfast the trial of public health measures which have proved efficacious in other cities they always get the same answer, "We have no powers," and the bogey of the Local Government Board is trotted out. In reply, it may be said if you have not powers your duty is to get them. Sheffield and Bolton got special Acts passed to enable them to make pulmonary tuberculosis compulsorily notifiable, Manchester and Bristol went for special legislation on the milk question, and Huddersfield was complimented by a Committee of the House of Commons for leading for protection. In summer there are few days when the temperature is so high as to be uncomfortable. The head and eyes are protected from the glare of the sun and from the great heat by keeping the head either in the shade of some building while the rest of the body is exposed or by the use of a sunshade. If at any time the high temperature causes discomfort the patient is carried into the shade. At the beginning of the treatment the time during which the patient is exposed is graduated so as to prevent undue sunburn. This may sometimes be avoided by keeping a sheet over the part. At times the patient should alternately lie upon his back and face so that all parts may be exposed to the sun. This treatment by recumbency and exposure to the sun is continued throughout the acute stage until there is evidence of complete cicatrisation. In nearly all cases this period amounts to several months and it may amount to years. When the patient is allowed to get up a brace is used which is both a crutch to carry the body's weight and an extending force to maintain traction upon the affected limb. This brace consists of a padded steel band which passes around the pelvis just above the great trochanter and a leg bar secured to this without a joint. This passes down the outer side of the leg to the sole of the foot and has a bolt which passes through a tube inserted in the heel of the boot. Two perineal straps are attached to the pelvic band. The perineal strap on the sound side is kept tighter than the other in order to afford counter-extension, while the bolt in the heel produces extension. Dr. M'Kenzie has treated 166 cases by this method with the following results. Eight patients died. Amputation was performed in two cases in which extensive suppuration had occurred. In 56 cases "first-class recovery" took place; a small proportion of the patients had good motion of the hip-joint and practically no shortening; others had ankylosis in good position. In only seven was there "poor recovery" (a femur moveable on the pelvis or long-discharging sinuses). The average time of confinement to the cot was six or seven months.

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[2] The Natural and Induced Resistance of Mice to the Growth of Cancer, Proceedings of the Royal Society, B., vol. lxxvi., 1907.

THE CHURCH AND SPIRITUAL HEALING.

BOTH on this and on the other side of the Atlantic there is a movement in the Church towards the consideration of matters connected with healing by other than physical means. On the other side of the Atlantic the Church has probably been led to initiate this movement on account of the extreme prevalence of the belief known as "Christian Science." In this country, however, a meeting which was held at Sion College on Nov. 16th owed its inception in main part to the discussion of the question at the recent Lambeth Conference. Various clergy and laymen attended the meeting, and it is stated that a motion was adopted to the following effect:—

> That in the opinion of this Conference the time has come to form a Central Church Council in the Diocese of London for the consideration of questions connected with healing by spiritual means, and that the Bishop of London be respectfully asked to nominate the members of the council.

We are glad that the Church is taking up this question, for the amount of evil done by unlicensed and quack professors of "faith-healing" is incalculable. When the Church exhorted its sons in sickness to call for the duly ordained ministers of the Church it was never meant that material means should be ignored. The true meaning of the sacrament of unction has been gradually lost sight of until, in one branch of the Church, it has become, in popular belief at all events, a mere viaticum for the dying and in no way a means of restoration to health. On this point we may perhaps refer to the Order for the Visitation for the Sick as published in the first Prayer-Book of Edward VI. in which there was a form for anointing the sick person should he so desire it; and in which prayer was offered that God would vouchsafe to restore to the patient his bodily health and strength and to send him release of all his pains, troubles, and diseases both in body and mind. So long as the skill of the physician is not neglected there is no reason why the offices of the Church and their effect upon the mind of the patient who believes therein should not be used. Every medical man knows perfectly well that a patient who desires to, and believes that he will, get well is far more likely to recover than one who, owing to carelessness or despair, meets death half-way.

LADY (RUSSELL) REYNOLDS.

WE much regret to announce the death of Lady Reynolds which occurred at her house, 3, Spanish-place, Manchester-square, on Tuesday last, Nov. 17th, after about a fortnight's illness. Her life was so full and energetic that the announcement will come as a shock to her many friends. Lady Reynolds was the daughter of Mr. William Plunkett, a member of the Fingall family, and was first married to Mr. C. J. Champion-Crespigny, but in 1881, being then a widow, she became the wife of Sir John Russell Reynolds and from that time forward was well known to many members of the medical profession for her keen interest in medical work in all its phases. Rather late in life and when his health was not particularly good Sir Russell Reynolds became President of the Royal College of Physicians of London, and in 1895, two years later, President of the British Medical Association, holding for a time the two important offices concurrently. It was only Lady Reynolds's great energy, tact, and resolute determination to protect her husband as far as possible from unnecessary encroachment upon his time, that enabled Sir J. Russell Reynolds to discharge efficiently the duties of these posts. The experience which she then gained of medical politics and the large acquaintance which she formed in the medical world made her a real authority upon such matters. Sir J. Russell Reynolds died in 1896 and from that time forward Lady Reynolds's life was largely absorbed by her strenuous attempts to do work for the good of the medical profession and for the public benefit through that profession. She became an indefatigable worker upon the lay committees of hospitals, especially of those hospitals with which her distinguished husband was connected, and in all questions which arose, where her counsel was required, she gave it in an outspoken manner, with an absolute sense of justice and from the point of view of one who appreciated the aims and objects of the medical profession. She was by birth, training, and instinct a Tory, and was opposed to the movement which is designed to obtain larger political responsibilities for women, but every act of her public life showed that if those responsibilities had devolved upon her she would have known how to acquit herself manfully. As it was she was a living proof of the amount of influence for good which a thoroughly brave and capable woman may become.

MEDICAL REFEREES AND LIFE ASSURANCE.

AT the opening meeting of the Life Assurance Medical Officers' Association on Nov. 4th, Dr. T. Glover Lyon, the president, occupying the chair, Sir Thomas Oliver read a paper on "Some Medical and Insurance Problems arising out of Recent Industrial Legislation." He pointed out that while the Workmen's Compensation Acts of 1897 and 1906 had imposed a serious burden upon employers, the effect had been rendered comparatively light through distribution of the risk by insurance, while the beneficial effect of the compensation on injured workmen should undoubtedly promote social betterment. As regards Germany, however, where such insurance has now been compulsory for 25 years

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

FESTIVITIES AT WASHINGTON.—PRIVATE RECEPTIONS AND THE SECRETARY OF STATE'S BANQUET.—A VISIT TO THE WHITE HOUSE.

New York, Oct. 13th.

IT was originally planned that during the week spent at Washington there were to be no festivities. The members of the Congress were to go to bed early and to attend exclusively to serious work. As might be anticipated this stern resolve broke down, at least to some extent. Not only were there a good number of private receptions but the Government itself gave a banquet in honour of the Congress. Mrs. Gardiner G. Hubbard provided motor-cars to take members to her country estate in the neighbourhood of Washington on the Wednesday afternoon. Unfortunately, this was the day of the joint meeting of the sections to hear the great discussion on Professor Robert Koch's opinions concerning the danger of bovine tuberculosis. As this discussion was prolonged till after 6 o'clock many people who had accepted were not able to avail themselves of Mrs. Hubbard's invitation. The same evening Dr. and Mrs. Charles W. Richardson were more fortunate in gathering in their house many members of the Congress. Already on the day of the opening of the Congress, on Monday, Sept. 28th, there had been a *conversazione* at the Corcoran Gallery of Art where the foreign delegates met their new American colleagues and renewed acquaintance with each other. Then the Cosmos Club very graciously made all the foreign delegates honorary members and several pleasant little dinners were given. But undoubtedly the greatest event of the week was the banquet given by the Secretary of State who in America is the next most important member of the Government after the President. In the new Willard Hotel, on the fourteenth or fifteenth floor, there is an enormous and lofty banqueting hall. What with the profusion of flowers and green garlands and shrubs, and even palm trees, it seemed at first as if we had arrived at one of the roof gardens that are becoming a feature in American life. But there were solid walls around us and even a gallery where the band was held in reserve to play various national anthems in honour of the foreign guests. After the guests had partaken of a substantial repast and various wines there followed the congratulatory speeches. Mr. Elihu Root, the Secretary of State, who to a large extent performs the duties of a Minister of Foreign Affairs, presided over the banquet and gave the foreign delegates an opportunity of admiring his eloquence. Naturally he made the first speech and he stated that it was on behalf of the Government of the United States, and still more on behalf of the people of the United States, that he wished to thank the members of the Congress for their devotion to the advancement of science. This cause had led many eminent authorities to travel a great distance so that they might contribute their share in reducing the burdens still borne by mankind. Mr. Root welcomed the men of science who had rendered the present age distinguished above all others for its science: "Citizens of lands, subject to many sovereigns, you come to us as soldiers of science and members of the same army, as you are all fighting the same foe and this on behalf of the same Republic of Learning. To whatever allegiance you may have subscribed you are all brothers in humanity." Mr. Root then proceeded to discuss the fact that progress seemed unattainable without incurring some loss. All refinements entailed the abandonment of those simple conditions in which health came and was maintained with but little effort. When we secured in our dwellings comfortable warmth we also created new conditions and these engendered new evils that necessitated the intervention of men of science to combat them. This struggle against disease is bringing about a union of mind and of hearts which will give birth to the brotherhood of man. Our united efforts will accomplish what was impossible whilst we were isolated. The individual man is no better to-day than he was 500 years ago, but he stands on the united, consolidated achievements of his predecessors and is therefore on a much higher level when he commences his individual effort. Thus man to-day can go far beyond the achievements of his ancestors. In the presence of the task now before the members of the Congress the ordinary work of government seemed unimportant. The congress was dealing with the very existence of man. On behalf of the Government, said Mr. Root, "we welcome you, we ask you to come again, we ask you to leave us your benediction as you go and to remember us kindly when you reach your homes." He thought appreciative Americans would feel the Congress was indicating a more humane and a more effective way of rendering mankind more efficient, while suffering less and living longer. Thus would the Congress contribute to raise humanity physically and morally.

Mr. Root, after the applause had subsided, called upon Professor Robert Koch who was greeted by the band with the "Wacht am Rhein" and with enthusiastic cheers from the audience. To the surprise of all, he delivered, in German, a humorous speech which is a sort of oratory that never fails to be well appreciated after a banquet. The Marseillaise and Professor Landouzy, Dean of the Paris Faculty of Medicine, followed. Professor Landouzy said that the French members were eager to see what in its youthful energy America had done, so they had crossed the Atlantic, the great ocean, "that brings us near more than it separates." After old Europe had learnt from America what could be done for agriculture, she had now seen the birth of young American science, a field where a rich harvest had also been gathered in. So active was the American radiography that it had brought into existence yet another milky way, and now to its 46 stars a brighter star was added which shone with the light of American science. Like the Magi from the East the delegates from old Europe came with the aurora of the rising day to salute the birth of American science.

As the band played "God Save the King" Professor G. Sims Woodhead rose and qualified the gathering as the apotheosis of the tubercle bacillus. This bacillus, about which they held divided opinions, was nevertheless destined to unite them all. They might argue about its character and origin but the more they differed the more they came together to discuss and they had the belief that these frequent international meetings all made for peace. Thus they would cherish tender memories of the tubercle bacillus long after it might have passed away, such as the memory of the warmth of the American welcome to that Congress. The British gave way to no one in their admiration for what had been done in the United States. Science was a great brotherhood but the Americans being more nearly related to the British they had a larger claim on the affections of the English people. All that had been done tended to bring closer together the two great nations which were united in the wish to preserve the peace of the world. In this policy no nation would join more heartily than the Mother Country on the other side of the water.

The representatives of Russia and Austria followed and then Dr. W. H. Welch (Baltimore) rose to explain that the Congress owed a great deal to Mr. Root, for he had befriended its promoters from the very first. At Paris it had been laid down that the invitation to meet in America could not be taken into consideration by the Second International Congress on Tuberculosis unless it was approved and endorsed by the American Government. There were only 24 hours to act, as the answer had to be sent while the Congress was still sitting in Paris. Fortunately, the Secretary of State granted an interview immediately. A mere statement of the case sufficed and a satisfactory cablegram was drawn up and sent to the American Ambassador at Paris. But for the active intervention of the Secretary of State it would not have been possible to carry the vote at the Paris Congress which decided where the third Congress should be held. Now that the Congress had met at Washington it had proved the means of enlisting the sympathy of the American Government and of the people. In America this was more important than in Europe, where it sometimes sufficed to obtain the help of a few persons in high authority. There never had been in the United States such a Congress and Dr. Welch added: "We have learnt more from you than you can possibly take away from us here." There was a flutter of excitement, especially among the French delegation, when the next speaker rose, for he was introduced as "Citizen Bonaparte, Attorney-General of the United States, and grandson of the King of of inspection of the water-supply. In the State of Minnesota it is now the rule not to analyse samples of water forwarded to the laboratory but to send out inspectors who, after an accurate survey, may then proceed to make field "plates" from the water on the spot. These plates are sent to the laboratory for incubation and examination. Thus Minnesota places inspection first and, if necessary, then begins a bacteriological examination on the spot. The system may seem expensive but, as Professor Connell observes, one epidemic of enteric fever prevented would save the expense of many years.

THE LOCAL USE OF EPSOM SALTS IN THE PRIMARY DRESSING OF BURNS AND SCALDS.

IN the October number of the *International Journal of Surgery* is published a paper by Dr. M. N. Stowe of Jesup, Georgia, on the local use of magnesium sulphate as a first dressing for burns and scalds. The paper was read at the thirteenth annual meeting of the Association of Surgeons of the Southern Railway at Birmingham, Alabama. He recommends the employment of magnesium sulphate because it gives instant relief and the inflammatory reaction is much reduced, while there is no risk of poisonous effects from absorption. Epsom salts are nearly always available and the dressing is very inexpensive, and it is also easily removed. In many cases no further dressing is required, but even when it is thought desirable to employ any other form of dressing later the magnesium sulphate is valuable as a primary dressing. Dr. Stowe uses the salts as follows: Where the burnt part can be immersed a saturated solution of the salts should be used and the part should be kept in it until no pain is felt on withdrawal. We may mention that water at 62° F. dissolves more than its own weight of magnesium sulphate. If it is not convenient to use a solution, the dry salts may be applied and covered with a wet cloth; or a thick paste may be made and placed on the affected part, such as the eyes or nose. The method is simple and it appears to be worthy of trial.

THE POSSIBILITY OF INTRODUCING SECRECY IN THE CERTIFICATION AND REGISTRATION OF DEATHS.

Dr. E. M. Smith, medical officer of health of the city of York, read a paper at the recent Congress held by the Royal Sanitary Institute at Cardiff on the subject of death certification and registration. Among other matters discussed in connexion with this important subject prominence was given both in the paper and in the speeches which followed to the desirability of obtaining a fuller and more accurate statement of the cause of death than the medical attendant now gives in some cases and to the possible conditions which would conduce to this end. It is hardly to be denied that the cause of death under the existing law is at times disguised to some extent owing to a desire not to hurt the feelings of surviving relatives, or in order not to gratify their curiosity as to the private history of the deceased. Survivors may also sometimes desire reticence as to material matters in order not to afford evidence to insurance companies likely to be injurious to the estate of the deceased. Deaths due to alcoholism and to syphilis were given as instances of those not now accurately registered for reasons such as those suggested, and the recommendations made in view of these circumstances were to the effect that medical practitioners should be paid by the State for death certification, that the certificates should be sent to registrars under cover, and that to relatives asking for copies of the certificate or to assurance companies a modified statement of the cause of death should be given and not a full copy. The question is one of public interest and is not easy of solution. It is of importance that the registration of deaths should provide absolutely trustworthy materials for the compilation of statistics and for the information of those concerned with the public health. There are, however, important uses for which the production of a full and accurate death certificate may be required, and if such a document facilitates the operations of life assurance companies it assists in a class of business of great public importance. The objects of such companies may be purely commercial so far as the relations of assurer and assured are concerned, but nevertheless the legislature would probably hesitate to enact anything which tended to hamper life assurance or to render it either more expensive or less secure. The medical man, from his point of view, rightly regards himself as the trustee of his patient's secret, although equally he appreciates the valueless nature of death statistics without accurate certification. The public, from their point of view, may also be justified in thinking that the dead are past being affected by the revelation of the cause of their decease, and that the interests of the living, on the whole, would be best served by a candid statement, open to inspection upon proof that such inspection would tend to further justice or to prevent injustice. The difficulty, no doubt, lies in the imposition of satisfactory conditions under which the full contents of the death certificate should be made known and in the fact that the candour of the medical man is likely to be proportionate in many cases to the stringency of those conditions. If, however, in certifying he earns a fee payable from the State he becomes even more conspicuously than now a State officer, bound as such to perform a public duty without fear or favour.

EXTRACTS OF MEAT AND SIMILAR PREPARATIONS.

A BULLETIN has just been issued[1] giving the results of a chemical study of various commercial products made from meat and of various adulterants of meat extracts. The investigation was initiated with a view of establishing standards for these preparations, many of which are widely advertised and highly recommended for invalids as concentrated nutritious foods. The brands examined included almost all the solid and fluid extracts of meat that are well known in the United Kingdom. It is interesting to note that American extracts of meat are now extensively prepared by the evaporation of the soup liquor obtained from meat which has been parboiled in the process of preparing canned meat. A first-grade extract of beef is prepared from beef alone, but inferior grades are obtained from the trimmings, including odds and ends of meat, muscle tissue and bone, or from the liquor in which corned beef has been cooked. In the latter case considerable quantities of nitrates and sodium chloride are present in the extract. The manufacturers claim that 100 pounds of soup liquor will yield one pound of meat extract. The products examined were divided into four classes—viz., solid and fluid extracts, meat juices, and miscellaneous preparations—and were judged by empirical standards. In the case of solid extracts the standard required not less than 75 per cent. of total solids, containing not more than 27 per cent. of ash, and not more than 12 per cent. of sodium chloride, or six-tenths per cent. of fat. It was also held that the nitrogenous compounds should contain not less than 40 per cent. of meat bases and not less than 10 per cent. of kreatin and kreatinin. Of the six solid extracts examined several fell below the definition in one or two points but they were satisfactory in most respects, the percentage of nitrogen much of the alcoholic precipitate of Koch's old tuberculin to produce the same effect. Tuberculin CL was well borne by patients and the results had been good in increasing resistance and delaying the process of tuberculosis, though it was no more a cure than was any other similar substance. Very small doses, 1-1000th milligramme, must be used at the commencement until ultimately 3-10ths of a milligramme might be administered. A reaction exceeding half a degree C. was avoided by maintaining the intervals of from 10 to 12 days between the injections. Professor Calmette also strove to obtain a constant increase of the opsonic index. When studied experimentally *in vitro* tuberculin CL showed an affinity for the lipoids constantly present in the serum of tuberculous men and cattle. These substances were probably lecithins. In this connexion Professor Calmette alluded to his researches upon the activation of cobra-venin by the free lecithin of serum. Hence tuberculin CL afforded an index of the affinity of the patient's serum for the products of the tubercle bacilli, and this gave a valuable means of controlling medication by tuberculin, hitherto a most difficult matter.

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[1] Bulletin No. 114, Bureau of Chemistry, United States Department of Agriculture, by W. D. Bigelow and F. C. Cook, pp. 56 (1908).

The Bio-chemistry of the Tubercle Bacillus.

On the same day the biological chemists gathered in force and presented a series of papers upon the proteids of the tubercle bacillus, its immunising substances and enzymes, and upon the chemistry of the body during infection.

Dr. VAUGHAN (Ann Arbor) described his method of separating poisonous substances which would kill an animal in a few months in doses of from 75 to 100 milligrammes. The non-poisonous residue sensitised to the tubercle bacillus and was now being used in human cases of tuberculosis. It was yet too early to compare this method with older ones.

Dr. NOGUCHI (Japan) communicated through Dr. SIMON FLEXNER (New York) a lengthy study upon the action of soaps upon the vitality and immunising property of the bacillus tuberculosis. They were led to try this by the bactericidal activity and the complementary action of oleate soaps in conjunction with blood serum. They concluded that oleate soaps modified tubercle bacilli so that when subsequently inoculated into guinea-pigs they either failed to produce lesions or caused slighter ones than those shown by the control animals, with the result that death was postponed. These animals had acquired an immunity to virulent cultures, and either developed no lesions or far milder ones than did the control animals. The bactericidal effects of these soaps could not be reproduced by their component acids and bases. Dr. Noguchi believed that these lypoids were probably among the products of autolysis of lymph gland tissue which had been shown to be injurious to the bacillus tuberculosis by Conradi and Bartel.

Another paper from the Rockefeller Institute was that of Dr. EUGENE L. OPIE (New York), who had studied the enzymes of tuberculous tissue produced by inoculating the pleura. He found that the polynuclear leucocyte enzyme quickly diminished in activity after his inoculations. A second enzyme occurred in great abundance, only disappearing when caseation supervened. It digested proteid in weak acid media and it was probably derived from the epithelial cells of the exudate. These enzymes were inhibited by blood serum but not by that of the pleural exudate. Dr. Opie therefore believed caseation to be due to an autolysis by these enzymes when, through diminution of the vascular supply, they were no longer inhibited.

Dr. VON SCHRÖTTER (Vienna) reported an atttempt by Reitter and Stoerk to devise a means for the Diagnosis of Tuberculosis by a Serum Reaction. It consisted of a modification of the well-known method by carbolised sodium chloride. The precipitation of the colloids occurred in a higher percentage when an ethereal extract of tubercle bacilli was added to the solution in the proportion of ½ grain bacilli to 200 cubic centimetres of solution. In applying the method care must be taken to exclude such lipæmic conditions as diabetes, tumours undergoing regressive metabolism, and occasionally non-tuberculous infections. The method accordingly required confirmation by further trial.

A most valuable contribution to this subject was that of Dr. PAUL COURMONT (Lyons) upon the Agglutinating Power in Tuberculous Patients, with reference to Serum Diagnosis and Prognosis. He emphasised the indispensability of rigorous technique regarding choice of culture, its method of preparation, and the nature of the reaction in accordance with age and species, and he warned against its interpretation without coördination with the clinical symptoms. In suspicious cases positive reaction had great value. The information might be (1) general, where the information derived from it was equal to that of the conjunctival or cuti-reaction; but it did more, (2) for by testing the agglutinating power of serous effusions it assisted in locating the tuberculosis. The indication for prognosis was derived from the measure of agglutinative power, which was in inverse ratio to the virulence of infection. It was lacking in serious and advanced cases and increased during improvement.

Dr. ISHIGAMI (Osaka) followed with a paper in which he claimed to have succeeded in preparing two remedies of comparatively great efficacy and free from any detrimental reaction: (1) tuberculin-toxoidin, a chemical preparation from tubercle bacilli, suitable for incipient and apyrexic cases; and (2) an immunising serum for advanced cases. The former was used by injection in progressive doses. Under this treatment the body-weight and vital capacity increased, the bacilli broke down and agglutinated, the opsonins increased, and early cases were completely cured in from three to six months, and later cases also when the general nutrition was good; recurrences were rare. Statistics were given showing that the average number of injections required was 65. By the use of tuberculin-toxoidin in animals he had obtained an immunising serum which no longer caused the characteristic troublesome reactions in patients, and he claimed to have cured three cases of comatose cerebral meningitis with this serum.

Dr. CROFTAN (Chicago) presented an abstract of his studies on the Calcium Metabolism in a Case of Tuberculosis. He believed that the increased urinary excretion of calcium was due to its affinity for the deutero-albumose present in tuberculous foci, sputum, blood, and urine. This was a protective reaction, for experiments showed that the "pyrogenic" effects of this albumose ceased when it was combined with calcium. The therapeutic possibilities of this were indicated by a seeming immunity amongst workers in lime salts.

Dr. G. BERNHEIM and Dr. P. BARLIER (Paris) presented a joint report upon the Therapeutical Value of Tuberculins. This was opened by a comprehensive historical survey of the search for a specific remedy for consumption the world over, and was followed by a consideration of the therapeutic value of the various active and passive methods of producing immunisation which had been proposed. As regards passive methods, Dr. Bernheim and Dr. Barlier, relying upon the recent works of Bordet on immunity, agreed with Professor Sahli in thinking the future of serum-therapy in a chronic affection like tuberculosis to be at the least doubtful. Amongst the numerous products proposed for active immunisation Dr. Bernheim and Dr. Barlier treated only of the most important—those which had been the object of sufficient experimental and clinical researches. They devoted to each one a detailed study, examining one after the other their nature, their mode of preparation, their physiological properties, the doses and the methods of employment, the indications for their use and their dangers, and summarised their respective therapeutic value. They examined in succession the first tuberculin of Koch, the tuberculin T.R. of Koch, the bacillary emulsion of Koch, the filtered bouillon of Denys, the tuberculin of Maréchal, the tuberculin of Béraneck, and the tuberculin of Jacobs. From the comparative study of these different tuberculins they concluded that those which contained the toxins present in the bacilli themselves (tuberculins of Béraneck and Jacobs) possessed the most active immunising properties. They had not had occasion to experiment personally with Béraneck's tuberculin. As to the tuberculin of Jacobs the very numerous observations (amounting to hundreds) which they had collected in their anti-tuberculous dispensaries showed at the same time the perfect innocuousness of this product and its remarkable activity in the most different manifestations of the tuberculous infection. They considered that Wright's opsonic method allowed of the exact observation of the degree of immunisation of the organism, and would be "a precious guide in deciding the question of the doses to employ and their progressive elevation. Thanks to this method the employment of tuberculin is not an empirical treatment but it is founded upon a really scientific basis."

right in his surmise. That letter, on its way from the Silesian village, somehow got "delayed in transmission," and it was not till the March of this year that it reached its destination. Submitted to the Pope by his private secretary, it received immediate and kindly acknowledgment, accompanied by the Apostolic benediction and a present of a still greater sum than the largess of 1865—"Missâ simul summâ libellarum bis centum" (according to the "Vox Urbis"), or 200 francs in Italian, that is £8 in English money.

HARVEY'S PADUAN DIPLOMA.

THE Royal College of Physicians of London has issued a facsimile of one of the most interesting documents in its library—namely, the Diploma of the Doctorate of William Harvey which he obtained from the University of Padua, granted in the name of Count Sigismund de Capitibus Listae. Dr. J. F. Payne, the learned Harveian librarian, has written some explanatory notes and has thoughtfully provided a translation for the benefit of those whose recollection of the elaborate "periods" of the Latin tongue has become somewhat faint. Harvey entered the University of Padua in 1598 and his diploma is dated 1602, "Indictione Quintadecima." These two last words require some explanation. The indiction was a cycle of 15 years, and to find the year of the indiction the number 3 is added to the date and the sum is divided by 15. The quotient gives the number of cycles and the remainder, if any, the year of the indiction. In the present case 1602 plus 3 makes 1605, which divides exactly by 15 into 107. As there is no remainder the year is the fifteenth year of the cycle. So "quintadecima indictione" means "in the last year of the cycle," and not, as would at first appear, "in the fifteenth cycle." To return to the diploma: it is beautifully written in Roman lettering with important capitals and sentences in gold. The first page is illuminated all over with a floral groundwork, three little miniatures of landscapes, and at the top the "stemma" of a *conciliarius* of the Natio Anglica. The illuminations, which are admirably reproduced, show a sad falling off from the beautiful work of the Middle Ages. In the text Harvey is held up to admiration in a most fulsome way, but this style, as Dr. Payne shows, was common to most documents of the kind. The Latin is no longer the rather free, easy-going Latin of the Middle Ages, but built up into "periods" of the most classical form. Take the following one as an example, which is even better than that which Professor Postgate in his "Sermo Latinus" evolved for the instruction of youth from the well remembered sentence "Balbus murum aedificavit." Here it is, and in its stately roll we seem to see the red gowns of the doctors, the swords, and the pompous manners of the seventeenth century:—

> Nos Sigismundus Comes praefatus Imperiali Authoritate Familiae Nostrae antiquitus gratiose concessa ab Invictissimo felicis recordationis Sigismundo olim Rom. Imperatore semper Augusto, ac Germaniae, Ungariae, etc. Rege, prout amplissimo patet Privilegio, Sigillo Imperiali munito, dato Basiliae Anno MCCCCXXXIIII die tertia Aprilis, Nobilem et Eruditissimum D. Guglielmum Harveum, Folkstoniensem Anglum Illustris D. Thomae filium, Inclytae Nationis Angliae Consiliarium, Themata in Artibus et Medicina proposita per Magistros Excellentissimos Artium et Medicinae Doctores Dominos Hieronymum Fabricium ab Aquapendente Anatomen et Chyrurgiam publice profitentem, Io. Thomam Minadoum Rhodiginum Practicam Extraordinariam Medicinae in primo loco legentem; Julium Casserium Placentinum Anatomen, Physicam et Chyrurgiam exercentem; Georgium Raguseum Venetum Physicam Ordinariam in secundo loco declarantem; docte, eloquenter, laudabiliter, et excellenter pertractantem, Argumentis, Dubiis, et Casibus sibi propositis exquisite respondentem, et clare solventem cum ingenti animi voluptate audivimus.

It will be seen that there are here 125 words between the principal subject and the verb. The Royal College of Physicians, Dr. Payne, and the printers responsible for the reproduction are alike to be congratulated. The reproduction is a limited issue for Fellows only, who can obtain a copy on application, and his Majesty the King has been graciously pleased to accept a copy thereof.

TACTICS AND THE HEALTH OF THE ARMY.

TWO interesting and instructive articles which have appeared under the above heading in the last two numbers of the *Saturday Review*—viz., those for the 7th and 14th inst., by Field-Marshal Sir Evelyn Wood, V.C., are well worthy of the attention of our readers. The articles deal with events extending over a long period of time, from 1848 to 1908, and their value consists not only in the fact that they afford their author an opportunity of contrasting the earlier with the later period of our army history, but that they are also based upon the result of observations derived from a long personal experience of an exceptionally distinguished and varied nature. Like all stories worth the telling, the moral, if an old and oft-repeated one, lies on the surface. It shows how great have been the evil results of ignorance, prejudice, and a mistaken official parsimony in the past management of our wars, and it also shows how much has been already accomplished, and what is still to be hoped for and may potentially be achieved, by the application of sanitary science and preventive measures in war. The articles may be usefully read *in extenso* by medical officers and others interested in the subject, for they do not readily lend themselves to any brief summary. But, speaking generally, it may be said that the improvements that have taken place in the health of the army have for the time being followed upon, and been just in proportion to, the influence, independence, and efficiency of its medical service. Field-Marshal Sir Evelyn Wood in a concluding paragraph says:—

> I am convinced from my experience of 30 years as a general that the army doctors should be regarded not merely as healers of sick and wounded, but as trusted staff officers to advise their chiefs how to guard the troops against the originating and spreading of disease, and thus maintain the numbers of effectives in a campaign. This will result not only in the increasing of fire effect, but will raise immensely the fighting value of the troops and will incidentally enable us to reduce the costly and cumbersome hospital establishments and transport.

A PROCESS FOR THE PRESERVATION OF DEAD BODIES.

WE have recently had sundry documents submitted to us concerning a process whereby dead bodies can be preserved from decomposition for an indefinite time without the removal of any viscus and without any elaborate technique. The process was introduced by Cav. Chiarella and has the warm support of Professor Guido Baccelli and Dr. A. Severi, professor of forensic medicine in the University of Genoa. In March of this year Dr. Severi delivered a lecture on the process in the Anatomical Institute, Genoa, before the newly made graduates in medicine. Dr. Severi began by giving a short account of the processes involved in decomposition and of the various means by which this may be prevented. He gave a description of methods of embalming both ancient and modern, and then proceeded to describe that adopted by Chiarella. He employs lysoform, a combination of a potash soap with formaldehyde. The vessels are first washed out with the fluid and in some cases lysoform is injected into the abdominal cavity. Besides this Chiarella finds it of value to immerse the body in the lysoform for from 24 to 70 hours. Dr. Severi at his lecture demonstrated a body preserved by the Chiarella method in September, 1907. He pointed out that the skin was yellowish in colour and of a leathery consistency, but that the hair was normal and could not be easily pulled out. On the thoracic and abdominal cavities being opened there was no odour of putrefaction and the viscera were of normal colour and consistency. In much of the alcoholic precipitate of Koch's old tuberculin to produce the same effect. Tuberculin CL was well borne by patients and the results had been good in increasing resistance and delaying the process of tuberculosis, though it was no more a cure than was any other similar substance. Very small doses, 1-1000th milligramme, must be used at the commencement until ultimately 3-10ths of a milligramme might be administered. A reaction exceeding half a degree C. was avoided by maintaining the intervals of from 10 to 12 days between the injections. Professor Calmette also strove to obtain a constant increase of the opsonic index. When studied experimentally *in vitro* tuberculin CL showed an affinity for the lipoids constantly present in the serum of tuberculous men and cattle. These substances were probably lecithins. In this connexion Professor Calmette alluded to his researches upon the activation of cobra-venin by the free lecithin of serum. Hence tuberculin CL afforded an index of the affinity of the patient's serum for the products of the tubercle bacilli, and this gave a valuable means of controlling medication by tuberculin, hitherto a most difficult matter.

The Bio-chemistry of the Tubercle Bacillus.

On the same day the biological chemists gathered in force and presented a series of papers upon the proteids of the tubercle bacillus, its immunising substances and enzymes, and upon the chemistry of the body during infection.

Dr. **Vaughan** (Ann Arbor) described his method of separating poisonous substances which would kill an animal in a few months in doses of from 75 to 100 milligrammes. The non-poisonous residue sensitised to the tubercle bacillus and was now being used in human cases of tuberculosis. It was yet too early to compare this method with older ones.

Dr. **Noguchi** (Japan) communicated through Dr. **Simon Flexner** (New York) a lengthy study upon the action of soaps upon the vitality and immunising property of the bacillus tuberculosis. They were led to try this by the bactericidal activity and the complementary action of oleate soaps in conjunction with blood serum. They concluded that oleate soaps modified tubercle bacilli so that when subsequently inoculated into guinea-pigs they either failed to produce lesions or caused slighter ones than those shown by the control animals, with the result that death was postponed. These animals had acquired an immunity to virulent cultures, and either developed no lesions or far milder ones than did the control animals. The bactericidal effects of these soaps could not be reproduced by their component acids and bases. Dr. Noguchi believed that these lypoids were probably among the products of autolysis of lymph gland tissue which had been shown to be injurious to the bacillus tuberculosis by Conradi and Bartel.

Another paper from the Rockefeller Institute was that of Dr. **Eugene L. Opie** (New York), who had studied the enzymes of tuberculous tissue produced by inoculating the pleura. He found that the polynuclear leucocyte enzyme quickly diminished in activity after his inoculations. A second enzyme occurred in great abundance, only disappearing when caseation supervened. It digested proteid in weak acid media and it was probably derived from the epithelial cells of the exudate. These enzymes were inhibited by blood serum but not by that of the pleural exudate. Dr. Opie therefore believed caseation to be due to an autolysis by these enzymes when, through diminution of the vascular supply, they were no longer inhibited.

Dr. **von Schrotter** (Vienna) reported an atttempt by Reitter and Stoerk to devise a means for the Diagnosis of Tuberculosis by a Serum Reaction. It consisted of a modifi- cation of the well-known method by carbolised sodium chloride. The precipitation of the colloids occurred in a higher percentage when an ethereal extract of tubercle bacilli was added to the solution in the proportion of ½ grain bacilli to 200 cubic centimetres of solution. In applying the method care must be taken to exclude such lipæmic conditions as diabetes, tumours undergoing regressive metabolism, and occa- sionally non-tuberculous infections. The method accordingly required confirmation by further trial.

A most valuable contribution to this subject was that of Dr. **Paul Courmont** (Lyons) upon the Agglutinating Power in Tuberculous Patients, with reference to Serum Diagnosis and Prognosis. He emphasised the indispensa- bility of rigorous technique regarding choice of culture, its method of preparation, and the nature of the reaction in accordance with age and species, and he warned against its interpretation without coördination with the clinical symptoms. In suspicious cases positive reaction had great value. The information might be (1) general, where the information derived from it was equal to that of the conjunctival or cuti-reaction; but it did more, (2) for by testing the agglutinating power of serous effusions it assisted in locating the tuberculosis. The indication for prognosis was derived from the measure of agglutinative power, which was in inverse ratio to the virulence of infection. It was lacking in serious and advanced cases and increased during improvement.

Dr. **Ishigami** (Osaka) followed with a paper in which he claimed to have succeeded in preparing two remedies of comparatively great efficacy and free from any detrimental reaction: (1) tuberculin-toxoidin, a chemical preparation from tubercle bacilli, suitable for incipient and apyrexic cases; and (2) an immunising serum for advanced cases. The former was used by injection in progressive doses. Under this treatment the body-weight and vital capacity increased, the bacilli broke down and agglutinated, the opsonins increased, and early cases were completely cured in from three to six months, and later cases also when the general nutrition was good; recurrences were rare. Statistics were given showing that the average number of injections required was 65. By the use of tuberculin-toxoidin in animals he had obtained an immunising serum which no longer caused the characteristic troublesome reactions in patients, and he claimed to have cured three cases of comatose cerebral meningitis with this serum.

Dr. **Croftan** (Chicago) presented an abstract of his studies on the Calcium Metabolism in a Case of Tuberculosis. He believed that the increased urinary excretion of calcium was due to its affinity for the deutero-albumose present in tuberculous foci, sputum, blood, and urine. This was a protective reaction, for experiments showed that the "pyrogenic" effects of this albumose ceased when it was combined with calcium. The therapeutic possibilities of this were indicated by a seeming immunity amongst workers in lime salts.

Dr. G. **Bernheim** and Dr. P. **Barlier** (Paris) presented a joint report upon the Therapeutical Value of Tuber- culins. This was opened by a comprehensive historical survey of the search for a specific remedy for consumption the world over, and was followed by a consideration of the therapeutic value of the various active and passive methods of producing immunisation which had been proposed. As regards passive methods, Dr. Bernheim and Dr. Barlier, relying upon the recent works of Bordet on immunity, agreed with Professor Sahli in thinking the future of serum- therapy in a chronic affection like tuberculosis to be at the least doubtful. Amongst the numerous products proposed for active immunisation Dr. Bernheim and Dr. Barlier treated only of the most important—those which had been the object of sufficient experimental and clinical researches. They devoted to each one a detailed study, examining one after the other their nature, their mode of preparation, their physiological properties, the doses and the methods of employment, the indications for their use and their dangers, and summarised their respective therapeutic value. They examined in succession the first tuberculin of Koch, the tuberculin T.R. of Koch, the bacillary emulsion of Koch, the filtered bouillon of Denys, the tuberculin of Maréchal, the tuberculin of Béraneck, and the tuberculin of Jacobs. From the comparative study of these different tuberculins they concluded that those which contained the toxins present in the bacilli themselves (tuberculins of Béraneck and Jacobs) possessed the most active immunising pro- perties. They had not had occasion to experiment per- sonally with Béraneck's tuberculin. As to the tuberculin of Jacobs the very numerous observations (amounting to hundreds) which they had collected in their anti-tuberculous dispensaries showed at the same time the perfect innocuous- ness of this product and its remarkable activity in the most different manifestations of the tuberculous infection. They considered that Wright's opsonic method allowed of the exact observation of the degree of immunisation of the organism, and would be "a precious guide in deciding the question of the doses to employ and their progressive elevation. Thanks to this method the employment of tuberculin is not an empirical treatment but it is founded upon a really scientific basis."

express his opinions in general terms. There was a widely spread feeling that of all the neuroses insanity was the one most likely to reappear as the result of parental defect. He at once admitted that a very large amount of mental disorder was connected in one way or another with parental weakness, and therefore some things which were abnormal might appear in the offspring. He would propose to modify that somewhat later. The first difficulty lay with the general idea that all insanity was one—that, in fact, it was a disease. But, as was pointed out many years ago, insanity was not a disease, it was simply a negation. He believed strongly in the power of transmitting from parent to offspring tendencies to mental disorder. But the transmission was rarely what might be termed true—i.e., it was not common for the same form of mental disorder to appear in both parent and child. It was necessary to say that there were many branches to the neurotic tree and other conditions besides heredity were efficient causes in developing the form of disorder. The offspring of certain insane persons might develop epilepsy, megrim, and immoral or criminal tendencies, or be simply feeble-minded. Some forms of inherited mental weakness might be regarded rather as a reversion of type of mind. But they were very uncertain guides; the patients themselves were ignorant or unwilling witnesses, the friends were unwilling and certainly untrustworthy. Notwithstanding that he gave certain statistics which were more or less trustworthy; as trustworthy as any which could very well be obtained. From the last report of the Commissioners in Lunacy (1907), among the private patients under care, 19·6 per cent. of the men and 26·7 per cent. of the women were supposed to have hereditary neuroses. The numbers among the paupers were rather greater. Of the residents in Earlswood Asylum, 35·3 per cent. had a bad or nervous history. Among the children at the epileptic school colony at Lingfield the visiting physician gave 65 per cent., which he thought below the truth; but many of the children being foundlings no history had been obtainable. Dr. H. Ashby of Manchester found among the mentally defective that 75 per cent. had neurotic progenitors. He (Dr. Savage) believed that certain types of mental disorder owed more to hereditary disposition than to others. For general purposes he could divide the insanities which he was considering into those due to neuroses and those due to toxins. There were probably connecting links; the more excitable persons showed the disorder earliest. Rarely in his experience did anything like transmission of similar delusions occur. At the worst it was the few who showed insanity. Occasionally one met with a family of dumb mutes or idiots, the whole family being affected, and in such cases he had not been able to trace real insanity to the parents. The union of certain chemical bodies produced bodies totally different from the constituents of either, and so it seemed to be in the case of man and woman. The variations arose from types and conditions which at present were not understood. In the case of the insane or the highly neurotic there was such a thing as breeding-out. He had seen cases in which grave mental disorder in one generation had been represented in later generations by tricks of muscle or moral faults and in another generation by simple eccentricities or even brilliancy. The commission which recently reported on the condition of the feeble-minded devoted much time and attention to the question of hereditary predisposition. It concluded that feeble-minded parents might have both normal and feeble-minded children; that in many cases an originally feeble-minded person who perhaps started a line of feeble-minded descendants was not a descendant from a neurotic parent at all but was rather a reversion. His own view was that the mental disorder arising from toxins was not likely to be reproduced in the next generation, except under special conditions. For instance, a child who was begotten at the time the father had marked general paralysis of the insane was an idiot, whereas children born before the full development of the general paralysis in the father were healthy. An important thing to remember was the tendency of certain diseases to skip a generation. It was certainly met with in insanity. Yet skipping seemed to be comparatively rare. There were certain families in which there was most certainly power to transmit tendencies to insanity, and there seemed, as Sir William Gowers had pointed out, a transmission of bodily conditions such as arterial degeneration, which might be evidenced by apoplexy. There were many people who lived to a good age, but their death took place mentally first. He had known a woman coming from an insane stock who during 40 years in an asylum had more than a hundred attacks of acute mania, yet who in the interval was bright and showed no evidence of mental decay. It seemed that if a person was to become insane the chances of temporary recovery at all events seemed to depend to a great extent upon an inherited neurosis. He could not altogether pass over reference to what were called toxic insanities. It was possible that the neurotic were specially liable to exhibit nervous conditions under favouring circumstances. In a neurotic subject influenza certainly could precipitate an attack of insanity or emotional disturbance. The toxic disease which was of most interest was at present general paralysis of the insane and he felt considerable difficulty in that regard. The number of general paralytics with a neurotic inheritance was quite small, yet the returns from some observers had been very considerable. There were, as he had tried to point out, certainly links in the neurotic chain as seen in the offspring of the insane and of the highly neurotic, but he did not look upon inheritance as a tyrant with inflexible power which drove the offspring to destruction, and he did not think that because the fathers had eaten sour grapes therefore the children should necessarily have their teeth set on edge. There was, in his opinion, power to transmit acquired peculiarities, yet the tendency to transmit predisposition might be modified by surroundings.

Dr. F. W. MOTT said that he did not expect to be called upon yet to speak in the debate, and therefore he had no precise data to lay before the meeting. He had been engaged in an interesting research which had some peculiar bearing on the subject—namely, in order to see if the convolutional pattern showed a resemblance amongst relatives, such as their physiognomies so often do. The cases which were supplied to him from the London county asylums he had sent on to Mr. Schuster of Oxford, who was photographing and describing them. He sent papers to the different asylums, and the returns came back with comparatively few relatives. But he found that some of the relatives were at other asylums. As a matter of fact a big snowball had formed and it was getting bigger every day and one was now struck with the number of relatives in asylums. That was a fact of considerable importance because it was difficult to get hereditary histories from such people. He had obtained some very remarkable histories and some of them seemed to show what Professor Bateson had indicated, that it was almost impossible to trace insanity. He had instances of three and four generations of suicides with insanity in the family. Practically all the people in the family were insane. He had an instance of a whole family of insane men and women admitted into Colney Hatch Asylum of whom the father was a drunkard, and that had been copied into most of the temperance books notwithstanding that in the same passage he had given instances of people who were strict total abstainers, and yet all their three children suffered from adolescent insanity. On tracing them out there was found to be insanity in the collateral branches. Later he hoped to be able to present some interesting statistics concerning the relatives. There were some types of insanity which were especially prominent, such as dementia præcox. They were said to furnish a large number of cures, but they kept returning periodically. They were not anti-social, and therefore were considered to be cured. 80 per cent. of the cases of adolescent insanity could be shown to have an hereditary history. So far as he had gone, general paralysis was not common; he had found only a few cases in 100. When met with it usually had been general paralysis in the father and general paralysis in the daughter or the son, and in those children one generally found signs of hereditary syphilis. Therefore he looked upon general paralysis as essentially due to syphilis. That general paralytics showed so little signs on the body was one of great interest. When syphilis affected a whole race he thought there was a certain amount of immunity, but that was at the expense of throwing out antitoxins which were neutralised. And the recent researches which resulted in the finding of antibodies in the cerebro-spinal fluid in practically every case suggested that the nervous system wore itself out in throwing out those antibodies which would neutralise the effect of the conditions valuable animals the Bang method.—The tagging system, too, was advocated by Dr. ROGERS (Kansas), who pointed out that metal ear tags with the address of the original owner of swine sent to slaughter-houses would enable the health officer to locate automatically the centres of tuberculous infection among cattle.

Dr. DYSON (Chicago) drew attention to livestock journals and breeders of pedigree stock as well as the organisers of expositions and fairs. All of these, for financial considerations, he said, "attempt to discredit the accumulated knowledge of time and a host of pioneers in the field of research and experiment with reference to the efficiency of tuberculin as a diagnostic agent, when properly administered."

Dr. POPE (New Jersey) submitted the farmers' point of view; and after explaining the causes of their hostility or indifference, and discussing the incidence of the cost of stamping out tuberculosis, advocated the fixing of a time limit after which the cost of compulsory destruction should no longer rest upon the State but upon the careless individuals. In this way a stop would be put to the present increase of tuberculosis among domestic animals which was now occurring in spite of its decline among human beings.

Dr. WARD (San Francisco) showed how, in spite of the open-air life led by dairy cattle in California, about 30 per cent. of over 1000 cows reacted to tuberculin and that 82 per cent. of the herds were infected. The correspondence of this result with the figures found in New York State, where the conditions as regards stabling were so different, showed that even the mild climate and out-of-door life had not counteracted the unskilful handling which permitted of this amount of disease.

The investigation of Dr. DALRYMPLE (Louisiana) into the conditions of 12 Southern States showed that the prevalence and increase of tuberculosis were almost wholly among stabled cattle, and that the native cattle were practically free although there was practically no legislation dealing with tuberculosis in cattle. In his own experiment station there had been no cases since the herd was tested and the diseased animals were eliminated 10 years ago.

Dr. MOHLER and Dr. WASHBURN (Washington) reviewed the recent investigations of the United States Bureau of Animal Industry and declared their resulting belief that the bovine, human, and avian types might interchange characters in favourable conditions in other hosts. They claimed that they were the first (in 1896) to differentiate the bovine type.

Dr. SCHROEDER (Maryland) drew attention to the intermittent passage of tubercle bacilli per rectum in about 40 per cent. of cattle apparently healthy, which, however, had reacted to tuberculin. Two years' observation of these animals doubled the percentage in which at one time or another organisms were found in the fæces. As it was rare to find commercial milk free from fæcal contamination and as a great deal of mixing occurred in the dairies it was certain that a wide distribution of bovine bacilli insured their introduction into human beings.

Dr. HESS (New Jersey) stated that by inoculation he had found that 16 per cent. of samples of New York milk contained tubercle bacilli.

The problem of control was discussed by Dr. REYNOLDS (Minnesota), Dr. HUGHES (Cornell), Dr. KLEIN (Pennsylvania), Dr. MARSHALL (Philadelphia), and Dr. MOORE (Ithaca), and great stress was laid upon the value of tuberculin. In this section, too, researches upon the dermo-reactions were presented by Dr. LIGNIÈRES (Argentina), Dr. MOUSSA (Alfort), and Dr. MANTUX (Canne le Cannet), and upon the ophthalmic reaction by Dr. BELLART (France) and Dr. WHITE and Dr. CAMBELL (Ohio). These results were confirmatory of those established in human beings.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University News.

THE Huxley lecture is to be delivered this year by Professor Ronald Ross who will give an address on malaria on Nov. 25th. His subject is one that has great interest for the medical profession and the demand for seats will probably exceed the capacity of the hall in which the lecture will be given. Professor A. Bostock Hill has resigned his lectureship in toxicology which he held in association with his chair in public health and the vacant appointment has not yet been filled; but the vacancy caused by the resignation of Mr. George Heaton, the assistant to the chair of surgery, has been filled by the appointment of Mr. Leonard P. Gamgee who is one of the assistant surgeons at the General Hospital.

The Medical Inspection of School Children.

At the annual meeting of the Midland branch of the Society of Medical Officers of Health recently held in Birmingham the President, Dr. Reginald Green, summarised the results which had been obtained in King's Norton, where he is medical officer. He stated that a systematic test of the eyesight of 7412 children revealed defects in 1140 cases. The time taken in the examination of the cases was necessarily considerable, but the difficulties of the work were greatly exceeded by the trouble which was incurred in attempting to get the defects remedied, for it was found that only 11 per cent. of the parents communicated with had provided the necessary spectacles after a reasonable lapse of time. The general examination of the children revealed that 71 per cent. had defective teeth, 28·7 per cent. enlarged tonsils, 19 per cent. verminous heads, 10 per cent. some amount of lateral curvature of the spine, and external eye disease was present in 7 per cent. During the course of the meeting the large amount of work which is being thrown upon local hospitals, as a result of the inspection of children, was referred to and it was suggested that the education authorities should contribute to the local hospitals. This suggestion is one of the natural results of the Act, and the question it leads to, that of the nationalisation of hospitals, will become more prominent and pressing as the work of inspection is carried on and elaborated. The results of the examination at Smethwick differ somewhat from those obtained in King's Norton, judging from the interim report presented by Mr. W. F. Marsh Jackson, the chief medical inspector. The total number of children inspected was 2939, and of these about 10·5 per cent. had defective vision, 15·6 per cent. defective teeth, 4·1 per cent. defective hearing, and 8·3 had enlarged tonsils. 100 congenital deformities were noted, including 11 cases of lateral curvature of the spine, and eight children were mentally deficient. The condition of the children's hair, especially that of the girls, was bad, otherwise bodily cleanliness was generally good, and only 15 cases of skin disease were noted. Up to the present the education committee has taken no official action with regard to the treatment of sickness and physical disability, but the Children's Hospital Benevolent Fund had enabled letters for the Birmingham Eye Hospital to be given to special cases.

The Adult Cripples' Guild.

An earnest appeal is being made by Sir Hallewell Rogers for increased financial support for the Adult Cripples' Guild. The objects of the guild must appeal to all: they are to find situations for those who can go out to work; to teach handicrafts to those who cannot go out and to dispose of the work done; and to obtain from the hospitals the best medical advice and to help to get the instructions carried out. Lack of funds is at present interfering with most of the objects, and it must be sincerely hoped that the income of £203 7*s.* 3*d.*, which was all the guild obtained in 1907–08, will be considerably increased this year.

The City Analyst's Report.

The last quarterly report of the city analyst (Mr. J. F. Liverseege) is distinctly favourable as it appears to indicate a decided diminution of the adulteration of foods. 458 samples were taken and examined under the Sale of Food and Drugs Act and only one was adulterated with preservatives and only 5·7 per cent. of the samples were adulterated in other ways than by preservatives. Both these results are distinctly better than in previous third quarters. Only 13 of 189 samples of milk contained less than 11·5 per cent. of solids and only one sample contained boric acid. In two cases in which samples of milk were deficient in fat it was found that the cows were only being partially milked, the remainder being left for the calves, and when samples of the "fore milk" were analysed they were proved to contain only 1·7 per cent. and 1·8 per cent. of fat respectively, from which it on the Court of Examiners and the PRESIDENT stated that the vacancy thus occasioned would be filled up at the next ordinary meeting of the Council on Dec. 10th.

Mr. A. W. Mayo Robson was elected the representative of the College on the Court of Governors of the University of Sheffield.

The PRESIDENT reported that the Bradshaw lecture would be delivered by Sir W. Watson Cheyne, Bart., C.B., on Friday, Dec. 4th, at 5 P.M., and that the subject of the lecture would be the Treatment of Wounds.

MEDICAL MEN AND MUNICIPAL HONOURS.

THE following is a list of members of the medical profession who have been elected or re-elected to the mayoral chair, together with brief notes of their medical and municipal careers so far as we have been able to ascertain them.

Aldeburgh.—Mrs. Elizabeth Garrett Anderson, M.D. Paris, L.S.A., is the first lady mayor to be elected since the passing of the Act in 1907, which admitted women to town councils. She obtained the L.S.A. in 1865 and graduated in the University of Paris in 1870. In 1866 she became senior physician to the New Hospital for Women and subsequently consulting physician. She was also dean and lecturer on medicine at the London School of Medicine for Women and visiting physician to the East London Children's Hospital.

Brecon.—Mr. George Philip Francis, L.R.C.S. Edin., L.A.H. Dub., J.P., who has been re-elected the Mayor of Brecon, was born in 1855, being the only son of the late Mr. C. Francis, J.P., of Vennyfach, Brecon. He received his medical education at St. Thomas's Hospital, taking the qualifications of L.R.C.S. Edin. and L.A.H. Dub. in 1879. Mr. Francis commenced practice at Bourton, Dorset, and continued there until 1887 when he succeeded to the practice of Mr. Talfourd Jones at Brecon. Mr. Francis is surgeon to the Brecon Infirmary and medical officer of health of the Merthyr Cynog district of the Brecon rural district council; he is also medical officer to H.M. Prison and to the post office at Brecon. Mr. Francis was elected to the town council unopposed four years ago. He is a prominent Freemason, a keen sportsman, and a successful breeder and judge of hackney horses.

Berwick-on-Tweed.—Mr. Charles G. Maclagan, M.B., C.M. Edin., the mayor of Berwick-on-Tweed, graduated in Edinburgh in 1883 and subsequently commenced practice at Berwick-on-Tweed. He is an Admiralty surgeon and agent, surgeon-lieutenant in 7th Battalion Northumberland Fusiliers, and surgeon-major in the Army Reserve. He is district medical officer for the town of Berwick, and medical officer of the union workhouse. He entered the town council in 1897 and was sheriff in 1903-04. He was chairman of the school board from its formation until its abolition by the late Education Act. He was also chairman of the education committee of the town council and of the public health committee.

Conway.—Mr. Morgan John Morgan, L.R.C.P. & S. Edin., the mayor of Conway, was born in Waenfawr, near Carnarvon, in the year 1864. After being educated at Clynnog and Aberystwyth and finishing his preliminary studies he commenced his medical curriculum at Edinburgh in the year 1882. His career as a student was marked with success and he qualified in 1886. After spending two years as assistant in the large quarry district of Blaenau Ffestiniog he commenced a practice in Conway in 1888. Soon after this date he was elected unopposed as member of the town council, being then only 24 years of age. During the 19 years that he has been a member of the council he has taken a prominent part in the public life of the town and county. He has rendered signal service to the ratepayers in advocating a pure water-supply for the town. He has twice occupied the mayoral chair—in the years 1898-99 and 1900. In the latter year he had the honour of entertaining the Prince and Princess of Wales, then Duke and Duchess of York. For some years Mr. Morgan has been the leader of the Liberal party in the town and is chairman of the Conway Liberal Club.

Eye.—Mr. Edgar George Barnes, M.D. Lond., M.R.C.S. Eng., L.S.A., the mayor of Eye, who was born in 1848, received his medical education at St. George's Hospital. In 1869 he qualified as a Licentiate of the Society of Apothecaries, and in 1870 became a member of the Royal College of Surgeons in England. In the same year he graduated M.B. at the University of London and took honours in obstetric medicine. In 1873 he took the M.D. degree of his University. Since 1869 he has been engaged in general practice in Eye. He has held the appointments of medical officer of health of the borough of Eye and of the Hartismere rural district council since the passing of the Public Health Act, 1872, by which these offices were first created. For many years he has been a justice of the peace for the borough of Eye and chairman of the governors of Eye Grammar School. In 1882-83 he was president of the Norwich Medico-Chirurgical Society and from 1889 to 1901 he was secretary of the East Anglian branch of the British Medical Association, having been president of the East Anglian Branch of the British Medical Association in 1888.

Finsbury.—Mr. William Alfred Dingle, M.D. St. And., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., has been a member of the borough council of Finsbury for the last three years and is medical officer to the Holborn board of guardians. He is surgeon to the Houseless Poor Asylum and Surgeon-Major East London Royal Engineers (Territorials) and Army Medical Reserve. He is surgeon to the St. Luke's parochial charities and medical officer to the Linen and Woollen Drapers' Institute; a Fellow and Vice-President of the Hunterian Society, and member of council of the Volunteer Medical Association. In 1878 he contributed to THE LANCET an article entitled "Nitrite of Amyl in Sea Sickness." He has travelled a great deal and his knowledge has proved of considerable use on the public health committee of which he has been a member since his election to the council. His choice for the mayoralty was a unanimous one.

Kingston-on-Thames.—Mr. William Evelyn St. Lawrence Finny, M.B., M.Ch. R.U.I., L.R.C.P. Edin., received his education at St. Columba's College and Trinity College, Dublin. He graduated at the Royal University as M.B. and M.Ch. in 1887 and as B.A.O. in 1891. In 1897 he became a Licentiate of the Royal College of Physicians of Edinburgh and also obtained the L.M. Rotunda, Dublin, with special certificate in gynæcology. In 1891 he took up general practice at Kingston Hill and seven years later was elected to the town council and was chosen as mayor. Dr. Finny, who is an archæologist, was fortunate in being mayor at the time when the 700th anniversary of the granting of the first charter to the borough by King John was celebrated, and he designed a stained-glass window for the town-hall as a memorial of that occasion. He was re-elected mayor for the Coronation Year, 1901-02, and as mayor was present in Westminster Abbey at the King's Coronation, and received King Edward VII.'s Coronation medal. He also took a leading part in the celebration of the 1000th anniversary of the coronation of Edward the Elder at Kingston in 1901 and designed another memorial window for the town-hall. He was re-elected mayor for the third time November, 1908-09. Since joining the town council he has served on the sanitary and other committees. He is a member of the council of the Surrey Archæological Society and a justice of the peace for his borough.

Leicester.—Mr. Charles Lakin, L.R.C.P. Edin., L.F.P.S. Glasg., the mayor of Leicester, is a native of Nottingham and went to Leicester 50 years ago and for many years has been a highly respected member of the medical profession in the town. He became a member of the Leicester town council 23 years ago, and 16 years since was elected an alderman. During the whole of his connexion with the council he has been a member of the sanitary committee, the asylum committee, the library committee, and the water committee. On the sanitary committee he has distinguished himself by devotion to duty and his experience and ability have made his services invaluable. Leicester's new mayor has the reputation of being a man of independent thought and action.

Montgomery.—Mr. Nicholas Watson Fairles-Humphreys, M.R.C.S. Eng., L.S.A., who has been re-elected Mayor of Montgomery, was born in 1837 and was educated at St. Bartholomew's Hospital. In 1885 he was elected alderman for the borough of Montgomery and has been seven times mayor of that borough. He is a justice of the peace for the county of Montgomeryshire, was high sheriff in 1882-83, and has been a county alderman since 1889. His grandfather, Nicholas Fairles, justice of the peace for

Sir G. H. Philipson is appointed to the honorary colonelcy of the Royal Army Medical Corps of the Northumbrian Territorial Division. I congratulate the venerable professor of medicine of the University of Durham on his acceptance of an appointment in the Territorial Army and hope that his example will stimulate younger men to take their part also in the Territorial organisation.

Eye Department of the Royal Victoria Infirmary.

At the monthly meeting of the governors of the Royal Infirmary held recently Dr. T. Gowans was elected honorary assistant in the eye department. Dr. Gowans already holds the appointments of honorary ophthalmic surgeon to the Ingham Infirmary, South Shields, and to the South Shields Dispensary.

The Coronership of Newcastle.

In my last letter I referred to the fact that the Newcastle Ratepayers' Association had approached the members of the city council individually by letter deprecating the practice of members of a public body becoming candidates for appointments in their own gift. Letters inclosing copies of this circular were also forwarded to the Local Government Board, the Registrar-General, and several Members of Parliament having associations with the North of England. The Local Government Board replied that it had no control over local authorities in the matter of these appointments. There were originally 12 applicants for the coronership but an unusual situation arose the day before the council was to meet to make the appointment when the following letter was received by the council signed by 11 of the applicants withdrawing their applications :—

> GENTLEMEN,—In response to the advertisement issued by your council on the 22nd ult., inviting applications for the office of coroner, we, the undersigned, became candidates for the post. We now find, however, that a majority of the council had then already promised to vote in favour of a certain councillor Under such circumstances we feel that it is quite useless for us to proceed with our candidature and therefore withdraw our applications.

When the council met there was, therefore, but one applicant, who, at the time of the death of the late coroner, was a councillor and vice-chairman of the watch committee. A motion to postpone the election for three months was negatived by 49 votes to 17 and the applicant was appointed by 50 votes to 16.

Day Nursery in Newcastle.

Recently Mrs. Woods, the wife of the High Sheriff of Northumberland, opened a day nursery which has been established in the city through the generosity of the Lord Mayor, Mr. W. J. Sanderson. The nursery is intended as a place where poor women who have to go from home during the day to earn their living may leave their infants while they are at work, with the assurance that they will be properly cared for during their absence. The Newcastle institution is to be affiliated with the National Society of Day Nurseries. Subscriptions and donations are invited towards meeting the cost of maintaining this excellent institution, and in view of the interest now being taken in the preservation and protection of infant life there will, it is hoped, be no difficulty from the financial point of view.

Nov. 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Clinical Teaching in Edinburgh.

THE feeling has been steadily gaining strength in Edinburgh that the time has come when radical changes ought to be made in the medical curriculum. This recently found expression in a discussion which was initiated by the Pathological Club and culminated in the appointment of a committee to go into the whole question and to report. That report is being waited for, but meanwhile it is understood that an important question bearing upon clinical teaching has arisen or is shortly to arise. In this connexion it may be mentioned that some time ago the University proposed that all the full surgeons to the Royal Infirmary should become University lecturers on clinical surgery and that for certain privileges offered by the University the lecturers should pay the University a proportion of the fees collected from students. The offer was rejected for various reasons. It is understood that the matter is to be opened again and that probably the University will offer terms that may be more acceptable. Whatever decision the surgeons may come to it is certain that, as has been said, there is a growing feeling that changes must be made and that amongst the most clamant are changes in clinical teaching. At the present time, as in the past, the students may select any one of five teachers in clinical surgery, two of whom are professors and three are extra-mural. The result is that the students are badly distributed and there is no attempt at coördination of teaching amongst the lecturers. Such a want of arrangement may have served well enough in the past but it is not in accordance with what is justly looked for in the training of the medical student of to-day. When this matter was referred to on the previous occasion it was noted that the University had made the proposals, although in all medical matters the tendency on the side of the University is towards conservatism, and that the rejection of the proposals came from members of the extra-mural school. The University might be more successful if it frankly acknowledged that the proposals are made with a view of strengthening the University rather than as a concession or a privilege offered to the extra-mural school. The extra-mural school in Edinburgh has always held its own and taken quite its own share, if not more, of the students and of the teaching. Financially such coordination of the teaching would not benefit the extra-mural lecturers, but were they appealed to on the higher and wider ground financial considerations would almost certainly be given a secondary place.

Women Graduates and the University Franchise.

Much interest was aroused in Edinburgh last week by the report of the proceedings in this case before the House of Lords. Two of the women graduates argued their own case, Miss Jessie Chrystal MacMillan, B.Sc., speaking for three hours in expounding the views held by her and the other appellants. Their lordships evidently treated them with much consideration, allowing them to continue to speak without interruption save by an occasional question or comment. Miss MacMillan's speech contained many points of much historic interest and seems to have been characterised by much lucidity of expression. The Lord Chancellor had to remind Miss Frances Helen Simson who followed Miss MacMillan that they were a judicial body and that what they had to discuss and to consider was the meaning of the Act of Parliament and the real interpretation of the law. Their lordships' judgment is awaited with interest.

The Royal Medical Society of Edinburgh.

At Melbourne-place, Edinburgh, on Nov. 13th, Dr. John Gilmour delivered his presidential address before the society. He chose as his subject the surgery of 100 years ago, describing, in the course of a very interesting address, many methods of treatment then employed for the relief of various surgical conditions. He made special mention of the life and work of William Hey. Dr. Barcroft related a case of posterior basic meningitis which was treated with great success by the use of a specific serum, opportunity being taken of a lumbar puncture to inject the serum through the same needle. Dr. F. E. Reynolds showed two very characteristic cases of congenital specific disease.

Graduation Ceremony at the University of Glasgow.

The autumn graduation ceremony took place last week. The Principal, Sir Donald MacAlister, received an ovation from the students on account of his recently acquired K.C.B. In the faculty of medicine the only graduands were those who had been up for the M.D. examination. Of 13 who received the degree two graduated with honours and five with commendation.

Gartloch Asylum.

In the annual report recently issued of this asylum it is stated that 300 cases were admitted, while 294 were discharged or died during the year. There were in all 1040 persons under care during the year and the average number resident was 752. The character of the admissions during the year was bad from the point of view of probable discharge or recovery. Of those admitted with a history of the duration, 186, or 64 per cent., were ill over a year on admission, were congenital imbeciles, or had been ill previously. There were 15 epileptics admitted, 34 general paralytics, and 52 cases of dementia (secondary, organic, or senile), besides paranoiacs and other cases of chronic registered person, or that he is recognised by law as a physician, or surgeon, or licentiate in medicine and surgery, or an apothecary may, upon a summary conviction for any such offences, be fined a sum not exceeding £20 (Act of 1858, s. 40).

Demanding Money by Menaces from a Medical Practitioner.

At the recent sessions at the Old Bailey Mr. Justice Bigham passed a sentence of seven years' penal servitude upon a labourer, 29 years of age, giving the name of George Sims, and living at a Rowton House, who was indicted for demanding money with menaces from two different gentlemen. The first of these was a medical practitioner practising at Highgate; he was a stranger to the prisoner, and being threatened in a letter with exposure of some kind in the newspapers unless he sent the writer the sum of £500 he placed the matter in the hands of the police, who are to be congratulated on their success in bringing the offender without delay to justice. This was, no doubt, an attempt at extortion of so stupid and aimless a kind that no sensible man need have been seriously alarmed by it, but such an incident must always cause trouble and anxiety to some extent, and medical men should note the attack made on a brother practitioner on account of its very groundlessness and because they are peculiarly likely to be the target of the swindling mendicant, the blackmailer, or of anyone else to whom it is of importance to ascertain names, addresses, and all other details possible with regard to persons of respectable position likely to prove suitable victims. In this connexion we quote a statement made by the convict Sims after his arrest. He said to the police who had told him that his handwriting in the letters which he had written had been identified: "Its no use denying it. I did write them in the Free Library in the New Cut, Lambeth. I can't think what made me do it. I can't help it. I used that address as I thought it would be the best place for me to receive replies. I got the names and addresses from directories." Frequent mention has been made in THE LANCET of the danger arising from the unrestricted use of free libraries by all comers. Sims in the above statement said that he did not know what made him do it. It is quite obvious, however, that the newspapers, filled recently with accounts of a notorious trial, probably suggested or helped to inspire the crime, and that the books of reference which with the newspapers were placed at his disposal in the New Cut Free Library supplied the means of carrying it out. It is the begging letter writer, however, more frequently than the blackmailer who finds warmth, light, comfort, and all else that he wants to assist him free of charge at the free library.

Inaccurate Death Certification.

At a recent inquest upon the body of a newly born child at Fulham a serious error of judgment was shown to have been committed by Mr. H. A. Ehrlich, a medical practitioner who had been asked to give a certificate for burial. According to the explanation which he gave in the witness-box he at first certified the deceased child as stillborn in order to enable the parents to have the body buried as such. This, he admitted, was not correct, and afterwards, when the parents found that proof of the fact that the child had lived for three hours and then died would allow them to receive an allowance from a benefit club, the medical man gave a second certificate embodying the true facts. It is not surprising that in such circumstances an inquest followed and that the coroner admonished the medical man with regard to the unlawful and dangerous course which he had pursued. In order to conduce to accurate registration and to prevent possible concealment of crime, as well as for other reasons, the 18th section of the Act of 1874, which at present regulates the registration of births and deaths, orders that "a person shall not wilfully bury or procure to be buried the body of any deceased child as if it were stillborn," and then proceeds to say that the authorities controlling burial grounds shall not receive the body of a deceased child for burial as stillborn without certain prescribed evidence that still-birth has in fact taken place. Such evidence may consist of "a written certificate that such child was not born alive, signed by a registered medical practitioner, who was in attendance at the birth or has examined the body of such child." This was the certificate, presumably, which Mr. Ehrlich gave. In doing so he disregarded the importance of absolute truth and accuracy in such matters from a public point of view and the reliance placed by the Legislature upon the honour and accuracy of the "registered medical practitioner." It is also well to remember the concluding words of the section: "Any person who acts in contravention of this section shall be liable to a penalty not exceeding ten pounds."

The Beauty Specialist.

The action brought recently by a lady against a "beauty specialist" practising in Bond-street had as its result a verdict against the defendant for £500, with a statement by the jury that they considered her to have been guilty of fraud. The damages will hardly compensate the plaintiff for the disfigurement inflicted upon her by the defendant who, pretending to remove three small scars caused by small-pox, inflicted upon her a wound which but for the intervention of a medical man would have had even more serious results than in fact it did, and which, as it is, will leave a mark far more conspicuous than those which the "specialist" boasted herself able to nullify. Mrs. Heath, the plaintiff, may not perhaps be congratulated upon her wisdom in intrusting herself to an advertising quack, but she is at least to be commended for the courage with which she faced the ordeal of the witness-box, and the warning which she has thus publicly given to other women may save some from following her example. It is worth noting that the plaintiff had had her attention attracted to the defendant's professions of skill in the production of "beauty" by advertisements in newspapers devoted to supplying ladies with information as to the fashions and other subjects of special interest to them. The proprietors and editors of such periodicals, as anyone can see who chooses to read them, derive a large revenue from advertisements of "specialists" such as the defendant in the recent action, and they are not likely to consider the interests of their fair readers in preference to their own profits. Besides, however, inserting obvious and undisguised advertisements they allow and encourage the publication of articles laudatory of the quacks and their wares, in which the writers pretend to special knowledge of the efficacy of the methods which these important and lucrative advertisers employ and of the messes which they sell. The editor or proprietor of a newspaper is not necessarily responsible in all cases for the truthfulness of the statements made in the advertisements appearing in the portion of his paper devoted to them. It may, however, be suggested that his position may be different when he publishes an article in the body of his paper recommending in fulsome terms the advertisers' wares. He may not in so doing be guilty of conspiracy or of connivance with fraud, but is he not guilty of negligence if he has not ascertained or tried to ascertain whether what he publishes is true? The question may some day be answered by a person placed in the position in which Mrs. Heath found herself deciding that the damages which she hopes to obtain are more likely to be realised by suing a newspaper proprietor than by proceeding against a possibly impecunious "beauty specialist." The liability of the former may be moral rather than legal, but such a lawsuit as that suggested, if it were to reach the stage of being heard publicly, would be an awkward one to face.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8058 births and 4964 deaths were registered during the week ending Nov. 14th. The annual rate of mortality in these towns, which had been equal to 15·3 and 15·0 per 1000 in the two preceding weeks, rose to 15·9 in the week under notice. During the first seven weeks of the current quarter the annual death-rate in these towns averaged 14·2 per 1000, and in London the mean rate in the same period did not exceed 13·6. The lowest annual death-rates in these towns last week were 6·9 in Handsworth, 7·5 in Leyton, 8·0 in East Ham, and 8·4 in Hornsey; the rates in the other towns ranged upwards, however, to 25·6 in Wigan, 27·0 in Huddersfield, 27·2 in Middlesbrough, and 31·1 in Rochdale. In London the death-rate during the week was equal to 15·4 per 1000. The 4964 deaths from all causes in the 76 towns showed an increase of 281 upon the number returned in the previous week, and included 434 which elicited prolonged laughter and applause. The speaker further expressed the want of better housing accommodation for the poor in the locality, and pointed out that the want of a district nurse was very badly felt. Lady Aberdeen de- livered an interesting address on the aims and objects of the crusade, and stated that they were starting the van in that district as a sort of test before sending it to the West of Ireland for which it was intended.

Mater Misericordiæ Hospital.

On Nov. 5th the Annual Office and High Mass for the deceased benefactors of the Mater Misericordiæ Hospital were offered in the Pro-Cathedral, Marlborough-street. There was a very large attendance of clergy as well as a crowded lay congregation. The *clientèle* of the institution is necessarily a vast one, as it is by far the largest of the charitable institutions in this country for the professional relief of the sick and suffering poor. No question has ever been raised regarding the efficiency of the nursing attend- ance; the Sisters of Mercy are always on duty within its walls and had already introduced their own system (there and in St. Vincent's Hospital) years before the epoch-marking revolution of the training and employ- ment of lady nurses in our other institutions—in fact, at a period when a goodly proportion of our hospital, to say nothing of private, nursing was carried out in the true and original "Sairey Gamp" style. The daily average number of occupied beds in the Mater Misericordiæ Hospital is over 300; its annual attendance of intern patients is over 4000 and of extern attendances over 26,000. The devotion and skill of the nursing Sisters of Mercy have become a household word throughout the country and are fully recognised and appreciated by members of all the creeds and parties who are so prone to contradict one another's views on nearly all other public questions. And a specially significant fact in the history of this largest (and in many ways most representative) of our Irish hospitals is that it has never received any endowment and relies for its existence solely on the charitable devotion of a sympathetic people. And the requisite aid has never failed to be forthcoming.

The Dispensary Medical Officer not a Workman!

A very important decision, the first of its kind, has just been given in the Court of Appeal in regard to the validity of claim for injury made by a medical man (or his heirs, or executors, or representatives) under the Workmen's Compensation Act. Readers will remember that the widow of the late Mr. Denis Murphy, L.R.C.S.Irel., was awarded by the county court judge of Wexford a sum of £300 as compensation for the death of her husband which was due to the accidental collision of his dog-cart with a motor-car while he was engaged in the discharge of his duties as a dispensary medical officer. When the case was brought to the Court of Appeal by the guardians, who had been sued as his employers, the judges decided unanimously that the claim could not be upheld, inasmuch as the dispensary medical officer is *not* a working man. The decision, it need hardly be said, has produced a deep feeling of disappointment among the medical officers of the Poor-law service. The hope has been expressed that the Irish Medical Association, which had encouraged and supported the widow in the endeavour to uphold her claim, will be able to continue its advice and assistance till the case is brought before the House of Lords.

The Belfast Natural History and Philosophical Society.

On Nov. 10th, in the Belfast Museum, before a very large audience, Sir Otto Jaffe, LL.D., the retiring President, introduced in complimentary terms the incoming President, Sir John W. Byers, who, having first returned sincere thanks to the council of the Belfast Natural History and Philosophical Society, which for a period of 87 years had kept the lamp of learning burning in Belfast and had encouraged original research in various directions, delivered the inaugural address on the Folk-lore of the Ulster Child. Sir John Byers first described many curious customs associated with the birth of children, the supposed influence of the fairies, and matters considered lucky, or the reverse, in reference to infants. He then dealt very fully with the words and phrases applied in Ulster to children, relating many interesting customs, sayings, and old poems.

The Ulster Medical Society.

On Nov. 3rd Dr. T. S. Kirk, the new President, opened the present winter session by giving an address on Spinal Caries, dealing fully with its causation, diagnosis, and treatment. At the conclusion of the lecture he was awarded a warm vote of thanks.

The Belfast Hospital for Sick Children.

A sum of over £1000 has been paid to the treasurer of the Belfast Hospital for Sick Children to endow a bed in memory of the late Dr. S. Brice Smyth, the money having been contributed by his friends and patients.

Belfast Medical Students' Association.

At the inaugural meeting of this association, held in the Students' Union of Queen's College, Belfast, on Nov. 16th, Dr. Stewart, the incoming President, having delivered an address on Bygone Medical Superstitions, a lecture was given by Dr. E. F. Bashford, director of the Imperial Cancer Research laboratories, on the Experimental Investigation of Cancer. The practical result of these experiments so far was that they might be able at some future time to prevent the dissemination of the disease. On the motion of Professor W. St. C. Symmers, seconded by Mr. W. D. Thompson, B.A., a cordial vote of thanks was accorded to the lecturer.

Nov. 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Meeting of the International Sanitary Bureau.

THE International Sanitary Bureau met on Nov. 4th at th Foreign Office under the presidency of M. Barrère, Frenc Ambassador to Italy. M. Pichon, Minister for Foreig Affairs, opened the proceedings in a speech in which he said that France was much flattered at having been chosen to be the country in which the meeting took place. The Italian delegate then replied in the name of his colleagues from the other Powers. After M. Pichon had left, M. Barrère rose to propose the selection of a president of the permanent committee of the Bureau. Despite the pressure which had been put upon him to accept the post himself he proposed the appointment of the Italian delegate, M. Santoliquido. This nomination was carried unanimously. The International Bureau owes its inception to a decision of the International Sanitary Conference held in Paris in 1903 and came into being a few months ago at an International Conference held at Rome. Here it was decided that the permanent seat of the Bureau should be at Paris.

The Open Sea Cure.

At a meeting of the Therapeutical Society held on Oct. 28th M. Laumonier showed that the therapeutic effect of sea air on the coast is quite different from that of the open sea—i.e., 20 or 30 miles out. On the coast the effect tends towards excitement and congestion and moreover is irregular in its action. Out at sea it is tonic and regulating (*équilibrante*) and in addition the patient gets quiet, a regular life, and a continuous bath of pure air. These advantages are not so patent on board great liners on account of the vibration and the smell from the engines, but on a sailing ship they are evident. M. Laumonier cited the case of an overgrown youth, aged 17 years, who was very neurasthenic. After a voyage in a sailing ship lasting 14 months he was quite well. He also stated that he knew a tuberculous patient, aged 36 years, who was obliged to cross twice a year from Europe to South America and whose health was always much better during the voyage. M. Laumonier concluded by pleading for the establishment of a "cure ship." She should be a sailing ship capable of making lengthy and slow cruises.

Fracture of the Neck of the Femur in the Aged.

Many surgeons have given up trying to get union in the case of an aged patient with a fracture of the neck of the femur, for such patients if kept lying down in bed are very liable to troublesome bedsores and to hypostatic pulmonary congestion, from which they generally die. Dr. Delbet has found a solution of this difficult problem and on Nov. 3rd he showed four patients at the Academy of Medicine whom he had treated with great success for fracture of the neck of the femur by a special method. Of the four patients one was 80 years of age, two others were between 60 and 70 years, and one was only 40 years. They could all walk and go up

Edward Middleton Newland, Lewis Albert Hodgkinson Lack, Kenneth William Mackenzie, Narindra Singh Sodhi, William Jackson Powell, and William Cowan Gray. The King has approved of the retirement of the following officers:—Lieutenant-Colonel Kavasji Cursetji Sanjana (dated Oct. 22nd, 1908); and Captain Donald Steel (dated Nov. 1st, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Quinton Chalmers, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated Jan. 21st, 1908).

TERRITORIAL FORCE.

Infantry.

6th Battalion, Cheshire Regiment: The undermentioned officers, from the 4th Volunteer Battalion, The Cheshire Regiment, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Ralph Bennett Sidebottom and Surgeon-Captain Eugene Charles McCarthy. 4th (Denbighshire) Battalion, Royal Welsh Fusiliers: The undermentioned officers, from the 1st Volunteer Battalion, The Royal Welsh Fusiliers, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Richard Drinkwater and Surgeon-Lieutenant Jonas William Anderson. 4th Battalion, Welsh Regiment: The undermentioned officers, from the 1st (Pembrokeshire) Volunteer Battalion, The Welsh Regiment, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Major Evan Evans and Surgeon-Lieutenant William Reginald Eyton Williams. 5th Battalion, Welsh Regiment: The undermentioned officers, from the 2nd Volunteer Battalion, The Welsh Regiment, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Rhys David Morgan and Surgeon-Lieutenant Evan James Trevor Jones. 4th Battalion, the King's (Shropshire Light Infantry): The undermentioned officers, from the 1st Volunteer Battalion, The King's (Shropshire Light Infantry), are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Frederick Knollys Pigott and Surgeon-Lieutenant William Dyson (to be supernumerary). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Charles Henry Gwynn, from the 2nd Volunteer Battalion, The King's (Shropshire Light Infantry), to be Surgeon-Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). 4th Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment): The undermentioned officers, from the 1st Volunteer Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment), are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Harry Legh de Legh and Surgeon-Lieutenant Clarence Barns Whitehead. 2nd Battalion, The Monmouthshire Regiment: The undermentioned officers, from the 3rd Volunteer Battalion, The South Wales Borderers, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel James Rowlands Essex and Surgeon-Lieutenant Edward Meredith Griffith.

Royal Army Medical Corps.

Alexander Ogston is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the Highland Territorial Division (dated April 1st, 1908). Richard Caton is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the West Lancashire Territorial Division (dated April 1st, 1908).

For attachment to units.—Surgeon-Lieutenant-Colonel Frederick Henry Appleby, from the 4th (Nottinghamshire) Volunteer Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment), to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Major Walter Moffett Hamilton, from the 3rd Volunteer Battalion, The Lancashire Fusiliers, to be Major, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain William Hearfield Galloway, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Captain William Young, to be Major (dated Sept. 25th, 1908). Lieutenant Robert Cross to be Captain (dated Sept. 25th, 1908). Surgeon-Lieutenant John Alexander Nixon from the 4th Battalion, The Gloucestershire Regiment, to be Lieutenant (dated April 1st, 1908).

3rd Highland Field Ambulance: The appointment to a Lieutenancy of Sidney Watson Smith bears date August 1st, 1908.

1st East Lancashire Field Ambulance: Captain Joseph F. Wright resigns his commission (dated August 29th, 1908).

3rd East Lancashire Field Ambulance: Captain Robert W. Beesley resigns his commission (dated August 20th, 1908).

5th London Field Ambulance: Lieutenant William Cameron Macaulay from the Royal Army Medical Corps, Territorial Force, to be Lieutenant (dated Oct. 7th, 1908).

3rd Welsh Field Ambulance: Surgeon-Major Arthur L. Jones from the 6th (Glamorgan) Battalion, Welsh Regiment, to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Captain George A. Stephens from the 6th (Glamorgan) Battalion, Welsh Regiment, to be Captain (dated April 1st, 1908). Surgeon-Lieutenant Charles L. Isaac from the 6th (Glamorgan), Battalion, Welsh Regiment, to be Lieutenant (dated April 1st, 1908).

VOLUNTEER CORPS.

Rifle: 5th (Glasgow Highland) Volunteer Battalion, The Highland Light Infantry: Surgeon-Lieutenant-Colonel George Bell Todd resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908). 14th Middlesex (Inns of Court) Volunteer Rifle Corps: Surgeon-Captain Arthur M. Ware resigns his commission (dated March 31st, 1908). 2nd (Earl of Chester's) Volunteer Battalion, The Cheshire Regiment: The undermentioned officer resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 31st, 1908): Surgeon-Lieutenant-Colonel Alexander Hamilton. 1st (Brecknockshire) Volunteer Battalion, The South Wales Borderers: The undermentioned officer resigns his commission (dated April 1st, 1908):—Surgeon-Lieutenant William L. Pritchard.

At the Royal United Service Institution in Whitehall on Nov. 18th Colonel H. E. Rawson, C.B., R.E., read a paper entitled "A New Principle in Weather Forecasting and its Importance in Naval and Military Operations." Rear-Admiral A. M. Field, F.R.S., hydrographer of the navy, presided. We hope to publish the main points of the discourse next week.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 20th, 1830.

ST. THOMAS'S HOSPITAL.

CLINICAL LECTURE

DELIVERED BY

DR. ELLIOTSON,

Nov. 8, 1830.

VARIOUS CASES.

HOSPITAL REGULATION RESPECTING POST-MORTEM EXAMINATIONS.

DURING the last week, Gentlemen, that is, since the commencement of the present month, eight patients have been admitted, five of them men and three women. The cases among the women were, one of phthisis, one of epilepsy, and one of rheumatism. Amongst the men were, one case of paralysis of the wrists from lead, one of acute inflammatory dropsy, one of colic from lead, one of chronic diarrhœa, and one of inflammation of the glands at the angle of the jaw.

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There has been one death. The patient was a woman, and the case one of apoplexy. There was, I am sorry to say, no inspection of the body. It is much to be regretted that in this hospital we cannot inspect patients who die without having first obtained permission from the friends.

Albert Apponyi, Minister of Public Instruction. The building is a good blend of hygienic and architectural features. It can accommodate altogether 160 insane patients. In a middle pavilion are the administrative offices and behind these are the laboratories and lecture halls. The patients, male and female, are accommodated in separate pavilions according as they are quiet or inclined to be violent, while a separate building is reserved for those suffering from infective diseases. The director of the new clinic, who has been appointed by the King, is Professor Ernö Moravesik, formerly professor of forensic psychiatry in the University. The admission of patients will begin with the new year.

The Position of Practice in Budapest.

Only a few weeks ago the Berlin practitioners complained of the excessive growth of the number of specialists in their city. To-day the Budapest practitioners also have to make the same moan. Every single branch of the medical science and art has representatives, many of whom are unable to earn their livelihood but still are able to spoil the practice of the general practitioners. An increase of polyclinics and other free institutions for medical attendance has followed and is also inimical to general practice. There is in Budapest a sick club with 120,000 members who have a right to free medical treatment. The State medical institutes keep up outdoor departments, where everybody can get medical advice without any regard to his financial circumstances, for the simple reason that in this way better statistics of work can be shown. The managers of these institutions like the great display of activity, though the quality of the work done is not what is shown but only the quantity. In order to alter somehow these conditions the general practitioners of Budapest propose to make an organised attempt to influence the leaders of the University so that the latter may insure free medical attention being given only to actual paupers. The specialist question will also be dealt with, it being sought that nobody shall be allowed to call himself a specialist unless he has spent five years in special study at a corresponding clinic. Such a radical enactment would much improve the material condition of the practitioners.

The New (Third) Medical Clinic.

In some five or six years the numbers of medical students in Budapest have trebled. While in the year 1900 the number of first year students amounted to 150, this year the number is 450. This great increase of students has necessitated the extension of the University Clinic. New hospitals have been built in quick succession, but still there were such crowds in the lecture halls that in the interest of those seeking instruction it became necessary to build extensively. The head of the clinic has already been appointed by the King of Hungary in the person of Professor Ernst Jendrassik who has gained his reputation as a neurologist, and his father, it may be recollected, was professor of physiology at the University of Budapest.

Nov. 14th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Conference in United Provinces: General Conclusions.

THE following is a *précis* of the general conclusions of the United Provinces Sanitary Conference held at Naini Tal by order of the Lieutenant-Governor.

The conference considered at length the possibility of decreasing malaria, and notes on the subject by Colonel Murray, I.M.S., and Major J. Chaytor White, I.M.S., were considered. A special officer has been appointed to inquire into the prevalence of malaria in the United Provinces and his report will no doubt show what works should be undertaken in specially malarial tracts. Meanwhile, as a practical measure the conference recommends that a map of each district showing by the mortality returns the most malarial tracts should be prepared in the office of the Sanitary Commissioner. On the basis of this map district boards can carry out a detailed sanitary investigation into the condition of these tracts and systematic measures can then be taken for drainage, filling up insanitary pits and hollows, removal of noxious vegetation, and distribution of quinine. The conference has already proposed amendments to the Village Sanitation Act enabling the local authorities to prevent new excavations within or in the neighbourhood of inhabited sites and to fill up old excavations. It also suggests that the filling up or draining of existing railway burrow pits near inhabited sites is a question needing the consideration of Government, and that both railways and the Public Works Department should be prohibited from making such pits near inhabited sites in future. The distribution of quinine should be very considerably extended. The conference is informed that in an inquiry made in the Dinajpur district (in Bengal) three-fourths of the deaths from acute malaria were found to occur in children under ten years of age, and mostly in the autumn months. It therefore suggests that district boards should distribute quinine through village schoolmasters who are in a position to know when a child is absent from fever. Not only do children constitute the majority of victims, but it is in the blood of untreated children that the parasites thrive best and are conveyed by mosquitoes to adult persons. For the treatment of children some more palatable method of administering the drug than the bitter sulphate of quinine powders is essential. Distribution in the tabloid form has proved successful in the Duars tea gardens and might be tried in these provinces. The dose should not be less than ten grains; and although the sale of this amount at one pice (a farthing) involves a loss the expenditure would be well incurred. Another most important point which the conference wishes to emphasise is the extension of masonry surface drainage in towns large and small. The most dangerous varieties of anopheles breed in the earth-lined and grass grown roadside drains and are much more rarely found in tanks and small puddles. A most potent cause of malaria is thus situated at the doors of the inhabitants of the majority of Indian towns. Municipal boards should organise mosquito brigades to apply crude kerosine to collections of water in which the insects breed. The example of the Mizapur district board which is placing fish in large permanent tanks might be followed. A general thinning of trees and shrubs on scientific lines in some of the towns of this province is also essential and power should be given to municipal authorities to deal with trees and shrubs in private enclosures on the lines of Section 99 of the Cantonment Code, 1899, care being taken to obtain expert advice in the case of any general felling of trees. The question of restricting irrigation in the neighbourhood of towns and villages is of great importance. In a resolution passed in January, 1855, to give effect to the Canal Act of that day, the following limits were laid down:—

From military stations	5 miles.
From towns with over 10,000 population	1 mile.
" " 5,000 "	½ "
From large villages with over 1,000 population... ...	½ "
From villages with less than 1000 population	200 yards.

These provisions have not been enforced and would cause considerable hardship and loss of revenue if now insisted on. Canal irrigation has been restricted in the neighbourhood of towns in various instances—e.g., Barant, Shamli, Kosi, and Jansath. The conference accepts the general principle that where it is possible with due regard to agricultural interests it is desirable to exclude canal irrigation from certain areas round towns and villages. What this area should in each case be should be fixed by the sanitary authorities and the enforcement or non-enforcement of the exclusion should be carried out by the revenue authorities in consultation with the sanitation department. Rule 7 of the rules made under the Canal Act, 1873, should be communicated to municipal boards in canal districts and incorporated in the *Municipal Manual*. This rule provides that the divisional canal officer may, with the previous approval of the Commissioner, prohibit the use of canal water for the irrigation of any *kharif* crop, when the land to be irrigated is situated within one mile of the uttermost houses of any town if such irrigation be objected to by the municipal committee. A note furnished by Mr. Streatfield shows that practically the entire programme for drainage works in canal districts in connexion with canals has been completed, with the exception of a few works on the Eastern Jumna Canal. The conference suggests that the irrigation department should take up the question of drainage in other than canal districts, the staff if necessary being strengthened for the purpose. The special officer deput [illegible] uire is embalmed in a word in modern use. Artery has also been derived from ἀείρω (I raise) and from ἅλλομαι (I leap), but on the whole its derivation from Ἀήρ seems most likely to be correct. There is nothing novel, of course, in this supposition, but as far as I know no attempt has hitherto been made to reconcile the apparent discrepancy between the etymology and present meaning of the word asphyxia.

I am, Sir, yours faithfully,
LEONARD GUTHRIE.

Upper Berkeley-street, W., Nov. 16th, 1908.

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—I have been much interested in reading Dr. J. Sim Wallace's article on the above subject which appeared in your issue of Sept. 12th. Dr. Wallace and Dr. Campbell have rendered a useful service in bringing this subject prominently before the profession, and nothing but good can arise from following out the principles there set forth.

May I, however, be permitted to state that the germ of most of Dr. Wallace's writings appeared nearly 30 years ago in my father's work on dental surgery[1] (see pages 103, 104, 105, 106, 107), although this germ has not been allowed to develop in present day text-books on dental surgery. For this reason it is all the more gratifying to see that the subject of diet in relation to dental caries and the effect of the former on the hard and soft tissues of the jaws and their surrounding parts has now been placed on a firmer basis, and perhaps this time to take root. I am, Sir, yours faithfully,

London, Nov. 11th, 1908. F. COLEMAN.

THE ELECTROLYTIC ADMINISTRATION OF DRUGS.

To the Editor of THE LANCET.

SIR,—Your interesting annotation on the above subject in THE LANCET of Oct. 31st, p. 1314, is evidence of the recrudescence of interest in cataphoric medication. In your number for Oct. 25th, 1890, p. 869, i.e., just 18 years ago, you did me the honour to publish a short paper on "Cataphoric Medication and Cocaine as a Local Anæsthetic," and I then endeavoured to show that the method there described had already passed beyond the stage of experiment into that of routine practice, at any rate in my own hands. Subsequently (March 13th, 1891), at the Society of Arts, under the distinguished presidency of Mr. (now Sir) William H. Preece, F.R.S., I demonstrated *practically* some of the powers of the cataphoric method; and again in a paper on "Some Therapeutical Applications of Continuous Current" read at the opening sessional meeting of the Therapeutical Society in October, 1904, I referred to some portions of the work I had done in connexion with the cataphoric and other powers of continuous current. (I am inclosing herewith a marked copy of this paper.)

For some 20 years, therefore, as shown, I have used cataphoric medication in my everyday practice, and I am somewhat amused, though interested, to note that the subject is now treated as *new* by Leduc, Jones, and others, presumably on the assumption that no work on the subject has previously been done. May I here say that the new term "ionisation" is scarcely comprehensive, and there are weighty objections to its use—except in so far as it implies a *part* of a process! In connexion with recent papers I note that the writers have not yet grasped the necessity for paying regard to antecedent *voltage* (as demonstrated by the late Mr. Lant Carpenter, Dr. W. H. Stone, and others), or to relative area of contact of the respective electrodes.[2] Too much stress has been laid upon "*ionisation*," which, though an essential part of cataphoric medication, is, after all, *only a part* and does not include the whole of the processes concerned.[3]

Verily, there is nothing new under the sun! Long before I attempted to employ medication by cataphoresis the late Sir Benjamin Ward Richardson and others in Germany and America had already carried their investigations into an advanced experimental stage.

With regrets for trespassing so far on your valuable space and my best thanks in anticipation,

I am, Sir, yours faithfully,
ARTHUR HARRIES.

St. James's-square, Pall Mall, S.W., Nov. 7th, 1908.

⁂ We remember our correspondent's interesting paper. We do not see that our annotation implied that either Leduc or Jones considers that cataphoresis is "new." Dr. Lewis Jones was using cataphoric medication by cocaine in 1899 at St. Bartholomew's Hospital. The originator of electrical medication was Fabre Palaprat, who wrote in 1833 on the introduction of iodine into the tissues by means of currents. In a bibliography of the subject given in 1900 by Professor Leduc, Dr. Harries's paper is mentioned and occupies the twenty-fourth place in chronological order.—ED. L.

A SERUM TREATMENT FOR CARCINOMA IN MICE.

To the Editor of THE LANCET.

SIR,—My attention has been called to Mr. C. E. Walker's letter in THE LANCET of Nov. 14th. I, too, would have hoped —had I given the matter a thought—that the discussion should have begun and ended with the meeting of the Liverpool Medical Institution (at which the paper in question was read by him) and the subsequent reports in those journals which thought the matter of sufficient importance to publish. It is contrary to the usual procedure to carry on a discussion in the medical press after a meeting unless material facts or arguments are wrongfully supplemented later in the report of that meeting. This did not occur.

I must deny any intention in my remarks other than that of impartial criticism of an important subject in which I am, as most of the profession are, much interested. Further, I have always held that to anyone who has a good case, knows his subject, and has the opportunity to reply, criticism should be welcome, in that it helps him to make good the weak points in that case. Mr. Walker failed in his reply to make a single point. He has since, I take it, worked the subject up; hence his letter.

Since he has alluded to the courtesy of the Medical Institution, which is justly proverbial, I presume he thinks my remarks were discourteous. I hasten to disclaim any intention of discourtesy at all. I would remind Mr. Walker that since *he asked to be invited* to read his paper he could not consider himself in the light of a distinguished guest. Had such been his position my remarks would have been in bad taste and uncalled for. While we are on this matter I must say also that in any circumstances I think the position of the Liverpool Medical Institution is such that he was ill-advised to read before it a paper which he had published in THE LANCET only a few weeks previously—it was hardly a compliment to the institution. I feel it necessary to say this much, and also to deny the insinuation that I abused the hospitality of the Cancer Laboratory. I was never Mr. Walker's guest, nor did he ever give me any mice. I grafted myself what mice I had from one kindly given to me by the director of the laboratory. These are personal details I am sorry Mr. Walker has dragged in. I have no wish in regard to the work of that laboratory but that some good should come out of it, and that the indefatigable energy of the workers there should meet with some reward. If he considers my remarks a "reflection" on the laboratory I can only reply that my intention was to save it from what happened recently on the publication of work done there in connexion with liquid air—work which was criticised in a similar manner by Dr. E. F. Bashford.[1]

Mainly my complaint was, then, that no reference at all was made by Mr. Walker to the work of others on similar lines (with the exception of a small experiment of Grünbaum done in the same laboratory). I carefully mentioned in my remarks that there *was* a difference in technique in some of the work but that there was no *essential* difference. The few remarks made in reply showed that with the exception of some of Borrel's work he was unfamiliar with, or ignorant

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[1] Manual of Dental Surgery and Pathology, by A. Coleman, F.R.C.S., L.D.S. 1881.

[2] See Journal Institution of Electrical Engineers, vol. xix., No. 88.

[3] See Journal of the Society of Arts, No. 1999, vol. xxxix., pp. 315-325.

[1] See THE LANCET, Feb. 1st, 1908, p. 334.

After holding resident appointments at St. Luke's Hospital, London, the Belgrave Hospital for Children, London, and the Whitehaven and West Cumberland Infirmary, Mr. Henley was in 1882 appointed as assistant medical officer at the Gloucestershire County Asylum at Wotton. He remained at Wotton for two years and was then transferred to the new asylum at Covey Hill. In October, 1906, he was appointed medical superintendent of the Gloucestershire County Asylums, succeeding the late Mr. F. H. Craddock. Mr. Henley was extremely popular in Gloucester and the district; he was a most efficient medical superintendent of the county asylums and much regret is felt at his early death.

THE MEDICAL INSPECTION OF CHILDREN IN LONDON.

THE London County Council this week has approved of a tentative scheme for the inspection of school children in London as required by Section 13 of the Education (Administrative Provisions) Act. The routine of inspection is to be undertaken by means of a temporary staff who will give a part of their time—averaging three half-days a week—to the work, and it has been attempted so to arrange the scheme that any practitioner who feels drawn to this branch of practice will have a reasonable chance of obtaining the knowledge and experience to be derived from school work. Medical inspection without medical treatment of any kind is the only work to be undertaken by this staff.

The scheme provides for the division of the metropolis into 16 districts which generally coincide with the school attendance areas, though these in some instances are subdivided. Each of these districts will be allotted to a school medical officer, the present assistant medical officers of health holding the posts for the present. There will be assistant school medical officers appointed in each district, and these posts are now being advertised. At the end of three years it is designed that the whole staff will number 16 school medical officers with 56 assistants, and all who enter the service will do so in the first instance as assistants with annual appointments. This means that after the election to the posts now advertised there will be an annual election of 24 assistants to commence work on Sept. 1st of each year, the salary, including travelling expenses, being £120 per annum. General practitioners in the various localities will be eligible for the appointment, but it is expected that a certain number of men not in general practice will always be appointed.

School medical officers are to be appointed from among the assistants after at least one year's service at a salary, including travelling expenses, of £150. A rota will be established in the following manner. None of the officers doing this routine work will be eligible for reappointment after the third year from entering the service. Most men will therefore retire after three years' service as assistants, and eight in each year after three years' service partly as school medical officer and partly, for a year at least, as assistant. The school medical officers are to be given considerable responsibility for the routine work in their districts and may also in accordance with instructions carry out special inquiries or investigations in the course of that work. Other inquiries and special examinations or urgent matters will continue to be dealt with as hitherto by the chief education medical officer and the assistant medical officers of the permanent staff.

The scheme is a large one and whether it be acceptable to the medical profession on all grounds or no, it must receive the credit due to thoroughness. The conditions of service being elastic, all members of the medical profession are eligible and under the rota system the benefits of experience are open to the maximum number of the profession. Future appointments can be created without dislocation of existing arrangements by simply increasing the number of assistants to be elected annually. It seems probable that promotions from among the assistants will not generally be made in favour of the general practitioner, the choice of the school medical officers from among those not in general practice being defended on the ground of avoiding invidiousness in elections; but this, the remuneration of the assistants, and several other points will require future consideration.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of Comitia of the Royal College of Physicians on Oct. 29th, and at an ordinary meeting of the Council of the Royal College of Surgeons of England on Nov. 12th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred by both Colleges on the following gentlemen who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Examining Board:—

James Wilmot Adams, B.A. Cantab., Cambridge University and St Bartholomew's Hospital; Frank Robert Lowth Atkins, Guy's Hospital; Martyn Wilfred Baker, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Malcolm Edward Ball, Guy's Hospital; Henry Lewis Barker, St. Mary's Hospital; Ernest Urquhart Bartholomew, L.M.S.S.A., Charing Cross Hospital; Charles Botterill Baxter, M.B., Ch.B. Edin., Edinburgh University and London Hospital; Arthur Cecil Barker Biggs, University College Hospital; Charles Newton Binney, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Clement Henry Burton Bradley, M.B., Ch.M. Sydney, Sydney University; Lancelot Stephen Topham Burrell, M.A. Cantab., Cambridge University and St. Thomas's Hospital; *John Joseph Cameron, M.D. Toronto, Toronto University and London Hospital; Arthur Laurence Candler, St. Bartholomew's Hospital; Alfred Edward Arthur Carver, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Bernard Arthur Cheadle, St. Thomas's Hospital; Bertie Isaac Cohen, St. George's Hospital; John Hutchinson Crofton, B.A. Cantab.,
Hospital; Arthur Hen
versity and Guy's Hos
Toronto, Toronto Univ
Richard Julius Cyriax,
and St. Mary's Hospita

College, Bristol; Frederick Charles
bridge University and Charing Cross
, M.A. Cantab., Cambridge Univer-
Hospital; Maurice Rowland Dobson,
s Hospital; Harry Rumsey Edwards,
King's College Hospital; Frederick Holcombe Fuller, L.D.S. Eng., Guy's Hospital; Boleslaw Gerzabek, M.D. Cracow, Cracow University; Eugene de Montevin Gideon, M.B. Toronto, Toronto University and London Hospital; Vinayak Balvant Gokhale, L.M. & S. Bombay, Bombay University, King's College, and University College Hospitals; Gilbert Clement Gray, St. Bartholomew's Hospital; Horatio Norman Greaves, Rush Medical College, Chicago, and Guy's Hospital; John William Grice, Cambridge University and Guy's Hospital; Arthur Henry Habgood, B.A. Cantab., Cambridge University and London Hospital; Rowland Hirst Hadfield, Victoria University, Manchester; Rupert Lawrence Haines, St. Bartholomew's Hospital; Philip Thomas Harper, St. Thomas's Hospital; Samuel Richard Harrison, London Hospital; Roland Augustus Hobbs, St. Mary's Hospital; Ernest Charles Holton, St. Mary's Hospital; Henry Hudson, Victoria University, Manchester; Arthur Edmund Ironside, L.D.S. Eng., Charing Cross Hospital; Maurice Lionel Corrie Irvine, St. Thomas's Hospital; Harold Garnett Janion, University College Hospital; Walter

Hospitals; Leslie Reginald King, B.A. Cantab., Cambridge Uni-
pital; *Charles Ogilvie Lillie, M.B., Ch.B.
and University and Middlesex Hospital;
McGill University and University College
Lucey, Guy's Hospital; Charles Eric Wells
McDonald, King's College Hospital; Elias Leopold Woolf Mandel, Guy's Hospital; Guy Harvey Mead, St. Thomas's Hospital; Frederick Valentine Milburn, London Hospital; George Henry Chavasse Mold, Birmingham University; Reginald Mark Moore, B.A. Cantab., Cambridge University and London Hospital; Reginald Arthur Morrell, St. Thomas's Hospital; Malcolmson Knox Nelson, Queen's College, Belfast, and Guy's Hospital; Framrose Ratanshaw Parakh, M.B., B.S. Manch., Bombay and Manchester Universities; Harold Parsons, B.A. Cantab., Cambridge University and London Hospital; Herbert Edward Perkins, Guy's Hospital; William Guy Pinching, B.A. Oxon., Oxford University and Guy's Hospital; Arthur Hardwicke Platt, B.A. Cantab., Cambridge University and Westminster Hospital; Philip Seymour Price, Guy's Hospital; Charles Edward Redman, M.A. Cantab., Cambridge University and St. Mary's Hospital; Douglas Reynolds, Guy's Hospital; Lewis Leslie Clayton Reynolds, Guy's Hospital; Raymond Paul Middleton Roberts, Cambridge University
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Philip Stibbe, Charing Cross Hospital; Stuart Seguin Strahan, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; George Stewart Strathy, M.D., C.M. Toronto, Toronto University and London Hospital; Edward Leonard Taylor, St. Bartholomew's Hospital; Walter Taylor, M.B. Toronto, Toronto University and University College Hospital; Harold Skarratt Thomas, London Hospital; Vincent Townrow, Sheffield University and Guy's Hospital; Bertie William Edward Trevor-Roper, Manchester University; Reginald Martin Vick, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Philip Seston Vickerman

the way in promoting an Act for the notification of births of infants. Belfast can go for special Acts for its tramways, for its city hall, and for other objects, but alas, the illness and the deaths of its citizens from preventable diseases are apparently of much less moment. With reference to the shell-fish hypothesis as accounting for the existence of typhoid fever in Belfast, the committee in its report points out that in the year 1907 there were 356 notifications of enteric fever and of these only 14 were attributable by the patients or their friends to the eating of shell-fish; and it gives in the appendix articles by Professor J. Lorrain Smith and Professor A. E. Letts dealing with the question of the causation of enteric fever in Belfast. The matter may be left between the public health committee and the Belfast water commissioners, as the committee of the corporation is anxious to have a conference with the water commissioners in reference to another suggestion of the Health Commission that "the water-supply of Belfast should be in the hands of the corporation."

As to the conclusions and numerous suggestions made by the Health Commission in regard to the organisation of the public health department, they are dealt with in rather an extraordinary way by the combined committee of the corporation. To give some examples: The Commission says, "The hospital accommodation provided by the corporation for infectious diseases is inadequate and should be increased, and the guardians relieved of all responsibility for the treatment of these diseases."

In 1906 the Purdysburn fever hospital with 168 beds (there is an adjacent temporary hospital for small-pox with 74 beds) was opened, and, save the small-pox one, it was the first fever hospital owned by the corporation. There are 200 beds for the treatment of infectious diseases provided in the union fever hospital by the board of guardians. The committee says: "Hospital accommodation at present is more than ample. The union fever hospital has never in practice been regarded as a pauper institution." Now both these statements are inaccurate. The Health Commission reports (p 74) that "even with the present use of beds in the union hospital the total provision of hospital accommodation is inadequate" and "partly as a result of the inadequacy of hospital accommodation a large proportion of the cases of infectious disease in Belfast has been treated at home," and of those left at home, the medical officer of health said at the Commission fully one-half were inadequately isolated. Further, the Commission recommends that not only should the corporation frankly accept sole responsibility for dealing with infectious disease within the city and make adequate provision for such cases as require removal to hospital. The union fever hospital, though an admirable place, has always been regarded as a pauper institution, as any medical man could explain as he finds the difficulty in getting patients to enter it. In his annual report for 1907 the medical officer of health states in reference to the fever hospital at the union workhouse (p. 40) "that a large number of the people was prejudiced against going there." Suppose, as occurred before, there were 400 typhoid cases, What would be the use of a hospital with 163 beds for all types of fevers except small-pox? To many of the other suggestions of the Health Commission the committee replies: "This is being done as far as practicable"; "The corporation has been working with this object for some years and has partly succeeded"; "Your committee concur in this opinion and steps have been, and are being, taken to give effect to it"; "This is also in hands"; "This is under consideration," &c. In other words, to all the admirable recommendations of the Health Commission, given with the object of trying to instruct the corporation in the simplest principles of sanitary science and public health, no proper or sufficient reply is given beyond they are "in hands," "under consideration," which really means that unless the Local Government Board or the public insist, little or nothing may be done to carry these suggestions into effect. Finally, with reference to house cleansing the committee says:—

> The substitution of water-closets for privies is recommended by the Commission as a great sanitary reform. They criticise severely the unpaved back passages, the defective ashpits, and insufficient cleanings, but they seem not to have realised the phenomenal rate at which the city has developed and of the difficulties of keeping pace with that development without overloading the city with taxation. All the up-to-date sanitary luxuries in the way of hospitals, elaborate systems of sanitary administration, and such like, would have been provided long ago if the people could have borne the burden; but while Belfast is a [illegible]ulous place, and its death-rate may compare favourably [illegible] English and Scotch cities, yet its municipal financial resources or the private resources of its citizens are far behind those of the cities on the other side of the channel.

There are several inaccuracies in this statement. 1. The growth of Belfast has never been so "phenomenal" as to prevent the adoption of proper sanitary arrangements had the various authorities done their duty, and the people would not have objected, as had various necessary public health measures been adopted step by step taxation would not have been great. Why was the Notification of Infectious Diseases Act never adopted until 1897, and why was a municipal fever hospital not opened until November, 1906? And why has the corporation not had a bed for a consumptive until October, 1908? 2. The death-rate of Belfast does not compare favourably with that of English and Scotch cities. Even adopting the hypothetical population assigned to it by the Health Commission (an estimate denied by the Irish Registrar-General who is the recognised Irish Crown authority on statistics), the general death-rate of Belfast is about the same as that of Manchester, better than that of Liverpool, and not so good as the other cities; that is only one large city in England or Scotland is worse; while from enteric fever and phthisis the death-rate of Belfast is not only excessive but far above that of any large city in England and Scotland; indeed, as the Health Commission puts it, "the mean annual mortality from enteric fever has been so exceptional in Belfast for the last 25 years that it appears to have no parallel in any other city or large town in the United Kingdom." 3. The municipal financial resources and the private resources of its citizens may be behind (*not far* behind as the committee states) those of the cities on the other side of the Channel but the recent erection of a new palatial city hall at a cost of between £300,000 and £400,000, the large expenditure on the asylum, and the publication from time to time of the wills of deceased Belfast citizens do not support the view that the people of the city could not and would not cheerfully have borne a taxation which would have had the effect of diminishing sickness and of preventing the deaths of many people from diseases now regarded as largely preventable. No person who has lived all his life in Belfast, and who has seen how neglected the science of public health has been from a corporation point of view, could accept any such excuse.

If the Belfast corporation, under wise and proper guidance, had exhibited any foresight and common sense, such as was displayed in other English and Scotch large cities, on behalf of the public health, and had it introduced one after another the ordinary preventive measures, and had it acted on the advice of its own committee (the "Harrison"), not only would the death-rate of the city have fallen as it has done in these other cities but any necessary taxation to carry out these schemes would not have been felt. It did not do so and as a consequence it finds itself forced now to face a number of problems (of which the greatest is the pollution of the shores of Belfast Lough by the sewage of the city) which will certainly, owing to its carelessness and neglect, be a much heavier financial burden. There is no help for it, for it is as true in municipal administration as in other affairs of life: "As you sow, so shall you reap"; and after all there is, if the corporation does not decide to solve these health problems adequately, only one alternative—more preventable deaths and more illness. It may readily be granted that recently there has been an improvement in dealing with some public health questions, and there is truth in what one of the city councillors said in the discussion on Oct. 22nd (as reported in a Belfast daily paper):—

> There were human beings living within half a mile of the city hall under conditions such as no self-respecting citizen would allow his dogs or animals to be congregated in. It was a credit to the health department that since the appearance of the Health Commission more real public health work had been accomplished by that department during the past two years than in any 25 years previously. He held that the public health department was never awake to its duty until the vision of the Commission appeared on the horizon, and every right-thinking citizen felt gratified at the result. If the work could be undertaken in a practical way in the beginning of 1907 what was to prevent it being taken in hand ten years ago? But for the action of certain public-spirited citizens that council would still be wrangling over the same questions as agitated the corporation ten years ago

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A DORSET CENTENARIAN.—Mrs. Mansfield of Zeals, near Shaftesbury, Dorset, has just celebrated the hundredth anniversary of her birthday. She is a near relative of the late Queen Victoria's nurse, Lilley. The King sent a congratulatory message to Mrs. Mansfield.

C. J. Thomas and Dr. A. H. Hogarth of the London County Council Education Department, Dr. H. Meredith Richards, Mr. P. Macleod Yearsley, Mr. C. Edward Wallis, and others. The subjects will comprise general medical inspection of school children, special medical inspection, eyes, ears, teeth, infectious diseases, defective children, school and home, office routine, and the preparation of reports. The course is open to all medical graduates, and those desirous of attending should make early application to Mr. W. A. Lawton at the offices of the Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C., as accommodation is only available for a limited number.

A CASE OF KALA-AZAR IN VIENNA.—Much interest has been shown in a case of kala-azar now under treatment in the Vienna Clinic for Children's Diseases. It is the first case observed there. The patient, a Russian child, nine years of age, presented the following symptoms: extreme emaciation, swelling of the abdomen, and increase of the size of the liver, spleen, and other glands. An exploratory puncture of the spleen was made at the clinic with the idea of searching for the micro-organism of kala-azar, and the diagnosis was confirmed by the cultures obtained. The interest of the case lies also in the fact that in Odessa, whence the child came, several cases have occurred quite recently according to the mother of the boy, whilst formerly kala-azar was unknown there.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY.—The session 1908–09 of this society began last Friday, Nov. 13th, by the delivery of an address by Sir William H. Bennett upon Swellings of the Knee-joint not due to Injury. The following is the list of papers set down for future reading and discussion: On Friday, Dec. 11th, Mr. J. Howell Evans on Swellings and Tumours of the Breast, illustrated with lantern slides and specimens; on Friday, Feb. 12th, 1909, Dr. C. O. Hawthorne on Some Clinical Aspects of Functional Paralyses; on Friday, March 12th, Dr. Edmund Cautley on the Use and Abuse of Proprietary Foods in Infant Feeding; and on Friday, April 18th, Dr. James Galloway on Some of the Commoner Affections of the Skin: their Exact Diagnosis and Treatment.

THE BRIGHTON AND HOVE WOMEN'S HEALTH SOCIETY.—This society is ceasing to exist neither from want of funds nor from any lack of interest on the part of those who have been carrying on the work unostentatiously for the past 13 years. The society is winding itself up because, owing largely to its success, public measures will now replace private effort. The town of Hove has appointed a health visitor and Brighton will follow suit in the near future, so that the work of the society will be carried on by the municipal authorities and there must be no interference with the work of these officers by volunteers not answerable to the ratepayers. A great deal has been done by the society since its inception in 1895. Dr. A. Newsholme, the principal medical officer of the Local Government Board, was the medical officer of health of Brighton at the time, and it was in consequence of one of his reports respecting infantile mortality that a few ladies banded themselves together and instituted a society which they very appropriately named the Brighton and Hove Women's Health Society. Their chief aim has been throughout to combat excessive infantile mortality and their work has been the instruction of classes of women in the elementary laws of health and the sound hygienic care of their children. Young girls have also been taught how to aid their parents both in the home and without, and how to take charge of their younger brothers and sisters. Then, too, where the need has been found the society has lent fire-guards for the homes of poor people, and in other ways has lent timely assistance to many a poor home. A local correspondent writes:—"While the steps taken by the municipal authorities are welcomed the loss of such an organisation is to be regretted. The balance of the funds in hand is to be utilised for the benefit of both boroughs under the rules of the society, and its officers will remain existent until the money is exhausted. The extinction of the society and the municipal authorities stepping in point to the advance of public opinion on such important questions as the rearing of children and hygiene in the home." This is undoubtedly true, but it is equally true that voluntary workers may prove more effective in educating women in the laws of health than the municipal health visitors, and it is hard to see why Brighton and Hove cannot arrange to make use of the existing society, the efforts of which might be concurrent with those of the municipalities.

DR. E. OTT, well known to many English members of the medical profession through his practice at Marienbad, has started a winter practice at Meran, Tyrol.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the distribution of certificates and badges to members of the Great Western employees' branch of the St. John Ambulance Association at Chippenham held on Nov. 8th under the presidency of the mayor, Mr. William Thomas Briscoe, M.D., M.Ch. Dub., was presented with a silver cake-basket in appreciation of his services as honorary lecturer.

ROYAL INSTITUTION.—The eighty-third Christmas course of juvenile lectures, founded at the Royal Institution in 1826 by Michael Faraday, will be delivered this year by Professor William Stirling, M.D., LL.D., D.Sc., his subject being "The Wheel of Life." The course, which is to be fully illustrated, will commence on Tuesday, Dec. 29th, at 3 o'clock, and will be continued on Dec. 31st, 1908, and Jan. 2nd, 5th, 7th, and 9th, 1909.

THE annual dinner of the Royal Free Hospital and School of Medicine for Women will be held at the Hotel Cecil, Strand, W.C., on Wednesday, Dec. 9th, at 6.45 for 7.15 P.M. Miss L. B. Aldrich-Blake, M.D., M.S., will take the chair. There will be a musical conversazione after dinner. Applications for dinner tickets should be sent to the honorary secretaries, Mrs. Florence E. Willey and Mr. George P. Mudge, not later than Saturday, Nov. 28th.

THE GLASGOW UNIVERSITY CLUB, LONDON.—The autumn dinner of the Glasgow University Club, London, will be held at the Trocadéro on Friday, Nov. 27th, at 7.30 P.M., when Professor A. Barr, D.Sc., will take the chair. Dr. C. O. Hawthorne, who has recently resigned the honorary secretaryship of the club, will be the special guest of the club at this dinner. Members desiring to attend should send their names and those of their guests to Mr. W. Craig Henderson, 2, Paper-buildings, Temple, E.C., not later than Tuesday, Nov. 24th.

THE MIDDLESEX HOSPITAL SMOKING CONCERT.—Sir A. Conan Doyle will preside at the eighteenth annual smoking concert arranged by the students of the Middlesex Hospital at the Queen's Hall, on Tuesday, Nov. 24th. The proceeds are given to the Middlesex Hospital cancer ward, so that those who attend the concert (to which ladies are cordially invited) assist a most deserving and necessary charity. Many of the leading artists of the theatrical and music hall stages (by permission of their respective managers) have consented to appear. Tickets may be obtained from the honorary secretaries of the concert at the hospital or at the Queen's Hall.

DONATIONS AND BEQUESTS.—At a recent meeting of the board of managers of the Edinburgh Royal Infirmary it was intimated that the late Mr. Peter K. Easson of Kinnoull Cottage, Perth, had bequeathed a one-third share (estimated to amount to about £5300) of his estate to the infirmary; it is to be known as the "Easson Brothers Bequest."—The late Mr. H. J. Randall of Bridgend (Glamorganshire) has bequeathed £6000 to the Bridgend Cottage Hospital.—In memory of the late Mr. Alfred Boyd of Sandon, Essex, an ex-member of the Canadian Parliament, his widow has given £1000 to St. Bartholomew's Hospital to provide scientific instruments.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held at Caxton House, Westminster, on Nov. 12th, Dr. F. H. Champneys being in the chair. A letter from the Clerk of the Privy Council as to the procedure to be adopted in prosecutions under Section 12 of the Midwives Act, 1902, was considered. This section is as follows: "Any person wilfully making or causing to be made any falsification in any matter relating to the Roll of Midwives shall be guilty of a misdemeanour, and shall be liable to be imprisoned with or without hard labour for any term not exceeding twelve months." The Clerk of the Privy Council in his letter said that in reference to the particulars of the case in which a medical practitioner was alleged to have issued a false certificate to a woman, he was directed to state for the

Westphalia." By this time, however, it was difficult for speakers to command the attention of the company, and therefore the banquet was soon brought to a close amidst much enthusiasm and many felicitations.

On Friday afternoon (Oct. 2nd) nearly all the members of the Congress went to the White House. Here a *queue* stretched from the street through the gardens and along the corridors of the Presidential residence. Most persons had to wait an hour and some longer before it was their turn to be ushered into the presence of the President and then, of course, there was no time but for the exchange of the briefest salutations. On the other hand, everybody who chose to wait received the traditional presidential shake of the hand and further was introduced to Mrs. Roosevelt. This ceremony gave an opportunity of seeing over a part of the more than modest residence of the President of the United States. It is certainly only just to call it the White House, for it is simply a house; there is nothing palatial about it.

On the same evening, and in the same great hall where the Secretary of State had given his banquet, there was "a smoker," as it was called. This was a tremendous gathering at which several thousand persons assembled, smoked, drank beer and punch, and ate refreshments dispensed from a large buffet. It was a good opportunity for conversation and for meeting old friends. This entertainment was offered to the Congress by the District of Columbia committee. On the Saturday afternoon the ladies' committee of the District of Columbia chartered a steamer and took a number of members on an excursion down the Potomac river. Altogether, therefore, the week at Washington was not absorbed entirely by study and discussion, for our American friends were not able to forbear from offering us the various kinds of hospitality which I have thus briefly described.

The Congress concluded on Oct. 3rd by a general session of valedictory addresses by the representatives of States and nations. Towards its conclusion President Roosevelt unexpectedly appeared on the platform and delivered an address in which he emphasised the need for the coöperation of practical men with men of science. The following week was devoted to the exhibits and a series of popular lectures and special meetings which attracted great attention in Washington. The need for a campaign of hygiene has been in part felt, and only this summer Dr. Woodward, medical officer of health, inaugurated a crusade against unclean lunch-rooms, but the doctrine of the open window, which has contributed so largely to the lowering of the death-rate in England during the last five years, has not in this part of the world yet received the acceptance which it merits. A series of lectures was then taking place in the public schools, and one day during the week was devoted to demonstrating the exhibits to the high school children of the city, who were conducted in sections and had the simple points explained to each one. The different Government departments were each allotted a special time for visiting the exposition; and even some of the large storekeepers permitted their employees to leave work in order to learn lessons conveyed by it. The ventilation both in the Government departments and in the stores is particularly defective in Washington. It is to be hoped that the lessons of the Congress on Tuberculosis will lead to more activity in a judicious provision of means of ventilation, at least during the winter. The Congress would indeed be a failure if in the very city where it was held some such practical benefit is not its outcome.

WORK OF THE SECTIONS.

THURSDAY, OCT. 1ST.

Immunity.

The production of immunity was discussed on Thursday morning, and some promising investigations were reported. The discussion began by a review of previous work by Dr. BALDWIN (Saranac). He considered that this work held out no prospect of an immunity of long duration, as even the dosage of living bacteria only protected for a time. He believed that a method of measurement must be devised. The problem was, firstly, one of creating tolerance for the bacillary poisons or products when undergoing autolysis and their assimilation by the tissues. Bartel's and Opie's studies on the influence of the white cells upon bacilli were very encouraging, and the present studies on anaphylaxis might add needed light. The present trend of investigation was to devise a method to meet the problem, for which solutions had been suggested, such as spacing the interval between inoculations (Pearson and Gilliland), feeding with the vaccine (Calmette and Guérin), inserting encapsulated bacilli (Heymanns), not to mention Pasteur's classical method of attenuation of virulence by passage through other animals. [In this connexion it was unfortunate that the Belgian exhibit containing Heymanns's preparations was detained in New York for three weeks, and that the congressists were thus deprived of the remarkable specimens devised for the illustration of his method.]

Professor CALMETTE (Lille) recalled his famous experiments at the Lille Pasteur Institute but believed that the method there investigated was less desirable than the use of tuberculin, which was equally efficient and did not subject the subjects to the disadvantage of being the carriers of bacilli, which after six or eight months of quiescence were certain to give rise to active tuberculosis. In some of the cattle which were merely fed with tubercle bacilli, however, the glandular infection had disappeared after three or four months, while their immunity lasted over a year. This immunity, however, merely consisted of a temporary failure to react to an infection.

Dr. BARTEL (Vienna) described his method of attenuating bacilli by the action of lymphocytes.

Dr. COURMONT and Dr. LESIEUR (Lyons), from experimenting upon guinea-pigs with very virulent cultures of bovine bacilli, formed the opinion that a tuberculous lesion in process of evolution prevented a second infection.

Dr. WEBB and Dr. WILLIAMS (Colorado) and Dr. BARBER (Kansas) described their methods of producing immunity by inoculation of an increasing number of bacteria, beginning with a single organism. They indicated the analogy with vaccination against small-pox. By this method they had induced complete immunity in guinea-pigs and were now experimenting with rabbits. They had succeeded in introducing 10,000 organisms at once by subcutaneous inoculation without producing tuberculosis.

Dr. GABRILOWITSCH (Halila, Finland) using "tuberculinum purum," reported that great improvement occurred in 25 cases thus treated. In 59 per cent. of these the bacilli disappeared from the sputum, while they were much diminished in 21 per cent. The catarrhal symptoms in the lungs ceased in 75 per cent. and diminished in 25 per cent. The temperature became normal in 21 per cent. during the treatment and in 62 per cent. when the treatment was complete. The course lasted from 40 to 60 days and the dose was increased from 0·01 milligramme to 100–200 milligrammes, requiring about 20 injections. In 96 per cent. of the cases the weight increased from 1 to 6 kilogrammes. Tuberculinum *purum* induced von Pirquet's reaction and had the advantage of producing no annoying reactions.

Professor CALMETTE, after reviewing the modified tuberculins of Klebs, Buchner, von Behring, Béraneck, and others and the later attempts of Denys, Maragliano, and von Ruk, described his preparation known as Tuberculin CL. He claimed that 50 centigrammes might be injected at once into the jugular vein of an ox without any elevation of temperature. This was due to the absence from his preparation of the albumoses, peptones, glycerides, &c., which so often vitiated the test when other tuberculins were employed. His preparation, however, was so active that after a third injection, given at intervals of from 8 to 10 days, there was a severe reaction of 1·8–2·5, with elevation of temperature, just as if the animal were tuberculous. The animal, moreover, acquired a high resistance to tuberculous infection; e.g., a dose sufficient in control animals to produce miliary tuberculosis in six weeks, in this immunised animal will only cause a tuberculosis of slow onset. This substance was prepared by centrifugalising "entire" cultures of bovine bacilli *in vacuo* at a low temperature. The bodies of the microbes were removed by filtration and the filtrate was then cleared from precipitants and salts by the use of alcohol and ether and, finally, by re-solution in water and dialysis, the colloids which remained being again precipitated with alcohol and ether and dried. In this process no heat that could injure the active principle was employed. Its activity was estimated by direct inoculation into the brain of a healthy guinea-pig, as suggested by von Lingelsheim. In this manner he found 0·0008 milligramme to be fatal, whereas it required nearly ten times as of specialists in these matters. There are four keys to it, which are held by the inspectors of police in the Lords and Commons, the Sergeant-at-Arms, and a representative of the Office of Works. I have no doubt that if and when the necessity should arise Members will receive in the future, as they have done in the past, the immediate and careful attention of their medical colleagues in this House.

TUESDAY, NOV. 17TH.

The Tuberculosis Prevention (Ireland) Bill.

Captain CRAIG asked the Prime Minister whether it was proposed by the Government to extend the scope of the Tuberculosis Prevention (Ireland) Bill to England and Scotland; and, if not, whether steps would be taken to prevent poor persons suffering from the disease in England and Scotland being sent to Ireland to be a burden on the rates.—Mr. ASQUITH replied: I am not in a position to make any statement as to the extension of the scope of this Bill to England and Scotland. The honourable Member's concluding inquiry opens up a large question with regard to the law of settlement which at present applies to England and Scotland but not to Ireland. My right honourable friend the Chief Secretary has, I am informed, expressed the intention of considering that question in connexion with contemplated legislation for the reform of the Poor-laws next year.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

Physiological Principles in Treatment. By W. Langdon Brown, M.D. Cantab., F.R.C.P., Physician to the Metropolitan Hospital, Medical Registrar and Demonstrator of Physiology, St. Bartholomew's Hospital. Price 5s. net.

Transactions of the Medico-Legal Society. For the Year 1907–1908. Edited by Stanley B. Atkinson, M.A., M.B., Trinity College, Cambridge, of the Inner Temple, Barrister-at-Law, Justice of the Peace for the County of London, Member of the Central Midwives Board, and Digby Cotes-Preedy, M.A., Emmanuel College, Cambridge, of the Inner Temple and Oxford Circuit, Barrister-at-Law. Vol. V. Price not stated.

FISCHER, GUSTAV, Jena.

Lehrbuch der Haut- und Geschlechtskrankheiten, Herausgegeben von Professor Dr. Erhard Riecke, Leipzig. Price M.14.50; geb. M.16.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Prof. Dr. Phil. et Med. Carl Oppenheimer in Berlin. Siebente Lieferung. Price M.5.

HENRY PHIPPS INSTITUTE, 238, Pine street, Philadelphia.

Fourth Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. February 1, 1906, to February 1, 1907. Edited by Joseph Walsh, A.M., M.D. Price not stated.

KABITZSCH, CURT (A. STUBER'S VERLAG), Wurzburg.

Lehrbuch der Histologie und der mikroskopischen Anatomie mit besonderer Berucksichtigung des menschlichen Körpers, [illegible] skopischen Technik. Von. Dr. Ladislaus [illegible] ssor der Histologie und Embryologie an [illegible] Lemberg. Zweite Auflage, vollständig umgearbeitet und ergänzt unter Mitarbeit von Dr. Rudolf Krause, a.o. Professor der Anatomie an der Universität Berlin. Preis, brosch. M.15.; in Halbfranz gebunden M.17.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

Gardens Past and Present. By K. L. Davidson, author of "The Unheated Greenhouse." Illustrated from Photographs by F. Mason Good. Price 6s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London; and New York, Bombay, and Calcutta.

Recent Advances in Organic Chemistry. By A. W. Stewart, D.Sc., Lecturer on Stereochemistry in University College, London, Carnegie Research Fellow; formerly 1851 Exhibition Research Scholar and Mackay Smith Scholar in the University of Glasgow. With an Introduction by J. Norman Collie, Ph.D., LL.D., F.R.S., Professor of Organic Chemistry in University College, London. Price 7s. 6d. net.

NEWNES, GEORGE, LIMITED, 3 to 12, Southampton-street, Strand, London, W.C.

Every Mother's Baby Book. A Guide to the Rearing of Infants. By Dr. Andrew Wilson. Price 1s. net.

SWAN SONNENSCHEIN AND CO., London. STILLMAN PUBLISHING CO., 313, Forty-first-street, Brooklyn.

Arcana of Nature. By Hudson Tuttle. With an Introduction by Emmet Densmore, M.D. Price 6s. net.

UNIVERSITY TUTORIAL PRESS, LIMITED, 157, Drury-lane, London, W.C.

Principles and Methods of Physical Education and Hygiene. By W. P. Welpton, B.Sc., Master of Method in the University of Leeds. Price 4s. 6d.

URBAN UND SCHWARZENBERG, Berlin und Wien.

William Osler, Königlicher Professor der Medizin an der Universität Oxford. Lehrbuch der Internen Medizin. Aus dem Englischen übersetzt und für deutsche Verhältnisse ergänzt und bearbeitet von Priv.-Doz Dr. Edmund Hoke, I. Assistent der Medizinischen Universitätsklinik in Prag. Mit einem Vorwort von Obersanitätsrat und Hofrat Prof. Dr. R. v. Jaksch, Prag. Price M.12.

VIGOT FRÈRES, 23, Place de l'École-de-Médecine, Paris.

Digestion et Nutrition. Aperçus de Médecine Pratique. Par le Dr. E. Monin, Spécialiste pour le Tube Digestif et la Nutrition, Chevalier de la Légion d'Honneur, Officier de l'Instruction Publique. Price Fr. 4.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALABONE, M. ANSLOW, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Hon[illegible] Consulting Physician for Diseases of [illegible] ks' Association.

BON[illegible] ond., M.R.C.S., F.R.S. Edin., has been [illegible] Health by the Thornbury (Gloucester- [illegible]

CHITTY, HUBERT, M.B., B.S. Lond., L.R.C.P. Lond. [illegible] appointed Senior [illegible]

DAVIES, JOHN DAVID [illegible] Medical Officer by [illegible] Board of Guardians.

DEAN, GEORGE, M.B., C.M. Aberd., has been appointed to the Chair of Pathology in the University of Aberdeen.

DOUBLEDAY, [illegible] Farringdo[illegible] en appointed Dental Surgeon [illegible] Lying-in Charity.

GARDINER, [illegible] sg., D.P.H. Lond., has be[illegible] appointed [illegible] Surgeon to the Camborne (Cornwall) D[illegible] pensary.

GOULDEN, HERBERT EDWARD, L.R.C.P. Lond., M.R.C.S., D.P.H. Cantl [illegible] spector of Schools by the Dev[illegible]

LAN[illegible], M.R.C.P. Lond., has been ap[illegible] Mary's Hospital, London, W.

MAC[illegible] Ch. Oxon., has been appointe[illegible] Hospital for Consumption an[illegible]

PITT, CHARLES WIGHTWICK, [illegible] Medical Officer of Health o[illegible]

ROBERTS, G. A., F.R.C.S. Eng. [illegible] to the Royal Albert Hospital, Devonport.

SHARPE, F. A., M.B., B.S. Lond., D.P.H., has been appointed Assistant Medical O[illegible] unty Borough of Derby.

[illegible] rd., has been appointed District [illegible] t) Board of Guardians [illegible] has been appointed Surgeon to [illegible] Hospital.

THOMAS, JOSIAH TELFER, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Camborne (Cornwall) Dispensary.

TOSSWILL, LEONARD ROBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Inspector of Schools by the Devon Education Committee.

WOODROFFE, H. D., M.B., B.Ch., B.A.O., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WYLIE, ANDREW, M.D., C.M. Glasg., has been appointed Surgeon to the Central London Throat and Ear Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon and Registrar. Salary £100 per annum, with board, residence, and washing. Also House Surgeon. Salary £50 per annum, with board, residence, and washing.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham road, S.W.—Assistant Surgeon.

BLACKBURN A[illegible] INFIRMARY.—Junior House Surgeon. [illegible] with board, washing, &c.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch.—Junior Assistant Medical Officer, unmarried. Salary £150, with quarters and all found.

CHESHIRE, CROSSLEY SANATORIUM, Delamere Forest.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance. Also Junior House Surgeon. Salary £80 per annum, with rooms, board, washing, and attendance.

CROYDON GENERAL HOSPITAL.—Senior and Junior House Surgeons. Salaries £105 and £60 per annum respectively, with board, laundry, [illegible]

[illegible] —Principal County School Medical [illegible] and £65 per annum for travelling [illegible] ant School Medical Officer. Salary £150 per annum and £65 per annum for travelling and other expenses.

DUBLIN, ROYAL HOSPITAL FOR INCURABLES, Donnybrook.—Resident Medical Officer, unmarried. Salary £120 per annum, with board and apartments.

EXMINSTER, DEVON COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £150 per annum, rising to £200, with board, apartments, and laundry.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

HASTINGS EDUCATION COMMITTEE.—School Medical Officer. Salary at rate of £200 per annum.

CLINICAL CONTRIBUTIONS.

Beyond the discussion upon the relation of bovine and human tuberculosis, the main trend of the Congress concerned the sociological aspect of tuberculosis. There were, however, several interesting contributions in the clinical sections, the most novel perhaps being that of Army-Surgeon WRIGHT before Section II. It was an account of the treatment of over 60 cases by intramuscular injections of the salts of mercury, to which he was led by the amelioration of the pulmonary lesions in two cases which he had treated for secondary syphilis. The remarkable rapidity of the retrogression of the disease in these men led Dr. Wright to try the treatment in non-syphilitic consumptives. His success was nearly uniform, even advanced cases improving rapidly, and laryngeal lesions constantly disappearing. It does not appear possible to gainsay Dr. Wright's observations, although former clinical experience indicated that subjects of tuberculosis bore mercury badly. It is possible, however, that this intolerance may have been due to digestive disturbances caused by mercurial ingestion *viâ* the mouth preventing the high nutrition required by consumptives; and, moreover, the hygienic conditions under which consumption was formerly treated were not of the tonic character needed to enable mercury to act beneficially. Further trial, of course, is required before scepticism is allayed, but Dr. Wright's discovery seems to be an exceedingly valuable therapeutic advance.

Another valuable addition to our armament was contributed by Dr. G. BECK (Chicago) in Section III. He has devised a paste with which he keeps apart the granulating surfaces of tuberculous sinuses, by which means they heal without leaving the annoying residual foci which so usually cause relapses. The paste contains 33 per cent. of bismuth and thus affords a means of mapping out a sinus with the x rays. For cold abscesses a paste of 10 per cent. is used, being injected immediately after evacuation. This prevents secondary infections as well as keeping the surfaces apart. The clinical reports are exceedingly favourable.

In this, the surgical, section great emphasis was laid upon the nutritional adjuvants, and indeed sanatoriums for this purpose are now being erected in the United States.

In Section II. the discussion of sanatoriums was largely contributed to by the British representatives. The graduated labour method of the Brompton Hospital excited much interest. Great stress was laid on the undue cost to the community entailed by sanatoriums unless they are correlated with other agencies for the control of tuberculosis. Emphasis was laid upon the need of this in a lecture before the Washington Chamber of Commerce by Dr. R. W. PHILIP (Edinburgh), and an elaborate model was shown in the Maryland exhibit to illustrate the same point. With the medical officer of health for a centre, different coloured threads, centrifugal and centripetal, communicated with the general hospital, the family physician, the county poorhouse, the tuberculosis dispensary, and the special sanatorium respectively. The life insurance system which is in such successful operation in Germany was illustrated by a model of its large chain of sanatoriums and furnished clear explanations of the economic features of the plan. In a small way, though administered by a private association, the National Printers' Union furnished the same object-lesson by exhibiting a model of the annexe for tuberculosis of the Printers' Home in Colorado. The style of tent there used is now to be shown in the travelling exhibit of the American National Tuberculosis Association.

The results of sanatorium treatment were discussed by Dr. BROWN (Saranac). He presented statistics showing that out of 2553 patients, 1209 are known to be alive, of whom 1058 are able to work—that is, 87·5 per cent. He believes that these results are very encouraging.

An important adjuvant to the dispensary is presented by the experience of Dr. TOWNSEND (Boston) and Dr. WHITE (Pittsburg) who have planned respectively "day camps" and "night camps," and who discussed before Section II. their educational and economic value. These are now being imitated elsewhere and appear to be of great assistance to dispensaries.

The practical results of serum-therapy were contributed to in Section II. by a large number of workers, including Dr. FLICK (Pennsylvania), Dr. TRUDEAU (Saranac Lake, N.Y.), Dr. DENYS (Louvain), Dr. BÉRANECK (Neuchatel), and others. The collation of their work should afford additional guides for future practice but cannot be undertaken in a short contribution of this nature. In this section, too, the early use of the x ray for diagnosis of deep infiltrations was insisted upon by Dr. C. THEODORE WILLIAMS (London), Dr. RIST (Paris), and Dr. WILLIAMS (Boston).

A distinct therapeutic advance is the systematisation of diet schedules attempted by Dr. FISHER (Yale) and Dr. NEWTON (Mont Clair). The former investigated the diet used in 95 leading sanatoriums in the United States, Canada, Great Britain, France, Germany, Austria, Norway, Switzerland, and Russia. He finds that the food is usually given arbitrarily and does not differ from that used in neighbouring boarding-houses; that the number of calories varies from 2100 to 5500; and that the amount of protein differs as widely. He concludes that 3000 calories, of which only 10 per cent. should be protein, are ample for an ordinary consumptive; that an excess is injurious on account of the intestinal putrefaction which results, especially in the case of meat, on account of the waste products therein contained. Dr. Newton emphasised the reaction against the "stuffing" treatment formerly in vogue.

In the section of Children's Diseases Dr. WOODS-HUTCHINSON (New York) expressed his belief that even in infants the lung is the most frequent site of tuberculous involvement and that pulmonary tuberculosis is much commoner in them than was formerly believed. He believes the gland and bone involvements to be secondary. Dr. WOLLSTEIN (New York) as a result of 1131 necropsies, of which 185 were tuberculous, expressed the same belief.

The subject of the children of the tuberculous and their infection and relative immunity was discussed from different points of view by Dr. WARTHIN (Ann Arbor), who believed that the bacilli might traverse the placenta without causing lesions there. But Dr. FLOYD and Dr. BOWDITCH (Boston), as a result of a study of 900 children who had been exposed to home infection, concluded that contagion is a more important factor than heredity.

Dr. VON PIRQUET (Vienna) proposed the formation of an international statistical record on the basis of his cutaneous reaction, the cases being divided into those of (1) early reaction, signifying recent infection; (2) secondary reaction, signifying old or latent infection; and (3) no reaction (uninfected).

Dr. TEISSIER (Lyons) believed, as a result of his studies of intermittent albuminuria of childhood, that these cases were often due to the transmission to the fœtal kidney of the tuberculous toxin of an infected parent. "This produces," he said, "a slight degree of latent nephritis which results in a very relative impermeability, revealing itself in a moderate diminution of the total molecular diuresis, an increase in the coefficient of Korany, and also in a slight elevation of the blood pressure, a moderately severe albuminuria, usually intermittent, either of the matinal (morning) type, or frankly orthostatic (present during the active hours of the day); and finally, as the hall-mark of its tuberculous origin, a well-defined Arloing-Courmont serum reaction often exceeding 1/15." 34 per cent. of cases of intermittent albuminuria were of this type. They did not become tuberculous and were thus distinguished from the pre-tuberculous albuminuria, which disappeared as the lesions became evident. They were examples of the spontaneous immunisation to which Courmont had drawn attention.

Mrs. NOBLE (New York) referred to the importance of the control of respiration by the instinctive functioning of the afferent nerves of the respiratory system, including the olfactory; and pointed out how the vitiation of this reflex by foul air prevented the proper development of the chest by the deep breathing required for it. She proposed to found a league for popular prevention of nasal and pulmonary troubles in children.

Cattle and Tuberculosis.

In Section VII. many valuable data were presented regarding the control of animal tuberculosis with special emphasis upon the economic aspect. Dr. MELVIN, of the United States Bureau of Animal Industry, estimated at over $2,382,000 the loss due to the destruction of meat-producing animals as a result of Federal inspection. He believed that a further $2,000,000 would be lost if all the animals were inspected and that the stock was rapidly diminishing in value. The loss from disease in milk production was estimated at $1,150,000. The aggregate from all sources he estimated at $14,000,000. He advocated the system of tagging, and for will be *gradual. There is no subject upon which the crank and* faddist are more rampageous than on diet and it would be quite possible *for a few* obstinate, if honest and noisy, persons to bring the whole association under the *critical eye of that very section* of the public—viz., the medical and educational professions—whose sympathy it is their object *to enlist.*

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Medical Diary for the ensuing Week.

SOCIETIES.

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ODONTOLOGICAL SECTION (Hon. Secretaries—J. Lewin Payne, H. W. Trewby, D. P. Gabell): at 8 P.M.

Paper:

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Papers:

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Dr. C. J. Macalister and Dr. H. C. Ross: On a Stimulant for the Leucocytes of Healthy Persons in the Blood-plasma of Patients suffering from Carcinoma.

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SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M [illegible] Nov. 18th): [illegible] on Disease, with Special Reference to [illegible], and Diseases of the Nervous System.

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SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles): at 5 P.M.

Papers:

Dr. Cecil E. Finny: Duodenal Ulcer with Perforation in a Child Two Months old (with specimen).

Mr. Duncan C. L. Fitzwilliams: *A Case of Congenital Scoliosis.*

Specimens:

Dr. Edmund Cautley: Congenital Morbus Cordis (two specimens).

Dr. George Carpenter: (1) Congenital Dilatation of the Colon in a Child of Six Months; (2) Septic Meningitis and Cerebral Hæmorrhage in an Infant.

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Dr. G. A. Sutherland: (1) A Case of Cirrhosis of the Liver; (2) *A Case of Muscular Hypotonus.*

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EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

Paper:

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N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

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THURSDAY.—4 P.M., *Sir Jonathan Hutchinson: Clinique (Surgical).* 5.15 P.M., [illegible] Angina Pectoris—its Diagnosis, [illegible]

FRIDAY.—4 P.M [illegible]

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MONDAY.—10 A.M., Mr. Etherington-Smith: Demonstration on *Surgical Cases.* 12 noon, Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. *2.30* P.M., *Operations.* 5 P.M., Lecture:—Dr. Saunders: *Clinical (with cases).*

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WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. *2.30* P.M., *Operations.* Dr. Robinson: *Diseases of Women.* 5 P.M., *Lecture:—Dr.* Beddard: Practical Medicine.

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LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., *Operations.* 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. *Out-patient* Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Mr. Turner: The Late Complications of Appendicitis.

TUE[illegible] Operations. 2.15 P.M., *Dr. R. Wells:* Medicine. [illegible] Morris: [illegible] A.M., [illegible] aylor: [illegible] atient [illegible]

WE[illegible] Eye. [illegible] Eye [illegible] *3.30* P.M., *Special* Lecture:—Mr. [illegible] Affections.

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FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. E. Bradford: Medici[illegible] Mr. McGavin: Surgery. *Out-patient* Demor[illegible] nonstrations:— [illegible] 12 noon, Skin.

SATURDAY.—2 P.M., Ope[illegible] 10 A.M., Surgical and Medical. *11 A.M.,* Eye.

NORTH-EAST LONDON *POST-GRADUATE* COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. *T. R. Whipham*); Nose, Throat, and Ear (Mr. *Carson*); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., *Medical Out-patient* (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). [illegible]

WEDNESDAY.—*Clinics:*—2.30 [illegible] Whipham); Skin (Dr. G. [illegible] Dr. S. J. Gilfilla[illegible] 4.30 P.M., Dr. S. J. Gilfilla[illegible] Disease at the Colney Hatch Asylum.

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Discussion (adjourned from Nov. 18th):
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SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Mr. Turner: The Late Complications of Appendicitis.

[illegible] 2.15 P.M., Dr. R. Wells: Medicine. [illegible] Surgery. 4 P.M., Sir M. Morris: [illegible] t-patient Demonstrations:—10 A.M., [illegible] noon, Skin. [illegible] ions. 2.15 P.M., Dr. F. Taylor: [illegible] argill: Ophthalmology. Out-patient [illegible], Surgical and Medical. 11 A.M., Eye. [illegible] Cargill: Syphilitic Eye [illegible]

[illegible], Dr. G. Rankin: Medi[illegible] rgery. 4 P.M., Dr. Sale[illegible] emonstrations:—10 A.M., [illegible] nd Throat. [illegible] M., Dr. R. Bradford: [illegible] Surgery. Out-patient [illegible] Medical. 12 noon, Skin. [illegible] ient Demonstrations:—[illegible], Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

[illegible] urgical Out-patient (Mr. J. H. Evans). [illegible] tient (Dr. T. R. Whipham); Nose, [illegible] rson); X Rays. 4.30 P.M., Medical [illegible] Whiting). [illegible] edical Out-patient (Dr. A. G. Auld). [illegible] 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical (Mr. W. Edmunds); Gynæcologic[illegible] (Dr. T. R. [illegible] P. Brooks).

WEDNESDAY.—Clinics:—2.30 [illegible] Whipham); Skin (Dr. G. [illegible] 4.30 P.M., Dr. S. J. Gilfilla[illegible] of Mental Disease at the Colney Hatch Asylum.

appears that a farmer who sells "fore milk" renders himself liable to prosecution for deficiency of fat, 3 per cent. being the limit set by the Board of Agriculture.

Hospital Saturday Collections at West Bromwich.

The total amount raised during the year was £2207, of which £2153 were paid to the hospital. This is a slight advance upon the previous year. There were increased subscriptions from the works in the district, the Wednesbury Committee also collected a larger amount than in previous years, and there would have been a much better result than that actually obtained had it not been that the receipts from the charity sports fell much beneath expectations.

Nov. 17th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool School of Tropical Medicine.

ON Saturday last, Nov. 14th, the twenty-first expedition of the Liverpool School of Tropical Medicine left Bristol for Jamaica by the s.s. *Port Henderson* belonging to the Imperial Direct West India Mail Service Co., Limited. The expedition consists of Mr. R. Newstead, M.Sc., A.L.S., F.E.S., lecturer in economic entomology in the University of Liverpool, and Dr. W. T. Prout, C.M.G., late principal medical officer of Sierra Leone. Later the expedition will be joined by Mr. A. H. Hanley, C.M.G., late principal medical officer, Southern Nigeria. The objects of the expedition are twofold, as it is partly medical and partly entomological. Mr. Newstead will undertake the following duties: 1. To study the bionomics of cattle ticks and to advise some methods of control. 2. To undertake the investigation of those scale insects which are at the present moment threatening the citrus and cocoa and coco-nut cultivation in the Island of Jamaica, and to advise some method of control. 3. To make a collection of the biting flies and ticks of the island for the use of students attending the course of instruction at the Liverpool School of Tropical Medicine. Dr. Prout and Mr. Hanley will investigate the following points—viz.: 1. The prevalence of filaria in Jamaica. 2. The prevalence of malaria in especially malarious districts of the island. 3. Measures for prevention of mosquito-borne diseases where feasible. 4. Preliminary investigation into the so-called "vomiting sickness" amongst children. Sir Alfred Jones entertained Dr. Prout and Mr. Newstead at luncheon a few days before the expedition started, a large party being present, among whom were Sir Henry Blake, ex-Governor of Jamaica, Sir Edward Evans, Sir Rubert W. Boyce, and Professor Ronald Ross. During the luncheon a telegram was received from Colonel Seely, wishing the expedition all success.

Lancashire's Birth-rate: the Lowest on Record.

The lowest birth-rate on record, reduced infant mortality, and a lower general death-rate are the leading features in the annual report of Mr. E. Sergeant, medical officer of health of Lancashire. The death-rate of the year 1907 was 14·4 per 1000 of the population, which is fractionally less than in 1906 and 1·6 below the average for the ten years 1897–1906. The infant deaths under one year were 125 per 1000 births, a decrease from 139 in the previous year, the average for the ten years being 154. Although a falling birth-rate is usually accompanied by a reduced infant mortality evidence is not wanting that conditions affecting infant life, both in the home and home surroundings, are much better than a few years ago. The birth-rate, equal to 24·23 per 1000 of the population, is the lowest recorded and shows a decrease of 0·76 compared with 1906 and 2·34 compared with the ten years 1897–1906. The birth-rate of the county is 2·1 per 1000 below the rate for England and Wales.

Plague in Liverpool.

At a meeting of the health committee held on Nov. 12th the chairman, referring to the cases of plague which had occurred in the city, assured the citizens that they could rest content that the port sanitary authority was doing everything possible to arrest the spread of the disease. It was a matter of great importance to the port. He had been in touch with the medical officer of health and the disease was being carefully watched. The disease had been practically confined to one coal barge and he stated that the port appeared to be now quite safe and out of danger. Last year the death-rate of the city was low and this year he thought it would be a shade lower.

Sir William Hartley and the Municipal Treatment of Tuberculosis.

Speaking at a dinner in honour of Alderman Menlove, the chairman of the health committee, held on Nov. 12th, Sir William Hartley made a strong plea for the municipal treatment of tuberculosis, and advocated the provision of a sanatorium for working-class patients from Liverpool and the provision of a fund for maintaining the families of working men while under curative treatment in an early stage of the disease. Towards such a fund he offered to subscribe £5000 provided an additional £10,000 were subscribed within a reasonable time when the scheme was matured.

The Hospital Saturday and Sunday Funds.

The Liverpool Hospital Saturday and Sunday Funds have made their final apportionment of the 1907-08 collections, the sums, which are supplementary to earlier distributions, ranging from £1240 to the Royal Infirmary to £14 19*s.* to the St. George's Skin Hospital. The total of the present contributions is just short of £6000, the earlier distributions amounting to £10,000. The total amounts contributed to the various hospitals reached the sum of £15,980.

Nov. 17th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Sir Thomas Oliver.

Dr. Thomas Oliver will be most heartily congratulated upon the conferment of the honour of a knighthood upon him by the King. Dr. Oliver's work in connexion with industrial diseases was specially mentioned by the King in his speech at the opening of the new buildings of the Royal Infirmary on the Town Moor in July, 1906, and the present further acknowledgment of the position held by Sir Thomas Oliver in that branch of medical science will be received by all who know him or his work with very great pleasure and satisfaction. I cannot refrain also from congratulating the College and infirmary upon the fact that the work of two of their members has within so short a space of time been recognised in so signal a manner, for it is but a couple of months since Professor George R. Murray left this city to accept the invitation of Manchester to occupy the chair of medicine in its University. The honour which Sir Thomas Oliver has now received at the hands of the King, coupled with the recognition given to his work by the profession in selecting him as the President of the Section of Industrial Diseases at the last meeting of the British Medical Association at Sheffield, also raises another point—viz., the question of the teaching of industrial diseases. This branch of medical knowledge is almost, if not entirely, ignored in the ordinary course pursued by the student reading for his qualifications to practise medicine, and that in spite of the fact that, in the large industrial towns at least, a large part of the disease which the general practitioner is called upon to treat is, now that the "zymotic" diseases are cared for by the State, more or less directly connected with the occupation followed by the patient. The time has certainly arrived when the influence of occupation upon the health of the worker should be more closely studied and the results already obtained made more readily accessible to those entering the profession. I wish that Newcastle with its unrivalled facilities for the study and teaching of the diseases of occupation could set an example in this direction and institute a department of industrial diseases. Such a step would not only be an indication that the University is alive to its opportunities but would also be for the very material welfare of those who form the vast bulk of the population of the district.

The University of Durham Act, 1908.

Mr. J. Bruce Williamson, barrister-at-law, has been gazetted as secretary to the Commissioners appointed under this Act, of whom the Duke of Northumberland is chairman.

Royal Army Medical Corps.

The *Gazette* of Oct. 30th contains the announcement that

Communications, Letters, &c., have been received from—

A.—*Monsieur J. Astier, Asnières*; Messrs. G. H. Adams and Co., Bournemouth; Annals Publishing Co., Boston, Manager of; Messrs. R. Anderson and Co., Lond.; Mr. Adolpho Abrahams, Lond.; Mr. K. S. Agnihotri, Panhala; Messrs. Allen and Hanburys, Lond.; Mr. R. J. Albery, Lond.

B.—Mr. F. E. Bennett, Margate; Dr. G. B. Buchanan, Glasgow; Messrs. C. Barker and Sons, Lond.; Mr. J. W. Benson, Lond.; Dr. Edgar G. Barnes, Eye; Dr. R. Allan Bennett, Torquay; Messrs. John Bell and Croyden, Lond., Managing Director of; Messrs. Burroughs, Wellcome, and Co., Lond.; Bristol Medico-Chirurgical Society, Hon. Secretary of; *Dr. W. Blair Bell, Liverpool*; Messrs. Blundell and Rigby, Lond.

C.—Mr. H. M. Cross, Liverpool; Coventry and Warwickshire Hospital, Secretary of; Messrs. A. H. Cox and Co., Brighton; Clark's College, Lond., Secretary of; Miss E. S. Cooke, Lond.; Mr. H. A. Collins, Croydon; *Continental Tyre and Rubber* Co., Lond.; Cardiff City Mental Hospital, Whitchurch, Clerk to the; Mr. A. Couchman, Lond.; Dr. D. Douglas-Crawford, Liverpool; Cornwall County Council Sanitary Committee, Truro, *Chairman of*; *Cameleon Iron Co.*, Lond., Director of; County Asylum, Gloucester, Deputy Medical *Superintendent of*; Mr. Frank Coleman, Lond.; Dr. Robert Carswell, Lond.

D.—Mr. J. F. Dobson, Leeds; Messrs. Dulau and Co., Lond.; Dr. Dubar, Paris; Messrs. Davy, Hill, and Hodgkinson, Lond.; Dorset County Council Education Committee, Dorchester, Secretary of; Mr. E. Darke, Lond.; Dr. R. Doyne, *Oxford*; Dairy Supply Co., Lond., Managing Director of; Dr. Delefosse, Paris; *Dundee Advertiser.*

F.—*Dr. R. Hingston Fox, Lond.*; Mr. G. P. Francis, Brecknock; Dr. W. E. St. L. Finny, Kingston-upon-Thames; F. S. M.; Messrs. Fairchild Bros. and Foster, Lond.; Dr. Theodore Fisher, Sidcup; Mr. N. W. Fairles-Humphreys, Montgomery; Dr. P. J. Freyer, Lond.; Dr. Duncan C. L. Fitzwilliams, Lond.

G.—Mr. Harold Grimsdale, Lond.; Dr. G.; Sir James Grant, Ottawa; Mr. H. Bellamy Gardner, Lond.; Mr. A. R. Gunn, Ullapool; Mr. H. J. Godwin, Winchester; Gowanda State Homœopathic Hospital, Gowanda, Steward of; Dr. A. Gradenwitz, Berlin; Sir W. R. Gowers, Lond.; Messrs. Giles, Schacht, and Co., Bristol; *Gt. Eastern Railway Co.*, Lond., Continental Traffic Manager of; G. B. Chocolate Co., Lond.

H.—Mr. James Hughes, Denbigh; Dr. A. Haydon, Lond.; Mr. F. S. D. Hogg, Rickmansworth; Hygienic Co., Lond., Manager of; Dr. J. B. Hurry, *Reading*; Messrs. Huntley and Palmer, Reading; Hospital for Consumption, &c., Lond., Secretary of; Hastings Education Committee, Clerk to the; Hull Corporation, Town Clerk of; Mr. H. C. Hicks, Bristol; Dr. Charles Hall, Dewsbury.

I.—Incorporated Society of Medical Officers of Health, Lond., Secretary of; *Indian Medical Record*, Calcutta, Manager of.

J.—Mr. T. Jenner, Lond.; J. W. L.; Dr. O. Jennings, Paris; Messrs. John F. Jones and Co., Paris; Mr. T. O. Jones, Ruthin.

K.—Dr. Charles Kerr, Dundee; Mr. Curt Kabitzsch, Würzburg; Mr. C. B. Keetley, Lond.; Messrs. Kutnow *and Co., Lond.*; Dr. Kuhn, Cassel; K. L. S.; *Mr. R. Lawford Knaggs, Leeds.*; Messrs. R. A. Knight and Co., Lond.; Dr. James Kerr, Lond.; Mr. R. Keith, Lond.

L.—Mr. H. K. Lewis, Lond.; Mr. C. P. Lankester, Guildford; Dr. J. C. Logan, Pittsburg; Loughborough and District General Hospital, Secretary of; Colonel F. J. Lambkin, R.A.M.C., Lond.; Dr. Arthur Latham, Lond.; Mr. J. B. Lamb, Lond.; Leicester Infirmary, Secretary of; Mr. T. Laffan, Cashel.

M.—Dr. C. K. Millard, Leicester; *Mr. E. W. Marshall, Manchester*; Maltine Manufacturing Co., Lond.; Mr. J. Murray, Lond.; Mr. W. J. Midelton, Bournemouth; M. M. N.; Mr. Rutherford *Morison, Newcastle-on-Tyne*; Sir Donald MacAlister, Glasgow; Mr. J. H. Morris-Jones, Castellmal; Mr. G. P. Mudge, Lond.; Dr. Robert Muir, Glasgow; Mr. Charles A. Morton, Clifton; Dr. Charles J. Macalister, Liverpool; Manchester *Hospital* for Consumption, Secretary of; Manchester Clinical Society, Hon. *Librarian and Editor of*; Dr. F. W. Mott, Lond.

N.—*National Food Reform Association*, Lond.; Nurses' Co-operation, Lond., Secretary of; Newark-on-Trent Hospital, Secretary of; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Dr. E. Ott, Meran, Tyrol; Odol Chemical Works, Lond.; Dr. Caroline A. Osborne, Worcester, Massachusetts; Oxford Medical Publications, Lond., Managers of.

P.—Dr. J. J. Perkins, Lond.; Mr. A. C. Parsons, Earlswood; Mr. J. Hogarth Pringle, Glasgow; Mr. Constant *Ponder*, Cambridge; Messrs. Peacock and *Hadley*, Lond.

R.—*Mr. B. P. Reilly, Plumstead*; Registered Nurses' Society, Lond., Secretary of; Messrs. Reynolds and Branson, Leeds; Real Instituto Bacteriologico Camara Pestana, Lisbon, Director of; Royal Hospital for Incurables, *Dublin, Registrar of*; Royal College of Physicians, Lond., Registrar of; Royal Exchange Assurance, Lond., Secretary of; Royal College of Surgeons in Ireland, Dublin, Registrar of; Royal Meteorological Society, Lond., *Assistant* Secretary of; Research Defence Society, Lond., President of.

S.—*Mr. M. Stewart*, Pitlochry; Mr. H. W. Scriven, Lond.; Star Engineering Co., Wolverhampton; Mr. S. Sugden, Norwich; Mr. N. I. Spriggs, Shrewsbury; Sheffield University, Registrar of; Dr. D. Sandler, Constantinople; Spier's Service *Advertisement* Agency, Lond.; Scholastic, Clerical, &c., Association, Lond.; Society for the State Registration of Trained Nurses, Lond., Hon. Secretary of; South-West London Medical Society, Hon. *Secretary* of; Mr. J. H. Settle, Bradford; Dr. G. F. Still, Lond.; Mr. F. W. Sears, Lond.; Société de Golf du Touquet, Lond., Secretary of.

T.—Mr. A. H. Tubby, Lond.; Dr. phil. P Thomsen, Dresden; Mr. R. D. Thomas, Welshpool; Lieutenant-Colonel F. Wyville Thomson, I.M.S., Linlithgow; T. F.

U.—Mrs. Uff, Leighton Buzzard; Dr. A. R. Urquhart, Perth; [illegible]

V.—[illegible]

W.—Dr. A. Glover Williams, Lond.; Messrs. Willows, Francis, Butler, and Co., Lond.; Mr. H. L. Watson Wemyss, Edinburgh; West Riding County Council, Wakefield, Clerk to; Willesden Urban District Council, Clerk to the; Dr. F. R. Walters, Farnham; Mr. Evan Williams, Bala; Messrs. Willing, *Lond.*

Z.—Mr. Rudolf Zinsmeister, Straubing.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. E. F. Ackery, Lond.; Ashton-under-Lyne Union, Clerk to the; A. F. M.; A. W.; Apothecaries' Hall of Ireland, Dublin, Secretary of.

B.—Mr. J. E. L. Bates, Lond.; *Dr. C. W. J. Bell, Worcester*; Mr. P. A. Bradshaw-Isherwood, Headcorn; Bolingbroke Hospital, Lond., Hon. Secretary of; Bishopstone House, Bedford, *Secretary of*; Bristol Royal Infirmary, Secretary of; Major G. Bent, R.A.M.C., Fleet; Dr. J. Barnicot, Hitchin; Mr. F. A. Brodribb, Yattendon; Dr. D. Bone, Cartmel; Dr. T. B. Bolton, Winsford; Dr. H. C. Bastian, Chesham Bois; Bedford County Hospital, Secretary of.

C.—Miss C. Christie, Lond.; [illegible] Clerk to the; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Mr. G. H. Dunford, Newport; Messrs. Dowie and Marshall, Lond.; D. B. F.; Devon County Asylum, Exminster, Clerk to the; Mr. J. T. Davenport, Lond.; Dalrymple House, Rickmansworth, Medical Superintendent of; North Devon Infirmary, Barnstaple, Secretary of.

E.—East Suffolk and Ipswich Hospital, *Secretary of*; E. E. L.; E. W.; "Epsilon," Brixton; E. H. R.; E. B. L.

F.—*Surgeon A. F. Fleming, R.N.*, Devonport; Fareham Rural District Council, Clerk to the; Mr. Percy V. Fry, Sowerby Bridge; F. W.

G.—Gordon Hospital for Fistula, Lond., *Secretary of*; *Grove House Asylum*, Church Stretton, Medical Superintendent of; Mr. C. J. Galbraith, Chingford; G. M. L.; G. R. Y.; Dr. W. M. Glanville, Lond.; Mr. E. Gooch, Lond.

H.—Dr. T. C. Hayes, Lond.; *Hereford Corporation, Accountant to the*; H. S.

J.—Mr. W. Judd, Lond.; J. J. W.; J. V. R. R.; Mr. L. J. Jarvis, Lond.

K.—Dr. Knight, Edinburgh; Mrs. Kayser, Fleet; Kent and Canterbury *Hospital, Secretary of.*

L.—Mr. W. W. Linney, Croydon; Leeds Hospital for Women and Children, Secretary of; Dr. C. W. L. Luethgen, Northwood; Dr. A. Lewthwaite, Lond.; Messrs. Leman and Sons, Nottingham; Mr. A. *Ludgater*, Braintree; Leeds University, Registrar of.

M.—Mr. W. E. Miles, Lond.; "Medicus," Great Wakering; Dr. M.; M. J.; Captain R. McCarrison, I.M.S., *Lond.*; Manchester Northern Hospital for Women, Secretary of; Messrs. J. Menzies and Co., Edinburgh; Dr. D. W. K. Moody, Lond.; *Dr. J. M. H. Macleod, Lond.*; Monkwearmouth, &c., Hospital, Secretary of; Mr. J. Mason, Knowle; Dr. Mitchell, Lond.; Messrs. C. Mitchell and Co., Lond.; Messrs. J. Menzies and Co. Glasgow.

N.—[illegible] pital, Secretary of; Norfolk Education Committee, Norwich, Accountant to the; Northern Medical *Association*, *Glasgow*, Secretary of.

O.—Oldham Infirmary, Secretary of.

P.—Dr. J. M. Pardey, Launceston; *Peckham House*, Lond., Secretary of; P. L.; Mr. J. Pointon, Southport; *Papkerchief* Syndicate, Lond.

R.—*Mr. S. E. Roberts, Lond.*; *Dr. F. W. Forbes Ross, Lond.*; Royal Society of Medicine, Lond., Secretary of; Miss C. Rowden, Oxford; Mr. H. P. Rees, Lond.; R. B.; Rhondda Urban *District* Council, Accountant to the.

S.—Dr. C. Stiebel, Bradford; Smedley's Hydro Co., Matlock, Managing Director of; Salford Royal Hospital, Secretary of; Rev. J. B. Sidgwick, Ashby Parva; "Surgeon," *Torquay*; Messrs. G. Street and Co., Lond.; Scottish Poor Law Medical Officers' Association, Glasgow, [illegible] to the; S. T., Leeds; [illegible] Savory and Moore, Lond.

T.—Major R. G. Turner, I.M.S., Jhansi; Mrs. Taylor, Lond.; Mr. J. Thin, Edinburgh; Messrs. Truslove and Hanson, Lond.

V.—Victoria Hospital for Children, Lond., Secretary of; Dr. G. R. Vicars, Wood Dalling.

W.—Mr. W. Walker, Mid Calder; Mr. C. H. Wilson, Ogmore Vale; Dr. G. B. Wood, Sandown; Worcester County and City Asylum, Powick, Clerk to the; *Dr. C. Walker, Liverpool*; West Suffolk General Hospital, Bury St. Edmunds, Secretary of; Mr. W. F. A. Walker, Dinas Mawddwy; Messrs. Webb and Neilson, Enfield; W. T. H.; Messrs. Wands, Leicester.

X.—X. Y., Prestatyn.

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delusional insanity in whom recovery was hopeless. The Gartloch recovery rate of 39·6 per cent. is well above that of the Scottish Royal and District Asylums. As usual, alcohol is reported as appearing to be the factor in more cases than any other cause. Parental drunkenness is also a striking cause.

Death of Mr. John Dougall, M.D. Glasg., F.F.P.S. Glasg.

The death of Dr. John Dougall took place at Glasgow on Nov. 14th. Dr. Dougall studied at the University of Glasgow and graduated M.B., C.M. in 1869 and M.D. two years later. He became a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1876, and afterwards was appointed lecturer in materia medica in the school of medicine of Glasgow Royal Infirmary, and when that school was transformed into St. Mungo's College he retained the position and occupied it until the time of his death. For many years he was one of the visiting physicians of the Royal Infirmary, an office from which he retired five years ago. Subjects to which he directed special attention were the possibility of manufacturing vaccine apart from animals and the methods of disinfection. He also wrote a number of verses which were published in book form. He was a keen lover of nature, and was a member of both the Geological and Natural History Societies of Glasgow.

Bequests for Paisley Infirmaries.

Under the will of the late Mr. Samuel Young of Paisley local infirmaries have benefited considerably. The Royal Alexandra Infirmary Endowment Fund gets £600 and the building fund £400, the Royal Victoria Eye Infirmary gets £400, and the Paisley and District Association for the Prevention of Consumption and other Forms of Tuberculosis £200.

University of Aberdeen: Appointment to the Chair of Pathology.

As announced in THE LANCET last week the King has been pleased, upon the recommendation of the Secretary for Scotland, to appoint Mr. George Dean, M.B., C.M., chief bacteriologist at the Lister Institute of Preventive Medicine, to the chair of pathology in the University of Aberdeen, vacant by the resignation of Professor D. J. Hamilton. Professor Dean, who is a native of Aberdeenshire, graduated M.A. at the University of Aberdeen in 1885 with honours in natural science, and M.B., C.M., with honours in 1889. After graduation he studied in Berlin under Professor Pfeiffer and Professor Virchow and in Vienna. In 1891 he was appointed assistant to Professor Hamilton in the University of Aberdeen and held this post until in 1897 he was appointed bacteriologist in charge of the serum department of the Lister Institute of Preventive Medicine. In 1906 Dr. Dean was promoted to the post of chief bacteriologist to the Lister Institute. He has acted as examiner in pathology at the University of Aberdeen and examiner in pathology and bacteriology at the Royal College of Veterinary Surgeons. He has published numerous papers dealing with research on diphtheria, tetanus, tuberculosis, plague, typhoid fever, and on various questions connected with immunity. The appointment has given great satisfaction in Aberdeen University circles.

The Treatment of Consumption in Aberdeen.

At the monthly meeting of the Aberdeen city parish council held on Nov. 10th, the adoption of a report by the poor-house committee was moved and seconded, which report recommended that the upper male and female wards at the south end of the general hospital at the poor-house should be set aside for the treatment of curable cases of consumption and for the isolation of more advanced cases; and that it be remitted back to the poor-house committee, with powers to carry out the necessary alterations of the wards at a cost not exceeding £190. An amendment was moved and seconded that "No further action be taken with this matter meantime." 19 voted for the adoption of the report and 9 against. The wards are capable of accommodating 20 male and 20 female patients, and the following alterations will require to be made: (*a*) the Plenum system of heating and ventilation shut off from both wards; (*b*) the heating carried out by steam radiators; (*c*) ventilation obtained by altering the windows to open by quadrants from the upper horizontal sash, with additional inlet ventilators through the walls at the rear of the radiators; and (*d*) the erection of a roof over the balcony at the south end of each ward.

Nov. [illegible]th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Government Grants to Dublin Hospitals.

AT a meeting of the South Dublin guardians on Nov. 11th the following motion was proposed by one of the members:—

> That in our opinion the time has come when the system of giving the Government grants to our city hospitals should be revised; that in future all our city hospitals should receive a share of the said grant in proportion to the number of poor people relieved and treated by them.

He also appended a suggestion that copies of the resolution should be sent to the Chief Secretary for Ireland, the Lords of the Treasury, and the various members of the Dublin corporation. He then proceeded to point out that the 269 beds of Cork-street Fever Hospital had, on an average, but 148 of these occupied. The number of patients during last year was 1997. There were no dispensary patients. The Government grant towards maintenance was £2500. In Steevens' Hospital there were 230 beds, and the average number occupied was 173. The number of intern patients during last year was 1566, and that of those treated in the dispensary was 13,804. The Government grant to this hospital was £1300. In the Meath Hospital there were 147 beds, and the average number occupied was 106. The intern patients last year amounted to 1446 and the dispensary cases to 16,463. The Government grant was £600. There were 97 beds in the Rotunda Hospital and the average number occupied was 71. The number of patients during last year was 2435; that of the dispensary cases 12,366. The Government contributed £700. In the Royal Hospital for Incurables there were 217 beds and the average number occupied was 207. During the past year the number of patients was 528 and the Government grant was £250. In the Mater Misericordiæ Hospital there were 335 beds and the average number occupied was 310. During the past year there were 3852 intern and 21,240 dispensary patients; while the Government made no contribution whatever to its maintenance. St. Vincent's Hospital had 145 beds and the average number occupied was 96. Last year there were 1847 intern and 20,539 dispensary patients and there was no Government grant. The Holles-street Hospital had 46 beds, of which the occupied average was 36. The intern patients during the past year numbered 828 and the dispensary cases 4285. Again no Government grant. The Hospice for the Dying had 110 beds, of which the average number occupied was 96. There was no Government grant. The case was surely one for re-adjustment. The motion was duly seconded and carried. All readers must agree that in a democratic age the influences of social ascendancy, religious bigotry, racial antipathy, and political jobbery should not be allowed to hamper facilities in the treatment of the sick and suffering, which are always cheerfully afforded by a sympathetic and charitable public. That they have done so in Ireland cannot be denied; it is also obvious that they cannot long continue to do so.

Anti-Tuberculosis Crusade: the Progress of the "Lecture Van."

A "tuberculosis caravan," which has been provided by the committee of the Women's National Health Association of Ireland, is visiting various parts of the country, and lectures will be delivered on the best method of combating consumption by the accompanying medical man. The opening ceremony took place at Kilcool, county Wicklow, in the presence of a large gathering of the inhabitants. From Kilcool it moved to the more important centre of Newtownmountkennedy. Lady Aberdeen paid a formal visit to this station on Nov. 10th and was received in the school-house by a representative gathering of local gentry and others. The chair was occupied by the Rev. Canon Drought. Miss Tottenham, president of the local subcommittee of the Women's National Health Association, was present, with a large number of the members. Loud and hearty greetings followed Her Excellency's entrance into the school-room and the chairman expressed the general appreciation of her exertions "in pursuance of her great crusade against the terrible ravages of tuberculosis." Father Duggan pointed out that "the work that had been done was already bearing fruit in the district because he saw in Kilcool the day before that many of the windows of the houses were open"—a statement which being thereby put into a position to take up more sugar than it might otherwise do.

The bearings connected with the

DISPOSAL OF CARBOHYDRATE BY SYNTHESIS INTO PROTEIN

at the seat of absorption have been fully discussed in my "Carbohydrate Metabolism and Diabetes" already referred to (*vide* pp. 54 to 64). The lymphocyte is the agent concerned in the process, and the method by which the synthesis is effected is by bioplasmic growth. It is known that, in the mucous membrane of the intestine, there is a very active growth and renewal of lymphocytes carried on in concurrence with the absorption of the products of digestion. The rôle of the lymphocyte found in this situation is to grow upon the absorbed material supplied to it from the food. As occurs in conformity with a general law applying to living matter, the bioplasmic molecules take to themselves, from the molecules around, those of suitable configuration for being linked on by the combining influence of affinity. Thus the sugar molecules become built into the newly formed protein complex, and in this state are carried, within the lymphocyte, into the circulatory system.

What next occurs is that the lymphocytes undergo autolysis. Proof is afforded that this phenomenon actually takes place by the fact of the systematic disappearance that is noticeable after their entry into the blood. Accompanying each intake of food, there is a flow of lymphocytes into the circulatory system, which is followed by a subsidence till a fresh intake of food occurs. Thus is afforded a source for the fibrinogen, globulin, and albumin of the blood. It cannot be conceived that these bodies arise otherwise than through the medium of a preceding bioplasmic formation, and viewed in this way, the phenomena, as I have shown in the work referred to, not only receive the support of observation, but fit in consistently with the line of procedure that meets what is wanted in connexion with the matter. Locked up in the protein constituents of the blood in the manner depicted, the sugar molecule derived from the food is placed in a position to be transported from the seat of absorption to that of utilisation without running off with the urine.

I have been speaking about the course taken by the carbohydrate portion of the food, and it is interesting to note

THE CLOSE ANALOGY THAT EXISTS

between what occurs in connexion with this portion of the food on the one hand, and the nitrogenous portion on the other. With both, the first step is to place them, by enzyme action within the alimentary canal, into a suitable state for absorption and subsequent bioplasmic incorporation. I strongly hold the opinion which I urged in my "Physiology of the Carbohydrates" published in 1894, that what next occurs, as well for the products of digestion coming from the nitrogenous principles of food as for those coming from carbohydrate matter, is their assimilation, or re-synthesis, at the seat of absorption, into the proteins that are destined to be transmitted through the absorbent system to become proteins of the blood.

In former times, it was considered that it sufficed for the breaking-down process by enzyme action to be carried as far as the stages of albumose and peptone,—the extent to which it is carried by pepsin, and to which it is in the main carried by trypsin. Latterly, however, the view has sprung up that hydrolysis is carried to the production of the amino-acids; erepsin, which is discoverable in the mucous membrane of the intestine, being the agent that possesses the power of accomplishing this supplementary work. Cohnheim,[2] after showing the existence of erepsin in the mucous membrane of the intestine, speaks of it as holding an analogous position in connexion with protein digestion to that held by glucase in connexion with starch digestion. Whilst the latter, it is said, hydrolyses maltose, derived from the action of diastase, into glucose, erepsin hydrolyses the albumose and peptone, resulting from the peptic and tryptic digestion of protein, into the amino-acids, and in keeping with this view, it is stated to be found that health and nitrogenous equilibrium are capable of being maintained in animals fed upon these products in place of the parent protein.

What is wanted is that the molecules produced, whatever they may be, should be of a configuration to render them susceptible of being

TAKEN ON BY THE BIOPLASMIC MOLECULAR COMPLEX

in which the metabolic action at the foundation of the phenomena of life occurs. In the language of the side-chain theory, bioplasm consists of complex molecules, made up of a functioning centre provided with innumerable arms or side-chains with ends of various configurations adapting them for junction with suitably constructed food-stuff and other molecules. It is within the atomic groupings thus put together that the interactions occur that give rise to oxidation, and thence the development of the various manifestations of energy observed to take place. The theory involves the entry and storage of oxygen in the molecular complex, as well as the oxidisable materials, and as the two become used up, they are replaced by a fresh taking on. With arms having full-up side-chains tacked on, no capacity exists for the taking-on of outside food-stuff molecules, a state of things that may be likened to that which exists in connexion with the chemistry of the inorganic or non-living kingdom of Nature. A compound with its bonds of union in a satisfied state is not in the position for the occurrence of further linking-on, but with free or unsaturated bonds, linkage can occur with anything that is suitably conditioned for being taken on.

Food-stuff molecules, then, require to be incorporated within the bioplasmic molecules of the different components of the body as a preparatory step to subjection to utilisation. What actually takes place after entry into the molecule is, at present, altogether beyond our power of forming a conception. It is evident, however, from the products met with that there must indeed be a very complicated play of changes occurring. Whilst without cognisance of what in detail is going on within, we can nevertheless frame an idea of the general actions taking place by giving attention to the bodies that go in and those that come out. Besides oxidations, hydrolyses, and condensations, the capacity for re-groupings exists, rendering the entry of one body, as for instance a carbohydrate, and the exit of another, as for instance fat, in like manner to what occurs upon a more simple scale in the case of enzyme action, intelligible. Apparently, in

THE FUNCTIONING OF THE MOLECULAR COMPLEX,

side-chains taken on may be afterwards worked off and renewed without the disruption of the centre of the molecule, whilst circumstances may exist to conduct on to the occurrence of a full breaking-down.

The close parallelism that exists between starch and protein in relation to the course of events noticeable in connexion with their application as food principles, is exceedingly striking. They both become hydrolysed and broken down in a corresponding way by enzyme action to fit them for absorption, and for being subsequently taken on by, and incorporated into, the bioplasmic molecule wherein the metabolic actions occur that give issue to the phenomena of life. I think all are now agreed upon the point that entry of the food-stuff molecule, whatever its nature, into the bioplasmic complex is a necessary step towards utilisation, and this being the case, the preliminary procedures in reality merely make provision for the accomplishment of the end to be attained.

The knotty point connected with the subject now presents itself for consideration.

IN WHAT STATE DOES THE FOOD-SUPPLY TRAVEL

from the seat of absorption to that of utilisation in the tissues? I have put the question in a plainly expressed form, and it requires to be frankly met. Under the old view, certainly as regards carbohydrate, the absorbed material was looked upon as being transported through the circulation in an unchanged or free molecular state. I have shown how such a state of things is inconsistent with escape from running off with the urine during the passage of the blood through the kidney, as occurs in connexion with diabetes. Upon the principle of a similar line of action, it has been said of protein, since attention has been given to erepsin, that digestive disruption is carried to the amino-acids, and that it is by the transport of these in a free state through the circulation that the tissues obtain their nitrogenous nutrient supply. If such occurred, the urine ought to reveal it in the same manner as with sugar. We know, when a pathological source for leucine, tyrosine, &c., exists, that they readily enough find their way into the urine, and what is to keep them back if they passed through the circulation for the purpose of transmitting nitrogenous material from the food to the tissues. Even much larger molecular bodies than the amino-acids pass into the urine if they reach the delusional insanity in whom recovery was hopeless. The Gartloch recovery rate of 39·6 per cent. is well above that of the Scottish Royal and District Asylums. As usual, alcohol is reported as appearing to be the factor in more cases than any other cause. Parental drunkenness is also a striking cause.

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[2] Zeitschrift fur physiologische Chemie, Band xxxiii., p. 451, 1901.

Death of Mr. John Dougall, M.D. Glasg., F.F.P.S. Glasg.

The death of Dr. John Dougall took place at Glasgow on Nov. 14th. Dr. Dougall studied at the University of Glasgow and graduated M.B., C.M. in 1869 and M.D. two years later. He became a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1876, and afterwards was appointed lecturer in materia medica in the school of medicine of Glasgow Royal Infirmary, and when that school was transformed into St. Mungo's College he retained the position and occupied it until the time of his death. For many years he was one of the visiting physicians of the Royal Infirmary, an office from which he retired five years ago. Subjects to which he directed special attention were the possibility of manufacturing vaccine apart from animals and the methods of disinfection. He also wrote a number of verses which were published in book form. He was a keen lover of nature, and was a member of both the Geological and Natural History Societies of Glasgow.

Bequests for Paisley Infirmaries.

Under the will of the late Mr. Samuel Young of Paisley local infirmaries have benefited considerably. The Royal Alexandra Infirmary Endowment Fund gets £600 and the building fund £400, the Royal Victoria Eye Infirmary gets £400, and the Paisley and District Association for the Prevention of Consumption and other Forms of Tuberculosis £200.

University of Aberdeen: Appointment to the Chair of Pathology.

As announced in THE LANCET last week the King has been pleased, upon the recommendation of the Secretary for Scotland, to appoint Mr. George Dean, M.B., C.M., chief bacteriologist at the Lister Institute of Preventive Medicine, to the chair of pathology in the University of Aberdeen, vacant by the resignation of Professor D. J. Hamilton. Professor Dean, who is a native of Aberdeenshire, graduated M.A. at the University of Aberdeen in 1885 with honours in natural science, and M.B., C.M., with honours in 1889. After graduation he studied in Berlin under Professor Pfeiffer and Professor Virchow and in Vienna. In 1891 he was appointed assistant to Professor Hamilton in the University of Aberdeen and held this post until in 1897 he was appointed bacteriologist in charge of the serum department of the Lister Institute of Preventive Medicine. In 1906 Dr. Dean was promoted to the post of chief bacteriologist to the Lister Institute. He has acted as examiner in pathology at the University of Aberdeen and examiner in pathology and bacteriology at the Royal College of Veterinary Surgeons. He has published numerous papers dealing with research on diphtheria, tetanus, tuberculosis, plague, typhoid fever, and on various questions connected with immunity. The appointment has given great satisfaction in Aberdeen University circles.

The Treatment of Consumption in Aberdeen.

At the monthly meeting of the Aberdeen city parish council held on Nov. 10th, the adoption of a report by the poor-house committee was moved and seconded, which report recommended that the upper male and female wards at the south end of the general hospital at the poor-house should be set aside for the treatment of curable cases of consumption and for the isolation of more advanced cases; and that it be remitted back to the poor-house committee, with powers to carry out the necessary alterations of the wards at a cost not exceeding £190. An amendment was moved and seconded that "No further action be taken with this matter meantime." 19 voted for the adoption of the report and 9 against. The wards are capable of accommodating 20 male and 20 female patients, and the following alterations will require to be made: (*a*) the Plenum system of heating and ventilation shut off from both wards; (*b*) the heating carried out by steam radiators; (*c*) ventilation obtained by altering the windows to open by quadrants from the upper horizontal sash, with additional inlet ventilators through the walls at the rear of the radiators; and (*d*) the erection of a roof over the balcony at the south end of each ward.

Nov. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Government Grants to Dublin Hospitals.

AT a meeting of the South Dublin guardians on Nov. 11th the following motion was proposed by one of the members:—

> That in our opinion the time has come when the system of giving the Government grants to our city hospitals should be revised; that in future all our city hospitals should receive a share of the said grant in proportion to the number of poor people relieved and treated by them.

He also appended a suggestion that copies of the resolution should be sent to the Chief Secretary for Ireland, the Lords of the Treasury, and the various members of the Dublin corporation. He then proceeded to point out that the 269 beds of Cork-street Fever Hospital had, on an average, but 148 of these occupied. The number of patients during last year was 1997. There were no dispensary patients. The Government grant towards maintenance was £2500. In Steevens' Hospital there were 230 beds, and the average number occupied was 173. The number of intern patients during last year was 1566, and that of those treated in the dispensary was 13,804. The Government grant to this hospital was £1300. In the Meath Hospital there were 147 beds, and the average number occupied was 106. The intern patients last year amounted to 1446 and the dispensary cases to 16,463. The Government grant was £600. There were 97 beds in the Rotunda Hospital and the average number occupied was 71. The number of patients during last year was 2435; that of the dispensary cases 12,366. The Government contributed £700. In the Royal Hospital for Incurables there were 217 beds and the average number occupied was 207. During the past year the number of patients was 528 and the Government grant was £250. In the Mater Misericordiæ Hospital there were 335 beds and the average number occupied was 310. During the past year there were 3352 intern and 21,240 dispensary patients; while the Government made no contribution whatever to its maintenance. St. Vincent's Hospital had 145 beds and the average number occupied was 96. Last year there were 1847 intern and 20,539 dispensary patients and there was no Government grant. The Holles-street Hospital had 46 beds, of which the occupied average was 36. The intern patients during the past year numbered 823 and the dispensary cases 4285. Again no Government grant. The Hospice for the Dying had 110 beds, of which the average number occupied was 96. There was no Government grant. The case was surely one for re-adjustment. The motion was duly seconded and carried. All readers must agree that in a democratic age the influences of social ascendancy, religious bigotry, racial antipathy, and political jobbery should not be allowed to hamper facilities in the treatment of the sick and suffering, which are always cheerfully afforded by a sympathetic and charitable public. That they have done so in Ireland cannot be denied; it is also obvious that they cannot long continue to do so.

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"Handbook of Physiology" (1907) we find it stated under the head of *Absorption of Proteins* (p. 530):—"The normal course of events is that the food proteins are broken up into their constituent amino-acids, and it is in this form that they are absorbed ...... Not many years ago it was held that proteins were mainly absorbed as peptone, and that the absence of proteoses and peptones in the stream was due to the fact that the intestinal epithelium had the power of re-synthesising the blood proteins from the peptones ...... Recent research has failed to substantiate such views, and the intestinal epithelium does not possess the exclusive power of building up heavy moleculed proteins either from 'peptones' or from amino-acids ...... There is something very attractive in this view, because it affords a rational explanation of why it is that the organism can construct the proteins peculiar to itself and maintain its chemical individuality, although the food taken varies so widely in composition."

What ground is there for this change of opinion? Is there any real justification for it? Recent research, it is said, has failed to substantiate the old view. Has it done anything, it may be asked, to substantiate the new? There is absolutely nothing beyond pure conjecture to deal with, and I protest against the acceptance of any view that implies the passage of nutrient matter through the circulation in a form to be susceptible of filtering off with the urine. Nature does not operate in such a defective way, and food put into a small molecular state for transit through the system could not be prevented, to a greater or less extent, from passing off as waste material with the urine.

Professor Halliburton seems to have been influenced by the attractiveness of the success that has attended Emil Fischer's

EFFORTS TO SYNTHESISE AMINO-ACIDS

into poly-peptides, which may be spoken of as the lower grades of protein. Because the chemist, however, can only, as yet, synthesise members of the amino-acid group of cleavage products of proteolysis into higher combinations, it is not to be argued that Nature is in the same position. In our laboratory procedures we lack the power of forging the implements that Nature in her building-up and breaking-down operations works with. When we get hold of and employ these implements—as, for instance, when we operate with enzymes—we can achieve in our laboratory experiments the same that is effected within the living organism.

It may be taken that chemistry works upon the same lines inside and outside living matter. Affinity and adaptability in molecular configuration are at the root of chemical union. If molecules are not of suitable configuration for linkage together, no chemical union can occur. It is intelligible that with molecules of simple construction adaptability for union rests upon a less complicated basis than with molecules of a complex nature. Thus, with the more simple molecules the required conditions for union may be susceptible of being found and supplied, whilst in the case of the more complicated ones our efforts may prove altogether fruitless. A complicated lock is as easily opened as a simple one if a right-fitting key is at hand for the purpose. Here lies the pith of the matter. There is far more difficulty in meeting with the right key for the complicated than there is for the simple lock.

If peptone as a product of proteolysis can be taken on, through the agency of the enzyme concerned in the synthetic operation, by the molecular complex of the living cell, there is no need for proteolysis to proceed further. Nature, with her enzyme, may be able to provide the requisite adaptability for union, whilst the laboratory worker, unsupplied with the enzyme, may be unable to do so. Working, however, with a more simple form of molecule, it is only natural to conclude that a greater possibility of success may present itself. It is only in this way, as far as I can see, that advantage is likely to be derivable from a more complete proteolysis. What is wanted to be attained is that the protein food molecule should be broken down into fragments that are susceptible of being re-synthesised into the reconstructed protein entering into the constitution of the organism that receives the food.

The all-important point connected with this matter is the

SEAT AT WHICH THE RECONSTRUCTION OF THE BROKEN-DOWN FOOD MOLECULE OCCURS.

Professor Halliburton says that the reconstruction takes place in the tissue cells, the fragments from the food proteolysis being conveyed thither by the blood in the form of amino-acid molecules. I have upon many occasions referred to the effect of the transmission of small molecular bodies through the circulation in relation to the urine, and I hold that their entry into the blood is attended with their appearance in the urine, so that alike for sugar and for the amino-acids, appeal may be made to the urine to afford an indication of what stands good in connexion with the blood. No one disputes that a re-synthesis of the products of proteolysis occurs. The point is, Does it occur at the seat of absorption or does it occur in the tissues? In the first case, the re-united cleavage products reach the blood in the form of protein which escapes from passing into the urine. In the second, the passage of the disjoined products to the tissues ought to be made manifest through the medium of the urine.

Professor Halliburton reproves Abderhalden, a distinguished worker in association with Emil Fischer on the proteins, for not coinciding with him in the view that has been set forth, and for advocating instead, in a recently published paper, the view antecedently entertained that the products of protein cleavage are re-synthesised in the intestinal wall. In his "Annual Report on Physiological Chemistry for 1907," issued by the Chemical Society, the following words are, at p. 235, to be found: "Abderhalden's reactionary conclusion on the matter shows a lack of the acumen which is usually noticeable in his writings." Is it not possible that opinions may differ as to the side on which the lack of acumen lies?

I will now proceed to show that if we look broadly into the matter, tangible evidence can be adduced to show that production of protein must take place in connexion with food absorption at the actual seat of its occurrence in the walls of the alimentary canal. Persons seem, upon the point before us, to have been led away by narrow experimental considerations and to have overlooked the broad facts that confront us. No one can dispute that

A FLOW OF CHYLE TAKES PLACE

through the thoracic duct into the circulatory system concurrently with the digestion and absorption of food. Now, what does the flow that thus takes place imply? Let us see the nature of the answer to be given to the question.

Anatomy teaches us that the absorbent system consists of an elaborate set of vessels dispersed throughout all the tissues within the body. Starting from the lacunæ or spaces intervening between the capillaries of the vascular system and the tissue elements, the vessels join in a complicated manner and proceed to each side of the lower part of the neck where they discharge their contents into vessels belonging to the venous system. One office of the absorbent system may be stated to be to convey back into the blood-vessels materials which have escaped from the blood capillaries and have not been made use of by the tissues. The escape from the capillaries is found to fluctuate with the amount of blood pressure in them. In a state of rest, the pressure may be such as to lead to only an insignificant transudation occurring. As the pressure rises, both quantity and quality of the exudate, or lymph, become altered. The quantity is increased, and protein bodies, which in the absence of hydrostatic pressure are not transmissible through membranes, find their way, in proportion to the existing pressure, through the walls of the vessels into the lymph spaces. The lymph which occupies the interstitial spaces between the blood vessels and the tissue elements thus constitutes an exudate from the blood plasma varying in amount and character in an automatic manner according to the requirements of nutrition, for the conditions—tissue exercise, gland flow, &c.—which create an increased demand for nutrient supply, at the same time give birth to an increased capillary fulness involving increased capillary blood pressure.

The view that is here shaped into words represents that which is generally entertained, and it adequately serves to meet the facts that confront us in connexion with the matter. To the view that lymph production is the result of a secretory action of the endothelial cells of the capillary vessels, I give no credence. I am no believer in chemical and physical laws being set at naught in living beings and superseded by a mysterious supernatural "vital" agency, which, in the case before us, would lead up to exceedingly delicate and simply protective epithelial cells having a secreting function thrown upon them, and being employed in work which it is irrational to conceive could be accomplished and down stairs with ease and comfort. Dr. Delbet's method is as follows. Thanks to certain bearings which are carefully laid down by means of a special apparatus which he described, he can with certainty pass a pin or a screw through the neck of the femur into the head. The pins are well tolerated. General anæsthesia is unnecessary: a deep injection of stovaine is introduced into the field of fracture and a superficial one is given in the line of the incision.

Trouble at the Faculty of Medicine.

I have written from time to time in THE LANCET of the troubles which occurred last year at the Faculty of Medicine in connexion with the opening lectures of the new professors. Dr. Nicolas and Dr. Prenant. As a consequence of these disturbances the Faculty was shut for some weeks. At the beginning of November, when Dr. Nicolas began his present course of lectures, the students of the first and second years began their disturbances again. This time, however, they alleged different reasons. They no longer laid stress on the fact that Dr. Nicolas was provincial, but they argued: (1) That students could no longer go to Clamart to dissect; (2) that they got no good out of their work, for the authorities put seven men on to one body; and (3) that the post of chief demonstrator, which had been held by M. Rieffel, had been done away with at, they alleged, the instance of Dr. Nicolas. M. Landouzy, the dean of the Faculty, said in an interview that the reasons given were merely pretexts. The real reason why students were no longer allowed to go to Clamart is on account of the alteration in the law as to military service, which has led to there being far less overcrowding of students of medicine. Formerly every young man had to put in three years of military service except he were a student in law or medicine, when he only did one year. Now, however, the term of service is reduced to two years and there are no exceptions for students—a fact which has considerably diminished the crush. Clamart was simply struck off the list owing to the diminution in the number of students. As to seven students being set to dissect on each body, M. Landouzy said that in his time seven students were able to do excellent work on one body. As to the suppression of M. Rieffel's post, that was the act of the Council of the Faculty and had nothing to do with Dr. Nicolas. Finally, M. Landouzy said that if the disturbances went on he should not again close the Faculty, for that pressed hardly on students who were anxious to work, but he should simply prosecute in the ordinary courts anybody who had burnt or broken up any of the fittings of the school.

Assistance to Pregnant and Puerperal Women.

M. Paul Strauss has introduced into the Senate a Bill providing that no woman shall work for one month after her confinement. Compensation will be given to any woman duly recognised by law as being in this condition. M. Caillaux, the Minister of Finance, however, laid before the House some figures showing what would be the effect of the passage of this measure on the State and municipal budgets. The number of women who would profit under the law would be about 112,268. Supposing that the sum allowed were 1 franc per person per day the total sum would be 6,272,000 francs. At 1.50 francs the total expenses would be 9,408,000 francs. In the first case the contribution of the State would be 1,085,000 francs and in the second case 1,627,000 francs. The departmental and communal contributions would be much heavier—namely, in the first case 3,393,000 francs and in the second 5,089,000 francs. The Minister of Finance added that these figures required thinking over and, moreover, they only took into consideration the workers in towns. An amendment was put forward to include in the Bill every woman doing any remunerative work as soon as she arrives at the last period of her pregnancy. M. Caillaux refused to accept this amendment, which he said would entail an extra charge of 20 or 25 million francs on the Exchequer. The House then went on to consider a clause dealing with puerperal women, the object of the clause being to secure that every pregnant or puerperal woman for one month before, or one month after, her confinement should not be liable to have her contract of service broken on account of her condition. The Senate, however, agreed to the following altered form of the clause: "That no employer should break a woman's contract of service simply because she did not work during the month before or the month after her confinement."

Nov. 17

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Operative Treatment in a case of Circumscribed Serous Meningitis.

IN the *Korrespondenzblatt für Schweizer Aerzte* of Nov. 1st Dr. C. de Montet publishes a remarkable case of paralysis where the symptoms were alleviated by surgical interference. He first referred to similar cases reported by Krause, Bruns, Sänger, V. Horsley, and especially Oppenheim, in a recent treatise on the diagnosis and treatment of tumours, and then went on to describe his case. The patient, an unmarried woman, aged 53 years, fell ill in December, 1907, with acute pain in the upper spinal region radiating into the pectoral regions. Pain and weakness followed and at last, in January, 1908, severe paresis of the legs ensued. The patient then entered the Thurgovian Cantonal Hospital at Münsterlingen. By Feb. 10th the condition was worse. The interscapular pains, though intermittent, were more intense and reached all round the thorax. The sphincter muscles of the bladder and rectum were paralysed. The pulse stood at 88 and the temperature varied from 98·5° to 100° F. There was almost complete paralysis of both legs. The reflexes were increased. Sensitiveness was decreased downward in an almost horizontal line at the level of the xiphoid process. The fourth and fifth vertebral spines were very sensitive to pressure. Puncture of the lumbar sac did not indicate any increase of lymphatic pressure. There were slight lymphocytosis and leucocytosis; the bacteriological examination was negative, and the antecedent history was uneventful. The diagnosis was difficult, but as the symptoms rapidly increased in severity and cystitis set in, Dr. Brunner, the house surgeon, performed an explorative laminectomy. This was on Feb. 25th. A great quantity of liquor cerebrospinalis escaped, evidently under high pressure, and the diagnosis of localised serous meningitis was made. The recovery was fairly rapid and complete. The patient left the hospital on March 30th. She was visited on May 18th and had resumed all her former occupations.

Sunshine and Longevity.

The official inquiry office of Magliaso in the canton of Tessin has published some interesting statistics relating to meteorological observations and their connexion with longevity. The meteorological observations all refer to the year 1906 and to several hundred villages and towns, and speak very favourably of the weather conditions in many places in very sheltered positions varying in altitude from 200 to 800 metres above sea level (700 to 2500 feet). In most of these simple but sufficient accommodation in small hotels and pensions has increased and multiplied. The observations show a maximum of at least 300 days with sunshine in many localities, Carabietta and Pentilino, near Lugano, heading the list with 327 and 331 sunny days respectively. Locarno and Lugano are also famous for their supply of sunshine but little need be said as these are well-known winter health resorts affording the best of accommodation for travellers in search of a mild and equable winter climate, but in March and April these places are liable to be overcrowded. How far the extraordinary amount of sunshine goes to promote longevity it is difficult to say, but the percentage of old people is exceptionally high in the canton of Tessin. The number of old people over 70 years of age in a population numbering 149,384 persons amounted to 6422, or 44 per 1000, 10 per 1000 being octogenarians. The corresponding numbers for the United Kingdom are, I believe, 27 per 1000 in England and Wales, 29 per 1000 in Scotland, and 42 per 1000 in Ireland It must be mentioned that a goodly number of inhabitants of the canton of Tessin emigrate and return after several decades to spend the rest of their lives in their simple country homes.

Zürich, Nov. 16th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

A New Clinic for Psychiatry at Budapest.

THE new clinic of the Budapest Royal University for the study of psychiatry was recently declared open by Count vicinity of the cells, namely, that of the lymphocytes existing in the lymph spaces, and there cannot be a doubt, in view of the known facts connected with these bodies, that they play a most important part in connexion with the synthetic reconstruction of the absorbed digestion products.

It is to be said of these lymphocytes that they are actively growing and proliferating bodies, particularly so when food is being absorbed. Kölliker, as far back as the middle of the last century, drew attention to the parenchyma of the villi being densely filled with them whilst digestion is going on, and remarked that, whilst never absent, they are, at other times, far fewer. It is only in connexion with the small intestinal part of the alimentary canal that this special development of lymphocytes is noticeable. Both in the case of the stomach and of the large intestine, a widely marked difference is observable, there being in these latter portions of the canal no more lymphocytes visible than may be seen in connexion with tissues generally.

A special lymphocyte growth, then, occurs in the villi in association with the absorption of the products of digestion from the intestinal canal. In my work on "Carbohydrate Metabolism and Diabetes," 1906, I entered fully into this subject in relation to the assimilation of carbohydrate by being embodied into protein, and gave photo-micrographic representations in illustration of the conditions observable. What was said in regard to carbohydrate equally applies to the nitrogenous part of the broken-down protein. They both disappear at the seat of absorption, and, accompanying their disappearance, there is an indisputable extensive

GENESIS OF PROTEIN THROUGH THE MEDIUM OF THE LYMPHOCYTE

formation that takes place.

With respect to mode of growth, lymphocytes may be looked upon as standing in the same position as unicellular organisms in a culture pabulum. The growth involves construction of protein out of surrounding more elementary principles. This constitutes an operation of universal occurrence in connexion with all living matter, seeing that protein is the constitutional basis of living matter, and that growth of living matter is attended with its formation. The construction of protein therefore runs concurrently with the growth of living matter, and, in the case of the intestinal lymphocytes, observation shows that the food-supply is at the foundation of their activity of growth.

Just as bacteria grow in a culture medium, so, it may be considered, do the intestinal lymphocytes grow upon the products of digestion that have passed by diffusion into the lymph spaces of villi. Anyone can satisfy himself of the influence exerted by food absorption on the state of the villi in relation to lymphocyte growth. If a rabbit, for instance, be killed at a period of full fasting, nothing is to be seen of lacteal vessels upon the intestine, and the receptaculum chyli even may not be susceptible of being discerned. The lacteal system seems to be in a state of quiescence, and to all appearances there cannot be any material flow of fluid taking place through the vessels. Killed at a period of full digestion, the contrast in appearance is very great. The lacteals are to be seen ramifying in a most conspicuous manner upon the surface of the intestine, the vessels that course through the mesentery stand out boldly as visible objects, and the receptaculum chyli is easily recognisable through the medium of its fluid contents. There cannot be the slightest question about an active flow of chyle taking place through the lacteal into the vascular system at a period of digestion, and if this is the case, does it not necessarily imply a corresponding transmission of protein, emanating from the food, into the blood?

The plasma of lymph and chyle is known to contain identically the same protein principles as the plasma of the blood. It is only in amount that a difference exists, and it is generally considered that the protein content of chyle plasma may be put down as being ordinarily equal to about half of that of the blood, or somewhere about 3·5 to 4 per cent., and that of lymph plasma to something less. I think it cannot be otherwise than conceded that the outflowing lymph and chyle derive their characters from within the absorbent system, and the lymphocytes may be regarded as constituting the source of the proteins met with. It is evident that these proteins cannot arise from self-production, but must be preceded by bioplasm, and be constructed by its synthesising agency. No other conclusion is permissible, and in the lymphocytes and their environment, the conditions exist for supplying what is wanted.

LYMPHOCYTE AUTOLYSIS

completes the process, and it may be reasonably concluded that this autolysis is not confined to lymphocytes that have entered the blood, but may also ensue antecedently to the blood being reached.

What I want to urge is that the reconstructed protein from the digestion products is formed at the seat of absorption and flows into the blood through the thoracic duct, instead of the digestion products being conveyed as such through the circulatory system to the tissues and there re-synthesised. It appears to me, if such a procedure as the latter actually occurred, it could not escape being revealed, as already insisted upon, alike in the case of carbohydrate and protein, by the state of the urine, upon the principle founded on observation that small molecular bodies, such as digestion products consist of, if permitted to reach the blood, find their way into the urine.

Under the view adopted, the blood is maintained in a renovated state by a supply of elaborated material thrown into it from the absorbent system, and derived in part from the food, and in part from the unutilised portion of the blood plasma which has escaped from the capillaries into the lymph spaces for the service of the tissues and subsequently become worked up by lymphocyte growth into the specific protein principles that flow into the blood.

With these circumstances confronting us, I do not see how the direct transmission of the digestion products from the food into the blood can be contended for, and the part played by the lacteal system in relation thereto, ignored. If anything at all approaching the quantity of chyle that is supposed to flow through the thoracic duct reaches the blood, the amount of protein passing with it must be something very considerable, and at the same time adequate to meet the required conditions belonging to tissue demand and food supply.

There are two forms in which protein passes into the blood—in the form of plasma protein, and in the form of lymphocytes. What is observed in connexion with

DIGESTION LYMPHOCYTOSIS

gives an idea of the extent of transmission of protein in the form of lymphocytes. Gulland, who has identified himself with the subject of blood counts, says that the lymphocytes show a continuous rise in number up to about the fourth or fifth hour after the ingestion of food, and that the total number per cubic millimetre of blood had often been found to be increased from 3000 up to 11,000 in the course of an hour. He also speaks of a fall in number being afterwards almost as rapid. I read the fall as constituting the result of autolysis, by the instrumentality of which the newly formed bioplasm becomes resolved into the protein constituents of the blood.

Cases have occurred in which, through injury to the thoracic duct, its contents have escaped, instead of flowing into the blood, and the effects observed have coincided with what might be looked for under the view that the nutrient supply from the food reaches the system in the manner contended for. A striking case of the kind is reported by Mr. R. T. H. Bucknall of University College Hospital, in the second volume of the *British Medical Journal* for 1905, p. 809. The patient was operated on for the removal of some tuberculous glands at the root of the neck. The thoracic duct was accidentally severed in the performance of the operation, without its being at first known that such had occurred. Instead of making favourable progress afterwards, great weakness, it is stated, was complained of, and, at the end of 24 hours, we are told the patient sank back in bed apparently very exhausted. It was then noticed that the dressing was soaked with a large quantity of clear yellowish fluid, and, on exploration, similar fluid was seen to be oozing rapidly from the wound. The wound was plugged, but the plugging proved of no avail, and from two to three pints of fluid leaked away every day, at times slowly, and at times more rapidly, clear and thin on the whole, but definitely chylous after meals. The patient, it is next said, lost strength in a remarkable manner and grew visibly thinner, so much so that it was obviously imperative to check any further leakage without delay. This was successfully accomplished by ligaturing the ends of the divided into the subject of malaria should be directed to investigate the question of drainage also. His inquiries should show what further drainage lines are desirable. The conference suggest no modifications in the methods adopted against plague which are the outcome of the years of experiment and experience. The result of the experiments now being made at Gorakhpur to render houses rat-proof should be awaited. The use of wire netting in the floors and walls of houses should prevent incursions by rats. A circular should also be issued recommending local authorities to encourage the keeping of cats. The question of the possibility of directly diminishing infant mortality has been considered. A note on the subject prepared by Major White, I.M.S., officiating sanitary commissioner, United Provinces, shows that the chief causes of the high mortality of infants in India are the immaturity and ignorance of mothers, improper feeding, and the exposure of infants to all the influences of an insanitary environment. Other causes are the want of skilled midwives, neglect of treatment of infantile diseases, disregard of primary rules of sanitation in the lying-in rooms, low nutritive value of food for mothers, poor clothing, and poor houses. An analysis of a table of infantile deaths submitted to the Calcutta municipality shows that convulsions, tentanus, and bronchitis carry off the largest proportion of infants. Tetanus is probably caused by the custom of rubbing dry earth or earth mixed with cow dung into the navel and careless exposure explains the large incidence of pulmonary diseases. The conference suggests that a certain number of women of the professional midwife classes should be trained for the purpose of serving as peripatetic *dais* under district boards. It considers that cheap maternity hospitals should be erected in the large towns, separate and distinct from the Dufferin hospitals. Such institutions would be under the charge of trained *dais* and be intended for the use of the poorer classes. The conference has before suggested that at least one model dairy should be established in each large town and has proposed additions to the Municipal Act giving boards greater control over cattle sheds and cow houses. It recommends that with a view to ascertaining more definitely the causes of infant mortality in these provinces a special inquiry should be conducted during one year in a typical town, preferably Cawnpore. The conference considers that in view of the popularity of Almora as a health resort by consumptives and the desirability of not only affording facilities for treatment to such persons, but also protecting Almora itself against infection, a hospital should be constructed outside the town to be used mainly by paying patients. Finally, the conference recognising that the main hope for improvement in the future lies in the education of the rising generation, recommends that sanitation and hygiene of an elementary character should be taught in all boys' and girls' schools up to the eighth class, and that the course should be compulsory up to that class and optional afterwards. Simple sanitary rules should be issued free or at a nominal price by district boards.

Punjabi Women and Vaccination.

To overcome the opposition of the women is one of the problems confronting the vaccination department of the Punjab. In many places, we are told, women still regard a visit to Mata Devi as a far more efficacious protection against small-pox than vaccination. During the last three years the number of primary vaccinations performed show a persistent annual decline, though the total for the three years is greater than the total for the previous triennium. The Lieutenant-Governor accepts plague and the consequent reductions in births as the explanation of this, though the fluctuations in the figures of particular districts are probably affected chiefly by the popularity and energy or the absence of these qualifications in the vaccinators. The fraction of the population which submits to revaccination is minute. The personal equation appears to enter largely into the calculations of the success of the operations, for while one Deputy Sanitary Commissioner found 61 per cent. of successes in revaccinations, the other found 99 per cent.; and similarly in the same districts the different inspecting officers record very different proportions of success. It can hardly be that the facts which came under the notice of the different officers differed so greatly as the statistics would imply, and it would seem that a more accurate definition of what is a successful revaccination is required. The Lieutenant-Governor is inclined to doubt whether the present very elaborate system of inspection of vaccinated persons by a supervising establishment is to be commended. The purpose of inspection is to see that the vaccinators do their work properly, and surely it is not necessary in order to secure this that babies should be bailed twice or possibly three times before an inspecting officer. It is probable that the trouble of these inspections and the long waits of the mothers with their children, even if there are no tiring tramps for them, do more to deter the women from producing their children for vaccination than the nuisance of the vaccination itself. The propriety of reducing the inspecting staff will be considered. The Vaccine Institute has worked well and the cost of vaccine is now 10 annas per gramme. The most important event in the history of the triennium has been the transfer at the beginning of this year of the vaccinating staff from the sanitary commissioner to the local bodies by which the staff is paid, a step which it is hoped will help to popularise vaccination.

Oct. 22nd.

Obituary.

PETER WILLIAMS, M.R.C.S. ENG., L.M., L.S.A.

THERE passed away at Ferryside on Oct. 29th, in the person of Mr. Peter Williams, aged 77 years, a member of a medical family who have practised in Carmarthenshire for nearly a hundred years. The son of Mr. E. Williams, surgeon, of Carmarthen, he was a pupil of his brother Dr. John Williams of the same town, who also had as a pupil Dr. Frederick T. Roberts. Entering St. Bartholomew's Hospital he became fully qualified in 1856. At first he joined his brother at Carmarthen, but in 1860 he started in practice at the seaside resort of Ferryside, Carmarthenshire. Here he worked for nearly 50 years and never was a medical man more beloved; rich and poor alike appreciated his services. His manner was so sympathetic and he took such infinite pains with his patients that he soon acquired a reputation which reached far beyond the bounds of Ferryside. About three years ago he practically retired in favour of his son, and was presented on the occasion with a cheque for £300 and a handsome piece of plate, this being the second testimonial which he received during his medical career. In April last he showed signs of serious organic heart trouble, and was then so ill that his life was despaired of, but he recovered to a certain extent; however, this was the beginning of the end, for on Oct. 29th he had another serious attack which ended fatally notwithstanding all the efforts of his son. His funeral was a public one and the whole neighbourhood was represented. There were representatives from public bodies at Carmarthen, Kidwelly, and Ferryside, also from the villages far and near. The body was carried to the old church of St. Ishmael's and was followed by a large concourse of people. Never has there been a more impressive funeral service in that church. It was by the wish of his widow entirely in Welsh. The church was full to overflowing and the evidences of grief were so profound that they testified to the great love which the people had for him. The chief mourners were Dr. Lewis Williams, Mr. Lloyd Williams, Mr. E. Williams, and Mr. H. Williams, sons; Dr. A. Glover Williams, nephew; the Rev. D. Morris, rector of Penally; the Rev. J. Rees, rector of Letterston; Lady Greaves; and the Rev. E. Rowlands. Amongst those attending the funeral was Sir John Williams, Bart., M.D., a personal friend of the deceased, who showed him many acts of kindness during his illness.

EDWARD WHISHAW HENLEY, L.R.C.P. LOND., M.R.C.S. ENG.,

MEDICAL SUPERINTENDENT OF THE GLOUCESTER COUNTY ASYLUMS.

Mr. E. W. Henley died in Gloucester on Nov. 14th, after an operation for appendicitis. He received his medical education at St. George's Hospital and qualified M.R.C.S. Eng. and L.R.C.P. Lond. in 1875 and 1876 respectively.

rise to the diverse manifestations of life that present themselves to our notice. That a linked-on group can affect and upset the proceedings within the molecular complex is shown by the effect produced when a toxin molecule is taken on.

In the natural course of events, the receptors or arms are designed for taking on nutrient molecules of various kinds, and amongst these, protein molecules are included. Upon this point Ehrlich, in his Royal Society Croonian lecture, says: "If a cell of the organism has, with the assistance of an appropriate 'side-chain,' fixed to itself a giant molecule, there is provided one of the conditions essential for the cell nourishment. Such giant molecules cannot at first be utilised by the cells, and are only made available when, by means of a ferment-like process, they are split into smaller fragments. This will be very effectually attained if, figuratively speaking, the 'tentacle' or grappling arm of the protoplasm possesses a second haptophore group adapted to take to itself ferment-like material out of the blood fluid."

What is here meant is that the receptor or side-chain is not only provided with an ending for taking on the protein nutrient molecule, but in addition, another ending constructed for taking on a particular molecular group to which the name of complement is assigned in the nomenclature adopted. This body is regarded as possessing ferment-like properties, and as existing in a free state in the blood serum, so as to be ready for anchorage wherever a suitable molecular group ending is to be found. It is supposed to stand in the same position towards the nutrient molecule as the lysin complement does to the red blood corpuscle, action occurring through the amboceptor which links both together; and, like the lysin complement, it loses its activity, as a ferment does, by exposure to a temperature of about 55° C.

To briefly recapitulate,

THE VIEW THAT HAS BEEN FORMULATED

may be thus summarised. Food that has been broken down and placed in a fit state by digestion for absorption is at once dealt with at the seat of absorption, and rebuilt into an elaborated form. Dextrose and peptone are alike recognisable at the seat of absorption, but both thereafter disappear. At the same time, and at the same spot, there is an active bioplasmic growth taking place, and bioplasm is known to feed upon dextrose and upon peptone. The lymphocytes, which constitute the growing material, can be followed from the villi into the absorbent vessels, and thence through the thoracic duct into the vascular system. Concurrently and harmoniously with what has been represented, from the absorbent system aspect of the question, to occur, observation upon the blood has shown that during the digestion period there is so large an accession of lymphocytes as to have given origin to the application of the term digestion lymphocytosis to it.

The next event in the life-history of the lymphocyte is lymphocytolysis. There can be no doubt that production and disappearance constitute a routine procedure, and there are good grounds for inferring that the disappearance is attended with a melting down, and transformation into the protein constituents of chyle and blood plasma, thus bringing these principles, which we are accustomed to view as tissue pabulum, into direct relation with the food, and placing them, in fact, in the position of elaborated food.

Looked at in this way, the tissues draw their nutrient supply from material elaborated from the digestion products at the seat of absorption, instead of the digestion products being conveyed as such through the circulatory system to the tissues, an event that, on account of their small molecular nature should but does not, make itself evident to us by running off with the urine. Under the view advocated, the mode of tissue nourishment is brought into parallelism with what occurs in the incubation of the egg, for here it is noticeable that the nutrient supply exists under the form of elaborated material of a similar nature to that belonging to the blood.

It is not permissible to assume that all the protein that is formed enters as a component of the tissues before being broken down. It is known that the

UNUTILISABLE NITROGEN PASSES OUT OF THE BODY IN THE FORM OF UREA,

and it is also known that the urea eliminated stands proportionate to the protein matter ingested, instead of to the energy produced in the tissues. This being the case, protein breaking down must occur, with separation of the non-utilisable from the utilisable portion, independently of what occurs in association with energy production. To enter the tissue simply for the purpose of being broken down and giving off its unutilisable nitrogenous portion is an unlikely mode of procedure. Whilst within the lymphocyte, however, the process may very consistently take place through the instrumentality of intracellular enzyme action, and this view of the matter harmonises with the fact that the period at which the increased elimination of urea shows itself after the taking of food, about corresponds with that of maximum activity of lymphocyte autolysis.

The great point emanating from what has preceded is that the products of digestion become assimilated at the seat of absorption. By this assimilation they become rebuilt, before reaching the circulation, into molecules of sufficient size to be precluded from flowing off with the urine in their passage through the kidney, in contra-distinction to what is known to occur with the digestion products themselves when circumstances exist to lead to their demonstrable presence in the blood. All experimental work affords testimony of sugar standing in the same position as salines and urea in relation to the property of passing off with the urine.

Impermeability of the kidney to sugar is, as I have before stated, a pure

FICTION RAISED UPON THE FALSE CONCEPTION

of healthy urine being free from sugar. Facts show that the urine, indeed, stands in very sensitive relationship to the blood with respect to sugar. The behaviour of Fehling's solution may be considered to be answerable for having led to the error that has existed. It is now well understood that, whilst Fehling's solution is a test of extreme delicacy for sugar when in a pure state, the constituents belonging to the urine mask the reaction when the sugar is present in urine in small quantities only. After a long and hard struggle, the existence of sugar in healthy urine has come to be admitted, but a disposition to minimise its significance to the utmost possible extent is still noticeable.

The misconception that has so long prevailed has operated as a misguiding factor in connexion with the fundamental idea belonging to the glycogenic theory that the carbohydrate of our food is destined to pass through the circulatory system to the tissues in the form of sugar. In Michael Foster's textbook on "Physiology," at p. 613, we find it stated: "Now, a small amount of sugar is normally present in the blood, and *so long as this normal amount is not exceeded no sugar appears in the urine* [the italics are mine]. If, however, by some reason or other, the sugar in the blood is increased beyond that normal amount, the excess passes unchanged into the urine. And, the excess in the blood which thus leads to the excretion of unchanged sugar, is so small that we might expect it to be oxidised in the blood did the blood possess any considerable oxidising power." The identity of the idea here expressed with that expressed in the quotation from the author of the article in Hill's "Recent Advances in Physiology and Biochemistry" given in Lecture I., shows how deeply the groundless idea has become rooted in the minds of physiologists.

The misleading nature, upon a vital point, of such a conception cannot be otherwise than obvious to everyone. It implies, contrary to fact, that sugar may reach the blood of the general circulation without its presence being revealed by the urine. The real circumstances are that the urine constitutes an indicator of the state of the blood with respect to sugar, no matter whether the amount existing be large or small, and thence it may be concluded that if sugar were reaching the circulation, as is contended for under the glycogenic theory, it could not escape being rendered evident by the urine, just as indeed happens in connexion with diabetes.

THE WARR MEMORIAL AT THE LIVERPOOL ROYAL INFIRMARY.—The committee in charge of the fund raised as a memorial to the late Mr. Augustus F. Warr (formerly M.P. for one of the Liverpool divisions, and a member of the committee of the Liverpool Royal Infirmary) has announced that the sum of £4650 has been subscribed. Out of this amount the sum of £500 is to be offered to the committee of the Royal Infirmary towards the endowment of a bed to be associated permanently with Mr. Warr's name.

M.B., Ch.B. Edinburgh, Edinburgh University; Josiah Walker, B.A. Cantab., Cambridge University and Guy's Hospital; Harold Eustace McMahon Wall, St. Mary's Hospital; George Henry Hitchcock Waylen, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur Leonard Weakley, St. Bartholomew's Hospital; Walter Weir, St. Thomas's Hospital; Ambrose Cyril Wilson, St. Bartholomew's Hospital; Ernest William Witney, St. Thomas's Hospital; Charles Albert Wood, Guy's Hospital; Wilfrid Burton Wood, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; and Albert Edward Mortimer Woolf, B.A. Cantab., Cambridge University and London Hospital.

* M.R.C.S. diploma granted on Oct. 15th last.

† M.R.C.S. diploma granted under regulations previous to 1884.

Royal College of Surgeons of England.—At the Primary Examination in Anatomy and Physiology for the Diploma of Fellow, held on Nov. 5th, 6th, 10th, 11th, and 12th, 97 candidates presented themselves, of whom 38 per cent. passed and 62 per cent. were rejected. The following are the names of the successful candidates:—

William Bradshaw Ainger, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Henry Graeme Anderson, M.B., Ch.B. Glasg., Glasgow University and King's College Hospital; John Bruce Baird, B.Sc., Otago and Glasgow Universities; Dinsha Darasha Baria, L.M. & S. Bombay, L.R.C.P., M.R.C.S., Bombay University and King's College; Phiroz Byramji Bharucha, L.M. & S. Bombay, Bombay and King's College; Aleck William Bourne, B.A. Cantab., Cambridge University and St. Mary's Hospital; Frank Cook, Guy's Hospital; Ellis Patrick Crozier, Ceylon Medical College and London Hospital; Kenneth James Acton Davis, B.A. Cantab., Cambridge University and King's College; William Square Edmond, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Hugh Arthur Evans, King's College and Westminster Hospital; Rupert Farrant, L.R.C.P., M.R.C.S., Westminster Hospital and King's College; Edward Cecil Foster, L.R.C.P., M.R.C.S., University College Hospital; Arthur Duncan Gardner, B.A. Oxon., Oxford University and St. Thomas's Hospital; Harold Delf Gillies, B.A. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; Richard Henry Cyril Gompertz, M.B., B.S. Lond., L.R.C.P., M.R.C.S., King's College Hospital; Harold Kinder Griffith, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; David Colvin Henry, M.B., Ch.B. Edin., Edinburgh University and St. Bartholomew's Hospital; Charles Henry James, Major I.M.S., L.R.C.P., M.R.C.S., St. Thomas's and King's College Hospitals; Rupert Llewellyn Jones, London Hospital; Harold Albert Kisch, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital; William Hugh Leonard, Captain I.M.S., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital and King's College; Norman Francis Lock, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Henry Linnington Martyn, King's College; James Menzies, St. Mary's Hospital; Thomas Bernard Mouat, M.B., Ch.B. Edin., Edinburgh University; William Fulton Neil, M.B., Ch.B. New Zealand, L.R.C.P., M.R.C.S., New Zealand University and Middlesex Hospital; Robert Ollerenshaw, M.D., B.Ch. Vict., L.R.C.P., M.R.C.S., Victoria University, Manchester; John Francis O'Malley, L.R.C.P. & S.I., L.M. Dub., King's College and Middlesex Hospitals; Hugh Raymond Guy Poate, M.B., Ch.M. Sydney, L.R.C.P., M.R.C.S., Sydney University, University College, and Middlesex Hospitals; Alfred Henry Richardson, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Richard Alun Rowlands, B.Sc. Wales, London Hospital; Frederic Sanders, London Hospital; Hew William Scott-Wilson, Oxford University; Harry Bertram Walker, London Hospital; Clifford Sidney White, M.D., B.S. Lond., L.R.C.P., M.R.C.S., University College Hospital; and William Stanley Wildman, London Hospital.

At the First Professional Examination for the Licence in Dental Surgery just completed the following gentlemen were approved in the subjects indicated below:—

Mechanical Dentistry and Dental Metallurgy.—Ernest Beddoes, Liverpool University; Sydney Martin Bell, Royal Dental Hospital; Samuel Isaac Blairman, Royal Dental Hospital; Cecil Lucas Donne, National Dental Hospital; William Kelsey Fry, Guy's Hospital; Stanley Maddox Gardner, Royal Dental Hospital; Frederick Simpson Glover, Guy's Hospital; Leslie Price Harris, Guy's Hospital; Laurence Edgar Crespin Harrison, National Dental Hospital; Edward Palmer Hudson, Guy's Hospital; William Edward Jones, Liverpool University; Leslie Gordon Kinnersley, University College, Bristol; John Knowles, Royal Dental Hospital; Harold William Knowling, Liverpool University; Edward Aubrey Clement Knox-Davies, Guy's Hospital; Harris Raphael Lyons, Royal Dental Hospital; Rupert Mallinson, Royal Dental Hospital; Benjamin Henry Masselink, D.M.D. Michigan, Michigan University; Leslie Miller, Royal Dental Hospital; Wilfred Woolfe Miron, National Dental Hospital; Arthur Stanley Morgan, Guy's Hospital; Victor Mayfield Morris, National Dental Hospital; Percy Hills Orton, Guy's Hospital; John Hayward Paget, Royal Dental Hospital; Frederick William Paul, Guy's Hospital; George Evan Henry Holt Phillips, Guy's Hospital; Alfred Graham Poock, B.A. Cantab., Guy's Hospital; William Macqueen Potter, Royal Dental Hospital; Reginald Wood Powell, Guy's Hospital; George Brentnall Pritchard, Guy's Hospital; Wilfrid Aubrey Rowe, Royal Dental Hospital; Charles Frederic Leyson Ruck, Guy's Hospital; Bernard Edward Patrick Sayers, Royal Dental Hospital; Charles Foote Snow, Guy's Hospital; Claud Stacey, National Dental Hospital; Gordon Bower Sutton, Royal Dental Hospital; Robert Douglas Breen Turner, Liverpool University; and Thomas Edwin Wills Royal Dental Hospital.

Mechanical Dentistry.—Robert Dudley Bell, Royal Dental Hospital; Rowland Burnell Campion, Guy's Hospital; Gordon Comyn, Royal Dental Hospital; Charles Repton Faulkner, Birmingham University; Robert Daniel Gregg, Liverpool University; Harold Harrison, Guy's Hospital; Kenneth George Hoby, Guy's Hospital; William Lowe Jackson, Royal Dental Hospital; Henry Kinnear Ovey, Royal Dental Hospital; Ronald Victor Payton, Birmingham University; Archie Ernest Frederick Peaty, Guy's Hospital; Harold Ernest Pow, Royal Dental Hospital; George Henry Rowley, Guy's Hospital; Alfred Edmund Victor Spill, Guy's Hospital; Edward Algernon Weaver, Birmingham University; Charles Eustace Williams, Royal Dental Hospital; William Hector Wotton, Guy's Hospital; Edgar Olyve Yerbury, Guy's Hospital; and Henry Stanley Young, Royal Dental Hospital.

Dental Metallurgy.—Cecil William Bond, L.R.C.P., M.R.C.S., Royal Dental Hospital; Harold Edgar Bower, Royal Dental Hospital; Ralph Chapman, Royal Dental Hospital; George Vivian Dymott, Guy's Hospital; Niel Edgar, Guy's Hospital; John Eric Rhys Evans, Guy's Hospital; Edwin Llewellyn Zenas Fickling, Royal Dental Hospital; Victor William Russell Forbes, Royal Dental Hospital; Lawrance Richards Haydon, Royal Dental Hospital; Frank James Hayman, University College, Bristol; Frederic Amos Jaques, Guy's Hospital; Arthur Percy Livett Johnson, Guy's Hospital; George Bertrand Lucas, Royal Dental Hospital; Leonard Clive Matthews, Birmingham University; John Dudley Melhuish, University College, Bristol; Owen Colville Morphy, Royal Dental Hospital; Cyril Arthur Pollard, Guy's Hospital; Gordon Evelyn Rowstron, Guy's Hospital; Frank Percival Sturdee, Royal Dental Hospital; John Herbert Wiles, Guy's Hospital; and Frederic Charles Willows, University College, Bristol.

University of Cambridge.—The following degrees were conferred on Nov. 12th:—

M.D.—F. D. Nicholson, King's.
M.B., B.C.—R. L. Gamlen and C. H. T. Ilott, Caius.

The General Board of Studies will shortly proceed to the election of a University lecturer in zoology at an annual stipend of £50. Applications should be made to the Vice-Chancellor before Dec. 2nd.

Royal College of Surgeons in Ireland: Dental Examination.—The following candidates having passed the necessary examination have been admitted Licentiates in Dental Surgery:—

A. J. Adkins, M.R.C.S. Eng., G. C. Bull, M.R.C.S. Eng., J. V. M. Byrne, R. G. Fitchie, J. R. Hackett, M.B., B.Ch. R.U.I., H. J. Hedley, A. E. J. Moore, D. McC. Smith, and L. P. Vernon.

The following candidates have passed the primary part of the Dental Examination:—

J. J. Lyons and R. T. Mosbery.

Foreign University Intelligence.—*Berlin* (*Kaiser Wilhelm's Military Medical Academy*): Surgeon-General Eduard Pfuhl, Principal of the Laboratory of Chemistry and Hygiene, has resigned.—*Dresden*: Dr. Lindner, of the Dresden-Friedrichstadt Hospital, formerly Principal of the Surgical Department of the Augusta Hospital, Berlin, has been granted the title of Professor by the Grand Duke of Mecklenburg-Strelitz.—*Leipsic*: Dr. Rolly, *privat-docent* of Medicine, has been granted the title of Extraordinary Professor.—*Rostock*: Dr. Ernst Franke has been recognised as *privat-docent* of Surgery.—*Strasburg*: Dr. Rosenfeld, *privat-docent* of Psychiatry, has been granted the title of Professor.—*Utrecht*: Dr. Steensma has been appointed Lecturer on Chemical Diagnosis.—*Würzburg*: Two new Extraordinary Professorships have been established: one of Laryngology to which Dr. Seifert has been appointed, the other of Odontology which has been assigned to Dr. Michel.

The Brompton Hospital for Consumption and Diseases of the Chest.—The following lectures and demonstrations have been arranged to be delivered throughout the winter session, 1908–09, on Wednesdays, at 4 P.M.:—Nov. 25th, Dr. R. Maguire, Certain Heart Cases; Dec. 2nd, Dr. P. Horton-Smith Hartley, Pneumothorax; Dec. 9th, Dr. Hector Mackenzie, Cases from the Wards; Dec. 16th, Dr. R. A. Young, The Cardio-Vascular System in Cases of Pulmonary Tuberculosis; Jan. 13th, 1909, Mr. Stanley Boyd, Difficult Empyemata; Jan. 20th, Dr. Batty Shaw, Occult Cardiac Hypertrophy; Jan. 27th, Dr. S. H. Habershon, Cases from the Wards; Feb. 3rd, Dr. J. J. Perkins, Bronchiectasis; Feb. 10th, Dr. W. C. Bosanquet, Mediastinal Tumours. The course is free to all qualified medical practitioners and to students of medicine. It was inaugurated on Wednesday last, Nov. 18th, by Sir Richard Douglas Powell, consulting physician to the hospital, who delivered an address on Angina Pectoris.

The Medical Inspection of School Children.—A final course of lectures and demonstrations on the medical inspection of school children will be given by Dr. James Kerr, the chief medical officer of the Education Department of the London County Council, on Jan. 11th, 12th, 13th, and 14th, 1909. The lectures will be delivered in the rooms of the Society of Medical Officers of Health and the demonstrations will take place in the special schools of the London County Council. The course will also include lectures by Dr.

rise to the diverse manifestations of life that present themselves to our notice. That a linked-on group can affect and upset the proceedings within the molecular complex is shown by the effect produced when a toxin molecule is taken on.

In the natural course of events, the receptors or arms are designed for taking on nutrient molecules of various kinds, and amongst these, protein molecules are included. Upon this point Ehrlich, in his Royal Society Croonian lecture, says: "If a cell of the organism has, with the assistance of an appropriate 'side-chain,' fixed to itself a giant molecule, there is provided one of the conditions essential for the cell nourishment. Such giant molecules cannot at first be utilised by the cells, and are only made available when, by means of a ferment-like process, they are split into smaller fragments. This will be very effectually attained if, figuratively speaking, the 'tentacle' or grappling arm of the protoplasm possesses a second haptophore group adapted to take to itself ferment-like material out of the blood fluid."

What is here meant is that the receptor or side-chain is not only provided with an ending for taking on the protein nutrient molecule, but in addition, another ending constructed for taking on a particular molecular group to which the name of complement is assigned in the nomenclature adopted. This body is regarded as possessing ferment-like properties, and as existing in a free state in the blood serum, so as to be ready for anchorage wherever a suitable molecular group ending is to be found. It is supposed to stand in the same position towards the nutrient molecule as the lysin complement does to the red blood corpuscle, action occurring through the amboceptor which links both together; and, like the lysin complement, it loses its activity, as a ferment does, by exposure to a temperature of about 55° C.

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The next event in the life-history of the lymphocyte is lymphocytolysis. There can be no doubt that production and disappearance constitute a routine procedure, and there are good grounds for inferring that the disappearance is attended with a melting down, and transformation into the protein constituents of chyle and blood plasma, thus bringing these principles, which we are accustomed to view as tissue pabulum, into direct relation with the food, and placing them, in fact, in the position of elaborated food.

Looked at in this way, the tissues draw their nutrient supply from material elaborated from the digestion products at the seat of absorption, instead of the digestion products being conveyed as such through the circulatory system to the tissues, an event that, on account of their small molecular nature should but does not, make itself evident to us by running off with the urine. Under the view advocated, the mode of tissue nourishment is brought into parallelism with what occurs in the incubation of the egg, for here it is noticeable that the nutrient supply exists under the form of elaborated material of a similar nature to that belonging to the blood.

It is not permissible to assume that all the protein that is formed enters as a component of the tissues before being broken down. It is known that the

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and it is also known that the urea eliminated stands proportionate to the protein matter ingested, instead of to the energy produced in the tissues. This being the case, protein breaking down must occur, with separation of the non-utilisable from the utilisable portion, independently of what occurs in association with energy production. To enter the tissue simply for the purpose of being broken down and giving off its unutilisable nitrogenous portion is an unlikely mode of procedure. Whilst within the lymphocyte, however, the process may very consistently take place through the instrumentality of intracellular enzyme action, and this view of the matter harmonises with the fact that the period at which the increased elimination of urea shows itself after the taking of food, about corresponds with that of maximum activity of lymphocyte autolysis.

The great point emanating from what has preceded is that the products of digestion become assimilated at the seat of absorption. By this assimilation they become rebuilt, before reaching the circulation, into molecules of sufficient size to be precluded from flowing off with the urine in their passage through the kidney, in contra-distinction to what is known to occur with the digestion products themselves when circumstances exist to lead to their demonstrable presence in the blood. All experimental work affords testimony of sugar standing in the same position as salines and urea in relation to the property of passing off with the urine.

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The misconception that has so long prevailed has operated as a misguiding factor in connexion with the fundamental idea belonging to the glycogenic theory that the carbohydrate of our food is destined to pass through the circulatory system to the tissues in the form of sugar. In Michael Foster's textbook on "Physiology," at p. 613, we find it stated: "Now, a small amount of sugar is normally present in the blood, and *so long as this normal amount is not exceeded no sugar appears in the urine* [the italics are mine]. If, however, by some reason or other, the sugar in the blood is increased beyond that normal amount, the excess passes unchanged into the urine. And, the excess in the blood which thus leads to the excretion of unchanged sugar, is so small that we might expect it to be oxidised in the blood did the blood possess any considerable oxidising power." The identity of the idea here expressed with that expressed in the quotation from the author of the article in Hill's "Recent Advances in Physiology and Biochemistry" given in Lecture I., shows how deeply the groundless idea has become rooted in the minds of physiologists.

The misleading nature, upon a vital point, of such a conception cannot be otherwise than obvious to everyone. It implies, contrary to fact, that sugar may reach the blood of the general circulation without its presence being revealed by the urine. The real circumstances are that the urine constitutes an indicator of the state of the blood with respect to sugar, no matter whether the amount existing be large or small, and thence it may be concluded that if sugar were reaching the circulation, as is contended for under the glycogenic theory, it could not escape being rendered evident by the urine, just as indeed happens in connexion with diabetes.

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formation of the Central Midwives Board that this appeared be a case in which it was the duty of the Board to bring e facts under the notice of the Public Prosecutor. The oard decided that the facts in the case were to be laid efore the Public Prosecutor. Reports made at the request of e Board by various local supervising authorities as to the onduct of certain midwives previously censured or cautioned r offences against the rules were received and were of a enerally favourable character. 34 midwives were ordered be cited to attend a special penal meeting of the Board be held on Dec. 3rd to answer the charges alleged against hem by their respective local supervising authorities.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—uring the summer a deputation, formed by the honorary ecretary, Dr. A. G. Haydon, from this association had an nterview with Professor Rommelaere, the rector of the niversity of Brussels. We are informed that on the epresentations of the Brussels Medical Graduates' Association the following concessions were promised to candidates or the M.D. degree:—

1. That it should be sufficient for English candidates to produce their ertificates of registration instead of their diplomas on presenting hemselves for examination at Brussels.
2. That the attention of the Administrative Council of the University hould be drawn to the insufficiency of certain Indian and American ualifications which do not entitle their holders to the full privileges f practice in their own country.
3. That the examination for the M.D. degree in February should in uture take place in March, this month being more convenient for nglish candidates.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Children Bill.

THE Children Bill passed through its report stage in the House of Lords on Thursday, Nov. 12th, but only slight alterations were made in the text of the measure.

The Housing and Town Planning Bill.

Mr. BURNS, the President of the Local Government Board, on Nov. 17th refused to accede to a request made by a Member of the Standing Committee of the House of Commons charged with the consideration of this Bill to drop the part of it relating to town planning. The motive of the request is a fear that if much longer time is spent upon the measure in committee its chances of becoming law this year will be shattered. Mr. BURNS expressed himself as sanguine of being able to carry the whole Bill, but his optimism is not shared by a number of the Members of the Committee.

Industrial Diseases.

The Departmental Committee on Compensation for Industrial Diseases has made a report on glass-worker's cataract and telegraphist's cramp. The Committee recommends that "cataract in glass-workers" should be added to the first column of the schedule of industrial diseases for which compensation may be claimed, and that "processes in the manufacture of glass involving exposure to the glare of molten glass" be added to the second column, but it is added that compensation should be made payable only in cases where an operation is undergone and for a period not exceeding six months. With regard to telegraphist's cramp, the Committee recommends that the application of Section 8 of the Workmen's Compensation Act, 1906, should be modified where the "workman" suffering from the disease is in the employment of the Postmaster-General by the substitution of the postal medical officer of the district for the certifying surgeon appointed under the Factory and Workshop Act, 1901, as the person by whom, in the first instance, the presence of the disease should be certified.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 11TH.

Lunacy and Marriage.

Captain FABER asked the Secretary of State for the Home Department whether, looking at the increase of lunacy, he could see his way to recommending that a Bill should be brought in to prevent the marriages of those persons who had ever been confined in a lunatic asylum.—Mr. GLADSTONE answered: No, Sir, it would be impossible to prohibit the marriage of all persons who have ever been confined in a lunatic asylum, because in many cases the mental trouble has been of a limited or temporary nature. The recommendations on the subject in the report of the Royal Commission on the Feeble Minded will be considered.

The Medical Department of Trinidad.

Mr. SUMMERBELL asked the Under Secretary of State for the Colonies whether his attention had been called to the administration of the medical department of Trinidad; and, if so, whether he could state it was the intention of the Government to take steps having for their object the reorganisation of that department on lines that would give to Trinidad a health ordinance on more modern lines.—Colonel SEELY said in reply: The Secretary of State has received no official representations on the subject and he is not aware that any scheme of reorganisation is under the consideration of the Colonial Government.

Tuberculosis in the Army.

Mr. SUMMERBELL asked the Prime Minister, in view of the promotion by the Government of the Tuberculosis Prevention (Ireland) Bill, to state whether it was the intention of the Government to adopt the recommendations of the Select Committee as to tuberculosis amongst soldiers, about 350 of whom were discharged every year suffering from this disease, and in regard to whom no provision for treatment was made by the State.—Mr. ASQUITH replied: I can add nothing to the statements already made by my right honourable friend the Secretary of State for War with regard to this matter. As has been stated, the Government is not prepared to adopt the recommendations of the Departmental Committee which inquired into this subject.

Public Health in Ramsey.

Mr. BOULTON asked the President of the Local Government Board whether he had seen the report *re* the prevalence of infectious disease and sanitary conditions existing in the urban district of Ramsey by the consulting medical officer of health; whether he was aware that the report stated that there was no water in the town fit for drinking; that the sewage of the town found its way, illegally, directly into the river; that the sanitary conveniences were insanitary and objectionable; whether he would take steps, for the protection of the inhabitants, to see that the urban district council put into force the powers it possessed under the Public Health Act; and what other steps he proposed to take to secure wholesome water and proper drainage for the town.—Mr. BURNS repied: I have obtained copies of the report made by the consulting medical officer of health to the Huntingdonshire county council on this subject, and I find that the report is generally to the effect mentioned in the question. The county council is in communication with the urban district council with respect to the steps to be taken in consequence of the recommendations made in the report, and the latter body was to hold a special meeting to consider the matter. I have requested that I may be informed of the action which the district council proposes to take with regard to it.

The Tuberculosis Prevention (Ireland) Bill.

Mr. GINNELL asked the Chief Secretary to the Lord Lieutenant of Ireland, seeing that no body of ratepayers had asked for the enactment of the Tuberculosis Prevention (Ireland) Bill, while all classes in Ireland desired the enactment of an adequate Land Bill, and that persisting so late in the session with one might endanger the other, whether he would consider the advisability of dropping the Tuberculosis Bill in favour of the promised Land Bill.—Mr. BIRRELL wrote in reply: I have received many resolutions from local authorities and other representative bodies in favour of the Tuberculosis Prevention Bill. It is not proposed to drop the Bill.

THURSDAY, NOV. 12TH.

The Local Government Board for Scotland.

Mr. WATT asked the Secretary for Scotland whether, in view of the increase to be presently effected in the staffing and *personnel* of the Local Government Board for Scotland, he would undertake that a veterinary surgeon with practical experience in meat inspection would be appointed to that Board in order to unify the standard of meat inspection throughout Scotland.—Mr. SINCLAIR furnished the following written answer: I can only inform my honourable friend that if and when an increase of staff of the Local Government Board is necessary all the representations that have been made will have due consideration.

The Transmission of Anthrax.

Mr. BRIGG asked the Secretary of State for Foreign Affairs whether he would give instructions to the consuls in the ports from which goats' hair, mohair, and low quality of wools were exported to circulate amongst the farmers, dealers, and packers in their respective districts a request that they would use every possible precaution to prevent blood stains and pieces of skin being sent to this country in bales for manufacturing purposes, as according to the recent discovery by Dr. F. W. Eurich of Bradford that the germs of anthrax were traceable to blood stains and not to the ordinary dust arising from the sorting of foreign materials, the fatal cases arising from anthrax might be diminished, and the costly regulations for dealing with ordinary dust might, if thought advisable, be considerably modified.—Sir EDWARD GREY (by written answer) replied: I am advised by the Secretary of State for the Home Department that the issue of such a request as is suggested in the question might possibly prove useful, though too great expectations must not be based upon it, and that, after consultation with the Home Office, steps will be taken to bring the suggestion to the notice of those interested.

Police Ambulances in the Metropolis.

Mr. COOPER asked the Secretary of State for the Home Department what was the total number of police wheeled-litter ambulances in the metropolitan area in each year from 1891 to 1907; and the total number at the present time.—Mr. GLADSTONE furnished the following written answer: The earlier figures cannot readily be given, but it may be assumed that previous to 1903 there was an ambulance at every police station. The total number of police ambulances on Dec. 31st of the undermentioned years was—1903, 190; 1904, 192; 1905, 193; 1906, 203; 1907, 263; and Oct. 31st, 1908, 278.

MONDAY, NOV. 16TH.

The Medicine Chest of the House of Commons.

Mr. PATRICK O'BRIEN asked the First Commissioner of Works [illegible] ements he had [illegible] y medical and [illegible] o apply them, [illegible] the House.— [illegible] ith every drug and instrument which the ingenuity or necessities of man can require has been generously presented to the House by a well-known firm of manufacturing chemists, who do not desire their name to be mentioned in the matter, but I am glad to take this opportunity of conveying to the anonymous donors the gratitude of those who may subsequently profit by these appliances. The contents of this chest were decided upon after the careful consideration and advice

rise to the diverse manifestations of life that present themselves to our notice. That a linked-on group can affect and upset the proceedings within the molecular complex is shown by the effect produced when a toxin molecule is taken on.

In the natural course of events, the receptors or arms are designed for taking on nutrient molecules of various kinds, and amongst these, protein molecules are included. Upon this point Ehrlich, in his Royal Society Croonian lecture, says: "If a cell of the organism has, with the assistance of an appropriate 'side-chain,' fixed to itself a giant molecule, there is provided one of the conditions essential for the cell nourishment. Such giant molecules cannot at first be utilised by the cells, and are only made available when, by means of a ferment-like process, they are split into smaller fragments. This will be very effectually attained if, figuratively speaking, the 'tentacle' or grappling arm of the protoplasm possesses a second haptophore group adapted to take to itself ferment-like material out of the blood fluid."

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Hôpital Français, 72, Shaftesbury avenue, W C—Resident Medical Officer, unmarried Salary £70 per annum, with full board

Hospital for Consumption and Diseases of the Chest, Brompton — Dental Surgeon

Hospital for Sick Children, Great Ormond street, London, W.C — House Surgeon, unmarried, for six months. Salary £50, with board and residence

Ipswich, East Suffolk and Ipswich Hospital.—Senior House Surgeon. Salary £80 per annum

King Edward VII. Hospital and Dispensary for Windsor, Eton, and District—House Surgeon, unmarried. Salary £110 per annum, with residence, board, laundry, and attendance.

Kingston upon Hull, City and County of—Public Analyst and Bacteriologist Salary £350 per annum.

Liverpool Stanley Hospital.—Third House Surgeon. Salary £60 per annum, with board, residence, and washing

London County Council.—Assistant School Doctors in the Public Health Department. Salary £120 per annum

London Hospital, Whitechapel, E—Medical Registrar. Salary £100 per annum.

Loughborough and District General Hospital and Dispensary —Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing

Manchester, University of.—External Examiner in Surgery

Milroy Lectures on State Medicine and Public Health — Milroy Lecturer for 1910.

Newark-on Trent Hospital and Dispensary—Resident Medical Officer, unmarried Salary £100 per annum, with board, lodging, and laundry.

Newcastle-on Tyne Dispensary.—Visiting Medical Assistant. Salary £160 per annum

Norwich, Jenny Lind Infirmary for Children, Unthank road — Resident Medical Officer (female). Salary £50 per annum, with board, apartments, and laundry

Prince of Wales's General Hospital, Tottenham, N.—Honorary Anæsthetist. Also Honorary Medical Registrar

Queen's Hospital for Children, Hackney road, Bethnal Green, E.— Assistant Physician

Queensland Government—Inspector of Insane Asylums and Medical Superintendent of Goodna Asylum. Salary, &c., £800 per annum, with quarters, fuel, and light.

Samaritan Free Hospital for Women, Marylebone-road, N.W — Anæsthetist Salary £20 per annum

Taunton and Somerset Hospital.—House Surgeon Salary £100 per annum, with board, lodging, and laundry

Throat Hospital, Golden square, W.—Assistant Surgeons

University College Hospital, Gower-street, W C — Surgical Registrar

West London Hospital, Hammersmith road, W—House Physician for six months Board, lodging, and laundry provided

West Riding of Yorkshire County Council.—Medical Inspector of Elementary School Children. Salary £300 per annum and actual expenses

Willesden Urban District Council Isolation Hospital.—Resident Deputy Medical Superintendent, unmarried Salary £125 per annum, rising to £200, with board, lodging, and washing

Births, Marriages, and Deaths.

BIRTHS.

Bourdas.—On Nov 14th, at Bedford hill, Balham, the wife of E Clarkson Bourdas, M D, F R.C S E, of a son

Glanville.—On Nov 16th, at Guyon House, Heath street, Hampstead, the wife of W M G. Glanville, B M Oxon, of a son

Godwin.—On Nov 15th, at 35, Southgate-street, Winchester, the wife of Herbert James Godwin, M B, F R.C S, of a daughter.

Lewis.—On Nov 14th, at Weymouth street, W, the wife of Ernest E Lewis, M D, of a son

Reaney.—On Nov 14th, at Kidbrook House, Blackheath, the wife of Captain M. Foster Reaney, M.B, D P.H, I M S, of a son

MARRIAGES.

James—Taplin—On Nov 14th at the Parish Church, Wimbledon, John James, M B Lond, R.A.M C, Woolwich, to Mary Stuckey Taplin, eldest daughter of Mr and Mrs R Taplin, of Thorncombe, Wimbledon.

DEATHS.

Henley—On Nov 14th, at Gloucester, Edward Whishaw Henley, M.R.C S, Medical Superintendent, Gloucester County Asylums, aged 54 years.

Mason—On the 12th inst., Sydney Herbert Mason, M R.C S, L.R C P Lond., aged 35 years, formerly of 333, Moss lane East Manchester, only son of John Mason, The Rowans, Knowle, Warwickshire.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

During the week marked copies of the following newspapers have been received:—*Belfast News Letter, Edinburgh Evening Despatch, Aberdeen Express, Morning Leader, Leeds Post, The Scotsman, Newcastle Journal, Wolverhampton Express, Blackburn Telegraph, Morning Advertiser, Bolton Evening Mail, Glasgow Record, Manchester Guardian, Norwich Press, Hereford Times, Dundee Advertiser, Belfast Telegraph, Manchester Courier, Birmingham Post, Manchester Evening Chronicle, Notts Guardian, Manchester Evening News, Wolverhampton Evening News, &c.*

Notes, Short Comments, and Answers to Correspondents.

ESPERANTO.

To the Editor of The Lancet.

Sir,—I would like to call the attention of your readers to the advantages of this language to medical men both now and in the future, and to the fact that a universal association of Esperantist medical men has been formed (Tutmonda Esperanta Kuracista Asocio—T E.K.A.), of which the representatives in England are Dr. Richard Legge, County Asylum, Mickleover, Derby, and Mr. Courtenay J. Fuller, 33, Nightingale-place, Woolwich, and that the official journal of this association is the *Voco de Kuracistoj*, which accepts contributions in Esperanto from medical men all over the world. It is, I hope, hardly necessary for me nowadays to occupy your space by dwelling on the ease with which Esperanto can be learned and the useful part which it will play in medicine. If this is not already known to your readers it soon will be. I am, Sir, yours faithfully,

Sydney Whitaker,

Liverpool, Nov. 13th, 1908. Vice-President of the T.E K.A.

SAILORS' HOSPITAL, VENICE

Mr. de Zuccato, the British consul, in his annual report makes reference to the Cosmopolitan Hospital for Sailors which, through the generous efforts of Lady Layard, has been opened in Venice. Her Majesty Queen Alexandra and Her Majesty Queen Margherita have been graciously pleased to consent to become patronesses. H.R H. the Princess Christian of Schleswig-Holstein is the president. The number of sailors sent to the hospital having increased the committee has considered it advisable to have two new wards built with 12 beds for men. A special ward for infectious diseases has also been added. Masters and sailors have all expressed their warm appreciation both of the treatment and of the kind attention shown by the nurses, under the superintendence of Miss Chaffey, the lady superior, who has been awarded two medals for honourable service rendered by her in South Africa. Funds for the sailors' wards would be gratefully received by Lady Layard, Palazzo Capello, San Polo, Venice.

FLIES.

To the Editor of The Lancet.

Sir,—Dr. Delamarre of Paris (*Presse Médicale*, No 66, Nov. 7th, 1908) has lately recommended placing dishes with a 10 per cent. formaldehyde solution about places infested with flies (or mosquitoes) This procedure completely did away with the fly nuisance in large hospital wards, thousands of these creatures being found floating dead on the solution I am, Sir, yours faithfully,

Zurich, Nov. 10th, 1908. Th. Zangger, M.D.

STERILE EMULSION OF IODOFORM.

In the *Pharmaceutical Journal* of Oct. 17th directions are given for the preparation of sterile emulsions of iodoform which are now used as intra articular injections The suggested formula contains iodoform in fine powder 10 per cent. and liquefied carbolic acid 3 per cent. in a mixture of glycerine and distilled water. Ten parts of iodoform are rubbed to a smooth paste with ten parts of glycerine in a sterilised mortar and mixed with the carbolic acid and 20 parts of water After the mixture has stood for 12 hours the liquid is poured away and the remaining paste is mixed with sufficient of a mixture of glycerine seven parts and water two parts to produce 100 parts of emulsion. The ingredients should previously be sterilised by suitable methods. Iodoform may be rendered sterile by shaking one part with two parts of a 10 per cent. solution of formaldehyde in water, or it may be left for three days in contact with a 5 per cent. solution of carbolic acid containing in addition one part of mercuric chloride in 2000 The sterilisation of glycerine may be effected by heating it on a sand bath in a flask for 15 minutes at a temperature of 120° C.

TUBERCULIN.

To the Editor of The Lancet.

Sir,—In reply to the inquiry of your correspondent in your issue of Nov 7th as to the most up-to-date information concerning the use and administration of tuberculin, the information he seeks will be found in "Lehrbuch der Spezifischen Diagnostik und Therapie der Tuberkulose," by Bandelier u Roepke, second edition, Wurzburg, Curt Kabitzsch (A. Stuber's Verlag) An English translation of this excellent book is announced in the preface to be on foot.

I am, Sir, yours faithfully,

London, S W, Nov. 18th, 1908. R. C.

NATIONAL FOOD REFORM ASSOCIATION

This association, which came into existence early in the year, is, we are informed, about to begin active operations against an evil described as the use of improper or insufficient food Undoubtedly questions of diet are of the first importance in health, and anything like an attempt to correct the errors of national diet is a great sociological step forward We wish the association good fortune in its work but trust that the methods of reform which it describes

CHART 1.—Observations on Carrier Mrs. H.

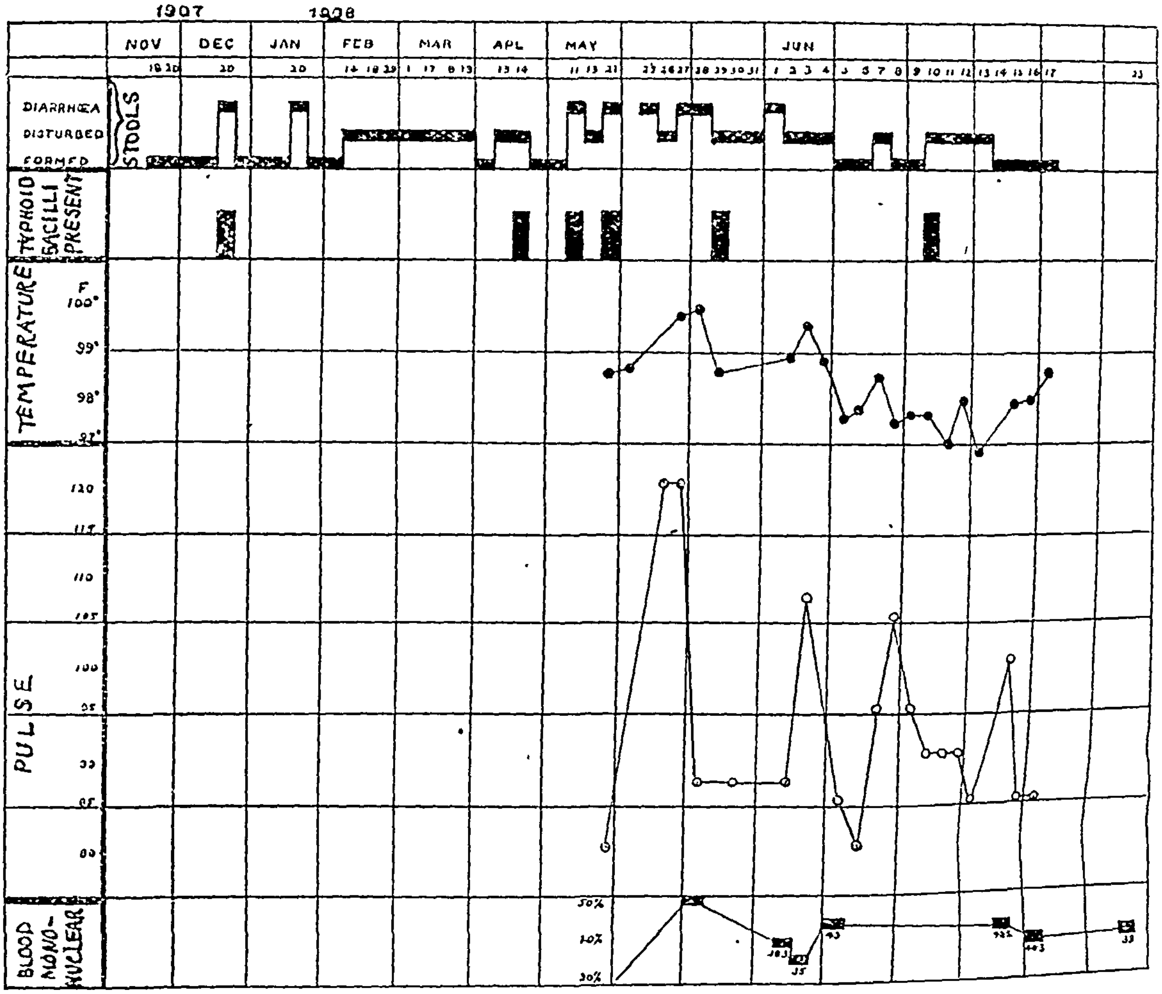
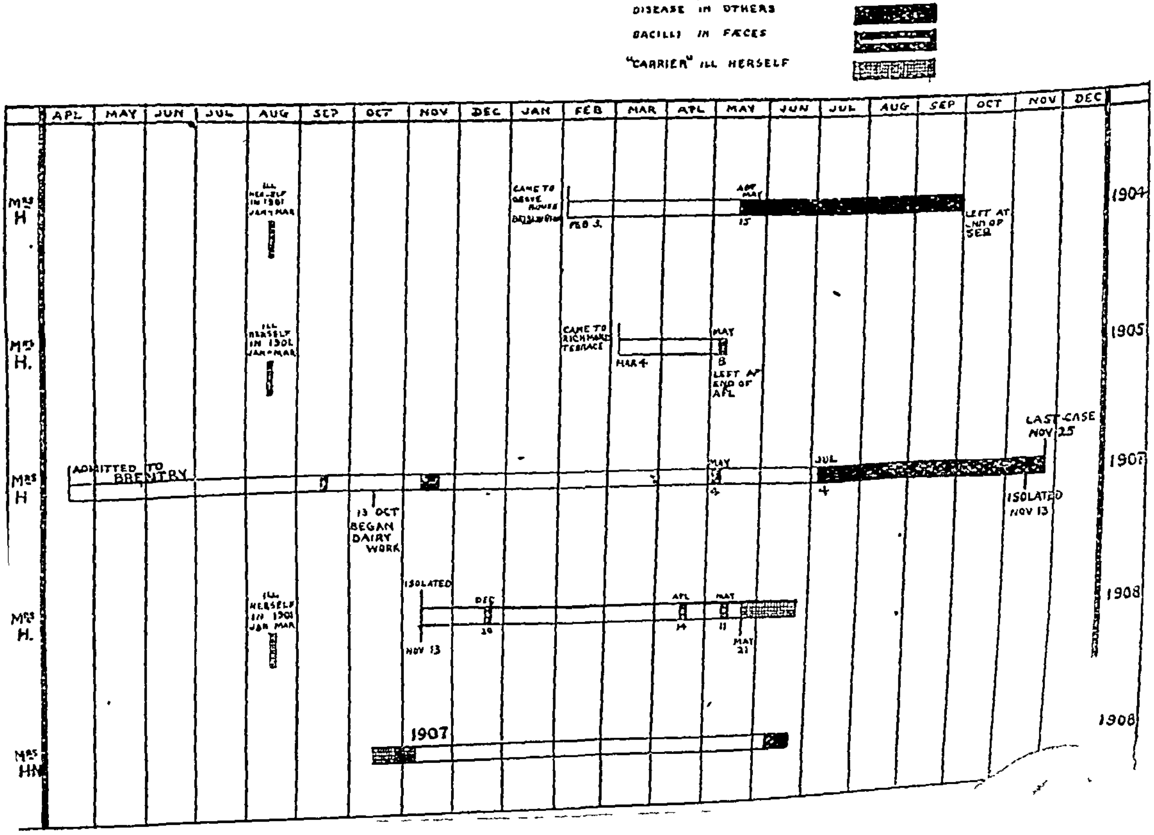


CHART 2.—Periodicity.



THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. A. J. Whiting: The Peroneal Type of Muscular Atrophy.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Acne Vulgaris in its Three Stages: (1) Comedo; (2) Indurata; (3) Necrotica.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Mr. Sargent: Surgery of the Nervous System.
FRIDAY.—3.30 P.M., Mr. L. Paton: Optic Neuritis.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck-street, W.

THURSDAY.—5 P.M., Mr. J. Cantlie: Spinal Cord Surgery.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Colman: A Demonstration of Selected Medical Cases.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Six Months	0	16	3	Six Months	0	17	4
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TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 19th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 13	29·91	S.W.	0·04	55	56	52	54	54	Raining
" 14	29·83	S.W.	0·04	47	54	52	51	53	Overcast
" 15	30·20	N.E.	—	51	47	45	44	45	Overcast
" 16	30·22	N.W.	—	50	47	45	45	45	Overcast
" 17	30·23	W.	0·01	55	47	43	45	45	Cloudy
" 18	30·33	S.W.	—	61	52	43	42	43	Fine
" 19	29·81	N.W.	0·20	51	47	43	44	45	Cloudy

them. Arrived at their summer residence the household visited had an outbreak of enteric fever. Either the carrier had been "ineffective" during these nine months or the members of the family had been immunised. The cook found a new situation, and in September, 1906, she caused another outbreak of enteric fever shortly after she arrived, while in January, 1907, another family owed its attack of enteric fever to her entry into the house.

When these outbreaks due to typhoid carriers are mapped out, as in Chart 3, several interesting points appear. It has been already pointed out that the fæces of the typhoid carrier do not always contain typhoid bacilli. Chart 3 shows that the "effectiveness" of the carrier is also intermittent. The thin line on the chart covers the periods when the carrier was in such relation with other persons—generally as a food preparer—as to make infection possible. The shaded areas indicate the times when the potential became an actual infection. For every carrier, therefore, there appear to be periods of maximum and minimum danger, and a knowledge of these times should be of great value in prophylaxis.

Another point which arises during a consideration of Chart 3 is the almost uniform absence of "effectiveness" of the carrier during the early months of the year. The evidence already gained goes to prove that the typhoid bacillus may live for considerable periods in the gall-bladder and hepatic bile-passages, and there is little doubt but that the carrier harbours the typhoid bacillus continuously.

What is the meaning of this period in which the carrier fails to be "effective"? Is it simply coincidence, or shall we find it appearing uniformly when a larger number of cases are available for reference? Has it anything to do with periodicity in the virulence of the bacillus? Does the organism live a "hibernant" existence in the intra- and extra-hepatic biliary passages during these months, and become actively parasitic on re-awakening for the remaining months of the year? Has this "period of effectiveness" anything to do with the type of food taken, or with the general tissue metabolism, or with the heat regulation apparatus? Does this "seasonal effectivity" offer any explanation of the "waves" of endemic enteric fever, the May revival starting the supply of fresh infections which subsequently develop by extension into the autumnal burst? These are questions which call for further observations, and we do not propose to anticipate the replies.

The seasonal waves of typhoid fever are quite characteristic, and the variations in the virulence of epidemics often exhibit "local" features; sometimes, however, the local virulence may assume national characters. We do not know the causes which are responsible for the intensifications of the virus, but evidence is accumulating to show that the human tissues play a definite part. Direct transmission of human fæces at a period of bacterial virulency to water, milk, shell-fish, or other media in which the organism can proliferate is responsible for widespread outbreaks. Human excreta when spread over the surface of soil may prove effective through the agencies of flies or strong wind currents, but it has to be remembered that typhoid bacilli do not proliferate actively in surface soil and cease to be viable after a few weeks (*vide* Mair [2]), so that soil infection probably accounts for a small proportion of cases only. Climatic influences are conjectural; it is possible so to arrange the evidence from Britain, Europe, India, and the tropics that rain, drought, heat, and moisture may be severally indicted. Cold alone occupies an isolated position.

When sporadic outbreaks are contrasted with epidemic human transmission again assumes importance. There is every hope that an intelligent appreciation of this fact by the typhoid convalescent may minimise the occurrence of scattered cases of enteric fever, but it is the obvious duty of the physician to frame rules for the guidance of the patient and to see that they are carried out (*vide* Appendix). Similarly, it behoves the community to protect itself from possibilities of infection by the provision of adequate control over typhoid convalescents. There are certain indications which might be followed until more knowledge points to other pathways.

1. *Systematic examination of the fæces of convalescents or suspected carriers.*—These examinations must be made day by day and extend over long periods. Chart 4 shows that it is impossible to accept any statement as to the periods of infectiveness or freedom from infection unless records of daily examinations are available. Anyone who undertakes this class of work knows that the demands on time, technique, and labour are so great that the community will no doubt adopt the plan of precautionary measures for those convalescents who have contact with foods either in the homes or in the distribution of meat, milk, vegetables, &c., or during the manufacture of cocoa and other eatables, reserving bacteriological measures for the cases whose periodicity does not follow the usual course.

2. *Urine.*—The marked excretion of the typhoid bacilli during the later weeks of the acute attack does not appear to have its parallel in the carrier. We have made a number of examinations of the urine, but they have so far yielded negative results.

3. *Blood.*—The agglutinating properties of the blood may afford evidence of the "effectiveness" of the carrier, but during the attack of Mrs. H. in June her Widal reaction did not vary from the 1 in 25 found on previous occasions. The differential counts we have made in the cases examined yielded an increase of mononuclear cells and this has suggested the need for further observations of a similar nature upon carriers and convalescents. It is quite possible that the extended inquiry may show this to be a valuable adjunct in the determination of "effective" periods.

4. *Temperature and pulse.*

5. *Hands.*—It may be worth while to make bacteriological examination of the nails and fingers. Positive results will exert marked mental effect on those who are requested to take antiseptic precautions after the toilet.

6. *Immunity.*—Determinations of immunity can only be carried out in bacteriological laboratories, but it may be necessary to resort to them in some instances. Speaking generally, the immunity of the typhoid carrier must vary considerably from time to time. It lies near to hand to think of raising the immunity of the carrier by injections of vaccines. Such a procedure will probably minimise the chances of re-infection, so that the carrier becomes less liable to recurrent attacks, but whether the raised immunity will comprise increased bactericidal powers and subsequent destruction of the bacilli is a question which can be answered only when investigations now in progress are more advanced and when our results of treatment with tar derivatives, &c., are available. We do not consider that a typhoid carrier should be considered as "cured" until daily examinations of the fæces have determined the absence of the bacilli during a period extending at least from April to November. This fact is brought out in Chart 4.

We do not attempt to generalise from these necessarily incomplete and preliminary observations, and we venture to hope that the profession, while using prophylactic measures to their full, will not rush into anti-typhoid-carrier therapy until the details have been adequately determined by laboratory investigations.

We are much indebted to Dr. D. Fleck and Dr. R. A. Beaver for their unwearied help in the collection of material and clinical observations and to Mr. J. O. Heaven for collaboration in the preparation of charts.

APPENDIX.

SUGGESTED INSTRUCTIONS TO TYPHOID CONVALESCENTS.

(*To be handed to Patients when discharged from Hospital.*)

Typhoid fever is caused by a germ (the typhoid bacillus) which enter the body in food or drink or swallowed dust. When the convalescent
stage is reached, the gerr
relapses of the disease. Sc
the intestines, and may cau
the first attack. The germ
Thus it is evident that the contents of the intestine of the typhoid convalescent are infective, and that the convalescent may be the
unconscious mean
family or friends.
milk-vendors, gree
workers in cocoa, c
and the mother wh
valescents in whicl
are very frequent.
view to diminish th

1. The hands and nails should be thoroughly washed, first in disinfectant solution, then in soap and water, and well rinsed before touching any foodstuffs, especially milk.

2. After the bowels are opened or the bladder is emptied the hands and nails should be at once disinfected and washed.

3. Strong disinfecting solution should be poured over the stools, &c., before the plug of the water-closet is used or the lid of the dry closet is shut down.

4. When the motions are loose the risk of infection is increased and additional care should be taken.

5. The convalescent should periodically visit the medical attendant, so that the blood, &c., may be tested, and measures may be taken to

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson): X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. A. J. Whiting: The Peroneal Type of Muscular Atrophy.

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THURSDAY.—4 P.M., Lecture:—Dr. Colman: A Demonstration of Selected Medical Cases.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), *Tottenham* (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), *University College* (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRI [illegible]
P.M.), St.
.), Charing
, St. Mary's
2 P.M.), Gt.
.), London
.), Throat,
Soho-square
(2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 19th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	*Remarks.*
Nov. 13	29 91	S.W.	0·04	85	58	52	54	54	Raining
" 14	29 89	S.W.	0·04	77	54	52	51	53	Overcast
" 15	30 20	N.E.	...	51	47	45	44	46	Overcast
" 16	30·22	N.W.	...	50	47	45	45	46	Overcast
" 17	30·23	W.	0 01	65	47	46	45	46	Cloudy
" 18	30 33	S.W.	...	61	52	42	42	43	Fine
" 19	29·81	N.W.	0·20	51	47	43	44	45	Cloudy

In from 18 to 24 hours smears were made from the cultures and stained by Gram's method and with carbol methylene blue and with carbol fuchsin. Subcultures were then made upon agar and nasgar plates and the organisms which preponderated in numbers isolated.

B.—*Results Obtained.*

1. *Trachea.*—Inasmuch as no appreciable amount of mucus can be secured from the trachea in health the only results obtained have been from catarrhal cases. In every one of the cases a coccus was isolated which did not stain by Gram's method. The various cultural reactions in broth, on agar, gelatine, and nutrose ascitic agar (nasgar), as well as the microscopical appearances, indicated that this was an organism indistinguishable from the micrococcus catarrhalis. Cocci staining by Gram's method as well as various bacilli both staining and failing to stain by Gram's method were occasionally found, but were not constant like the micrococcus catarrhalis. It is therefore possible that this latter organism may be the common cause of tracheitis and by downward extension possibly, too, of bronchitis. It must, however, be noted that –Gram cocci are present in 78 per cent. of normal throats and in 68 per cent. of catarrhal throats. The micrococcus paratetragenus described by Roger in 1897, and also found by Bezançon and de Jong[2] in many cases during an epidemic of bronchial catarrhs in Paris in 1904–05, and by Benham[3] in 11 out of 14 cases investigated in Brighton during 1907–08, was not met with.

2. *Throats.*—The bacteriological findings from 23 cases of as healthy throats as could be obtained and from 180 cases of non-diphtheritic inflammatory throats are given in Table I. The results were both disappointing and confusing. As is seen in the table, there were as many diphtheroids, –Gram cocci and Friedländer's bacilli, in the one class as in the other. In neither was the micrococcus paratetragenus ever seen in films or cultures.

TABLE I.

	Healthy.		Inflammatory.	
Diphtheroids	39 per cent.		38 per cent.	
Bacillus septus	35 ,,	39 per cent.	29 ,,	38 per cent.
Hoffmann's bacillus	4 ,,		9 ,,	
– Gram cocci	78 ,,		68 ,,	
+ Gram cocci	70 ,,		83 ,,	
+ Gram bacilli	40 ,,		40 ,,	
Bacillus of Friedländer	4 ,,		3·3 ,,	

Two points may, however, be noticed. First, the question of virulence and pathogenicity could not be determined; and secondly, my figures for diphtheroids in normal throats is very much higher than that found by most authorities—viz., about 8 per cent. Whether the small number of cases examined (23), the class of patient (medical students and out-patients at hospital), or the time of the year (January and February) is responsible for this great divergence I am unable to say. In a series of 20 cases of slight sore throat accompanied by cold in the head or tracheal cough either diphtheroids, or –Gram cocci, or both, were present in every instance, and I can only express the belief that these organisms are concerned in the production of sore throats. Dr. M. H. Gordon by the accidental absorption through a pipette of an emulsion of micrococcus catarrhalis has established the fact of this organism being capable of doing so.

3. *Noses.*—The difficulty of securing reliable bacteriological examinations of normal nasal cavities is great in London as so few people fail to give a history of recent colds; in the case of 20 as normal noses as were obtainable the following were the results of the alternative method mentioned under 3 (*b*). None were absolutely sterile but five only yielded air organisms such as sarcina lutea and aurantiaca, 10 gave only +Gram-staining cocci, six of these being staphylococcus albus, two staphylococcus aureus, and two staphylococci albus and aureus. From the remaining five cases in addition to Gram-staining cocci, the bacillus septus was obtained in one, and cocci failing to retain the stain by Gram's method and belonging to the pseudo-catarrhalis group in the other four. Air organisms were also present in most of these 15 cases. Of published observations elsewhere may be mentioned those of Hasslauer,[4] who examined 111 cavities and found staphylococcus pyogenes albus in 25 per cent., pneumococcus in 20 per cent., streptococcus pyogenes in 17 per cent., and diphtheroids in 13 per cent., more than one and not more than three or four different organisms being present. Von Besser[5] examined 81 cases and found staphylococcus pyogenes aureus in 17·5 per cent., pneumococcus in 17·5 per cent., streptococcus pyogenes in 8·7 per cent., and Friedländer's bacillus in 2·5 per cent. Lewis and Turner[6] examined 26 specimens from 16 persons; only three of these were sterile, in 13 only one organism was present, in nine two organisms only, and in one three organisms. On investigating the pathogenicity of the organisms which they isolated these last observers found that the organisms derived from nine healthy noses were non-pathogenic to animals, and in two cases they were pathogenic, and the conclusion was arrived at that not only are the organisms present only in small numbers but that their virulence and vitality alike are low.

The bacteriology of the mucosa in 42 cases of colds investigated in London during the years 1905, 1906, 1907, 1908.—The results which I have obtained in 42 cases of colds are given in tabular form in Table II.; only the presence of organisms which may be regarded as possibly causal is indicated. A few cocci staining by Gram's method and occasional non-pathogenic air organisms were also found in the cultures, but once identified as such were then disregarded. It will be seen that only one of the four organisms was present in the great majority of the cases. In Nos. 2 and 6 (Table III.) a very few of the second organisms were present, while in Nos. 11, 13, and 21 two organisms were found in about equal numbers; these last three cases were of a specially severe type.

TABLE II.

Bacillus of Friedlander alone	In 8 cases	=	19 per cent.
,, influenzæ ,,	,, 1 case	=	2·4 ,,
,, septus ,,	,, 11 cases	=	26·2 ,,
Micrococcus catarrhalis ,,	,, 12 ,,	=	28·6 ,,
Bacillus of Friedlander + bacillus septus	,, ,,	=	7·1 ,,
Bacillus of Friedlander + micrococcus catarrhalis	,, 2 ,,	=	4·7 ,,
Bacillus septus + micrococcus catarrhalis	,, 4 ,,	=	9·7 ,,
No definite organism isolated	,, 1 case	=	2·4 ,,
Total number of cases	42		

Too much importance must not be attached to the percentage figures given, although the results are obtained from observations spread over nearly four years. The bacillus of Friedländer is, I think, thereby made out to be a more frequent cause of colds than it really is, while the figures for bacillus septus and micrococcus catarrhalis are too low. By studying, say, 50 cases in any given epidemic results totally at variance with these might be obtained and a percentage value of even 100 obtained for either the bacillus septus or micrococcus catarrhalis. It is due to this fact that the claims of these organisms have been unduly pressed at various times by different observers. The rarity of the bacillus influenzæ and the total absence of the micrococcus paratetragenus are alike striking in the above series; this is probably due entirely to the fact that London was not affected by epidemics due to either of the above micro-organisms during these years.

C. *Justification of the View that Colds are Due to the Organisms Indicated.*

It may well be asked what grounds there are for regarding these several organisms as even being capable of producing colds, and still more especially of having produced the particular attacks here indicated, inasmuch as it has been shown that the micrococcus catarrhalis and closely allied forms are frequently resident in the healthy tract, that the bacillus of Friedländer is present in between 2 and 4 per cent. of healthy noses, and that diphtheroids infect from 8 to 12 per cent. of noses and throats presenting no pathological features. To this it may be replied that from a certain percentage of normal throats pneumococci or the Klebs-Löffler bacillus may be similarly isolated and may even

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[2] Bulletin de la Société Médicale des Hôpitaux de Paris, March 2nd and 16th, 1905.

[3] Proceedings of the Brighton and Sussex Medico-Chirurgical Society, 1903, p. 84.

[4] Centralblatt fur Bakteriologie und Parasitologie, Jena, 1902, Band xxxiii., p. 47.

[5] Beitrage zur Pathologischen Anatomie und Allgemeinen Pathologie, Jena, 1889, Band vi., S. 33.

[6] Edinburgh Medical Journal, November, 1905, p. 393.

Three Lectures

ON THE

PATHOLOGY AND TREATMENT OF DIABETES MELLITUS, VIEWED BY THE LIGHT OF PRESENT-DAY KNOWLEDGE.

Delivered before the Royal College of Physicians of London

BY F. W. PAVY, M.D. LOND., LL.D. GLASG., F.R.S.,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL; HONORARY PHYSICIAN TO KING EDWARD VII. HOSPITAL.

LECTURE II.[1]

Delivered on Nov. 12th.

MR. PRESIDENT, COLLEAGUES, AND GENTLEMEN,—In my "Physiology of the Carbohydrates," published in 1894, I brought forward a new view with respect to the disposal of the food carbohydrate within the animal system. The clue was given to it by the work which had shown that carbohydrate entered into the constitution of protein matter. By general assent, it is now admitted to do so, and thus a new position is created, providing for the application of carbohydrate in a manner that had not previously been thought of. We know that the carbohydrate of the food is to be traced to the seat of absorption in the walls of the alimentary canal, where it presents itself in the form of sugar. What now becomes of it? If it passed straight on as sugar into the blood, it ought to give rise to glycosuria in the healthy state in like manner to what occurs in diabetes. From the line of experimenting, to which reference was made at the conclusion of the previous lecture, involving the removal of the liver from the field of action, we are driven to conclude, in order to account for the existing circumstances, that there must be an influence at work at the actual seat of absorption to arrest the onward passage of sugar, as such, towards the circulation.

As set forth in my published work referred to, conditions are found at the seat of absorption that suffice satisfactorily to account for the disappearance of sugar that is here observed to occur. We have, in the first place, the fact to deal with that, as can be shown by the effect of cleavage agencies, carbohydrate can be cleaved off from its locked-up state in protein, and in the next, that carbohydrate can, in the presence of nitrogenous matter, be built up into protein by the instrumentality of the synthetic power inherently belonging to bioplasm. Now, nowhere do we find such activity of protein formation existing as at the seat of intestinal absorption. Quiescence prevails at a period of fasting, but after food ingestion, extremely active bioplasmic growth starts into operation, the newly-formed bioplasm flowing, in the shape of lymphocytes, through the chyliferous vessels into the circulatory system, and giving rise to the digestion lymphocytosis which is observed to follow the ingestion of food.

Everything points to the occurrence of a

DISAPPEARANCE OF SUGAR AT THE SEAT OF ABSORPTION,

and with such an occurrence, everything falls harmoniously into line, both in relation to the conditions observed in connexion with the normal state and those observed in connexion with diabetes. But to what extent is it possible for sugar to become lost to view in this way? It is true, with our rough chemical methods put in operation outside the body, only a comparatively limited amount of carbohydrate is to be obtained from the disruption of protein, but it is evident that this is not to be taken as a measure of what may actually exist incorporated within.

Ground is given for the statement made through what is observed in the glycosuric state, induced alike by pancreas extirpation and the action of phloridzin, when the point is reached at which the eliminated sugar is solely derived from protein disintegration. The output of nitrogen being estimated, as well as the sugar, means are afforded for determining the protein destruction occurring. At first the output of sugar is large and variable in proportion to the nitrogen, on account of being partly derived from the carbohydrate (glycogen) existing in a free state in the body. In the course of time, with the observance of fasting, this becomes expelled, and then a fixed relationship is found to present itself between the outgoing nitrogen and sugar. From the nitrogen obtained, the amount of protein disintegrated can be calculated, and thus the data are given for determining the relation subsisting between

PROTEIN DISINTEGRATION AND SUGAR LIBERATION.

Reckoning upon the basis of the information in this way supplied, it may be roundly stated that protein yields up about half its weight of sugar, which may rationally be taken to have been previously incorporated with it from the food.

The disappearance of absorbed sugar by synthesis into protein before passage from the mucous membrane of the intestinal canal, harmoniously fits in with the absence of glycosuria as a result of Eck's fistula. With sugar locked up in protein reaching the general circulation through the lacteal system, the position is unaffected by the experimental prevention of the passage of the portal blood through the liver. Only a variable portion of the absorbed sugar would be left to find its way into the portal blood. I expressed myself upon this matter in my recent work on "Carbohydrate Metabolism and Diabetes," p. 66, 1906, in the following terms, and the remarks were made before the information supplied by Eck's fistula had been taken into consideration. "As yet I have only spoken of the assimilation of carbohydrate by being built up into proteid through the agency of bioplasm. Probably, when there is no particularly large supply of carbohydrate to be dealt with, this is the main result that occurs. When, however, the supply is extensive, it is evident that some escapes being disposed of at the seat of absorption, and thence reaches the portal blood. At a period of fasting, and likewise after the ingestion of animal food, the portal blood, as regards the amount of sugar present, corresponds with that belonging to the other parts of the circulatory system. After a free supply of starchy food, however, sugar may be found to be present in the portal blood to a considerably larger extent than anywhere else."

What is contended for then is that the main

DISPOSAL OF THE ABSORBED SUGAR

is effected by the assimilative action occurring within the mucous membrane of the intestinal canal, and that what escapes being disposed of here, passes through the portal vein to the liver, which exerts a supplementary action in checking its flow into the general circulation by producing transformation into glycogen. The conditions existing in connexion with Eck's fistula are of a nature to affect the latter action, and not the former, and thence it follows that as long as the ingested carbohydrate falls within the capacity of being disposed of at the seat of absorption in the walls of the alimentary canal, there will be no passage of sugar occurring into the general circulation, and, as a consequence, no glycosuria; but if the carbohydrate stands beyond the capacity referred to, sugar will be reaching the portal vein, and, passing through Eck's fistula, will flow into the general circulation and constitute the source of glycosuria. Now, according to the statement made by De Filippi upon the strength of his experiments with Eck's fistula, glycosuria was not observed after the administration of starchy food, but was observed after the administration of sugar when the quantity given reached a certain point which stood below that which was found to be required to produce glycosuria in the normal state, which means the existence of a diminished tolerance.

It is seen from the experiments recorded in my "Physiology of the Carbohydrates," p. 105, on the condition of the portal blood after the administration of carbohydrate food that, in the dog, there is in no instance any great effect produced on the sugar content. In the rabbit it is otherwise. In some of the instances in this animal, the figures after food come out conspicuously high. The highest in the list stands at 4·590 per 1000 before hydrolysis and 5·330 after. In many of the others, only a somewhat slight increase is observable. The tendency of the operation would be to give higher figures than for the actual circulating state, on account of the blood being somewhat delayed in the capillaries and instances - Gram *cocci* which may have been *micrococcus* catarrhalis were seen, and in two cases isolated and proved to be the micrococcus catarrhalis, so that Benham's deductions may be entirely misleading, as may also be those of the other observers above referred to. A consideration of the occurrence in catarrhal affections of the eye and urethra of its close ally, bacillus xerosis, still further weakens its claims. Pathologists no longer regard this as a pathogenic organism, yet in the healthy eye and healthy urethra it is not commonly present, whereas in catarrhal conditions set up by the Koch-Weeks and Morax-Axenfeld bacilli and by the gonococcus it is practically omnipresent (in between 95 and 99 per cent. of all cases). My figures—in 9 out of 20, or 45 per cent.—moreover show that it may be a very common inhabitant of the non-catarrhal throat. Distinct evidence of the pathogenicity of the bacillus septus is therefore very necessary and is so far entirely lacking, despite several attempts at demonstration. Despite these facts certain considerations induce me to think that it is a factor in the production of colds. In 11 out of my 42 cases this organism was present in almost pure culture—at least, despite the use of such culture media as blood agar, blood serum, and nutrose ascitic agar I could find no other organism recognised as the possible cause of a cold. The cold and organism disappeared together. Further, in the instance of Case 17, a medical man and close observer, suffering from an acute attack, to which he was very subject and which always continued subacute for several weeks, I isolated this organism and made a vaccine for the patient. Upon the sixth day when he felt very ill I injected him with 275,000,000 dead organisms. On the next day he was better, and on the following day he was quite well, while his index rose from 0·9 to 1·7. Again, a friend who travels much by rail and always catches cold and sore throat on these occasions, upon several of which I isolated the bacillus septus, was about to undertake a long train journey; he welcomed the suggestion of an inoculation and was given 275,000,000 dead organisms. Despite a long and very cold all-night journey, for the first time for years he developed neither sore throat nor nasal catarrh, nor during the succeeding 12 months has he developed a cold at all. Close attention to the clinical symptoms in my cases has revealed the fact that the bacillus of Friedlander rarely, if ever, produces a sore throat. In Cases 6, 13, and 21, in which both the bacillus of Friedlander and the bacillus septus were found a sore throat was a prominent feature, and out of the 11 cases in which the bacillus septus alone was found, ten had pronounced sore throats as the earliest symptom. It would therefore appear that the chief rôle of the

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[1] L[illegible]s published in THE LANCET of Nov. 21st, 1908, p. [illegible]

TABLE IV.—*Table of Symptoms, with Bacteriological Findings.*

No. of case.	Headache.	Malaise.	Sore throat.	Tonsillitis.	Cough.	Nasal discharge.	Muscle pains.	Temperature above 100° F.	Eustachian tube involved.	Sneezing.	Tracheitis and bronchitis.	Acute.	Subacute.	Chronic.	Bacillus septus.	Bacillus influenzæ.	Bacillus Friedländer.	Micrococcus catarrhalis.
1	—	++	—	+	—	+++	—	—	—	+	—	—	—	+	—	—	+	—
2	++	++	—	—	—	++	+	—	—	+	—	+	—	—	—	—	—	+
3	—	+	—	—	—	++	—	—	+	+	—	+	—	—	—	—	+	—
4	—	+	—	—	—	+	—	—	—	+	—	—	+	—	—	—	+	—
5	—	++	—	—	—	++	—	—	—	+	—	—	+	—	—	—	+	—
6	—	++	+	—	—	++	—	+	—	—	—	+	—	—	+	—	+	—
7	—	++	—	—	+	++	—	+	—	—	—	+	—	—	—	+	—	—
8	—	—	+	—	—	+	—	—	—	+	—	+	—	—	+	—	—	—
9	—	—	+	—	—	+	—	—	—	—	—	—	—	—	—	—	—	—
10	—	—	—	—	+	+	—	—	—	—	+	—	+	—	—	—	—	+
11	—	+	+	—	+	+	—	—	—	—	—	+	—	—	+	—	—	+
12	—	+	+	+	+	+	—	—	—	—	+	+	—	—	—	—	—	+
13	+	++	+	+	—	+++	+	—	—	—	—	+	—	—	+	—	+	—
14	—	[illegible]	—	—	+	++	—	—	—	+	—	+	—	—	+	—	—	+
15	—	—	—	+	—	—	—	—	—	—	—	+	—	—	+	—	—	—
16	—	—	—	—	—	+	—	—	+	—	+	—	—	+	—	—	+	—
17	—	+	+	—	—	+	—	—	—	—	—	+	—	—	+	—	—	—
18	++	—	+	+	—	+	—	+	—	—	+	+	—	—	—	—	—	+
19	—	+	—	—	—	+++	—	—	—	—	—	+	—	—	—	—	+	—
20	—	+	—	—	—	++	—	—	+	+	—	+	—	—	—	—	+	—
21	—	++	++	—	—	++	++	+	—	—	—	+	—	—	+	—	+	—
22	—	+	—	—	—	++	—	—	—	+	—	+	—	—	—	—	+	—
23	—	+	—	—	++	++	—	—	—	—	+	+	+	—	—	—	—	+
24	+	+	+	—	—	+	+	—	—	—	—	+	—	—	+	—	—	—
25	—	—	+	—	+	+	—	—	—	—	+	+	—	—	+	—	—	+
26	—	—	+	—	—	+	—	—	—	—	—	+	—	—	+	—	—	—
27	—	+	—	—	+	+	—	—	—	—	—	—	+	—	—	—	—	+
28	—	—	—	—	+	++	—	—	—	—	—	+	—	—	—	—	—	+
29	+	++	—	—	++	+++	++	—	+	—	+	+	—	—	—	—	+	+
30	—	—	+	—	—	+	—	—	—	—	—	+	—	—	+	—	—	—
31	+	+	—	—	—	+	—	—	+	—	—	—	—	+	—	—	+	—
32	+	+	+	—	++	++	—	—	—	+	+	—	+	—	+	—	—	+
33	—	—	+	+	+	++	—	—	—	—	+	+	—	—	+	—	—	+
34	—	—	—	—	+	—	—	—	—	—	—	—	—	+	—	—	—	+
35	—	—	+	—	+	+	—	—	—	—	—	+	—	—	—	—	—	+
36	—	+	—	—	++	+	—	—	—	—	+	+	—	—	—	—	—	+
37	+	+	—	—	—	++	—	—	—	—	—	+	—	—	—	—	?	—
38	—	—	+	—	—	+	—	—	—	—	—	+	—	—	+	—	—	—
39	—	+	—	—	+	++	—	—	—	—	—	+	—	—	—	—	—	+
40	—	—	—	—	++	++	—	—	—	—	—	+	—	—	—	—	—	+
41	—	++	—	—	++	+	—	—	—	+	+	+	—	—	—	—	—	+
42	—	—	+	—	—	++	—	—	+	—	—	—	—	+	+	—	—	+

blood, as is exemplified by the occurrence of peptonuria and albumosuria.

Under the view referred to, it has been considered then, alike for protein and carbohydrate, that the food-supply, after being brought by enzyme action into a small molecular state, is in this state conveyed *through the circulation* to the tissues to be taken in a direct manner on by them, and then utilised. This is tantamount to placing the blood, as far as its office in connexion with food transport is concerned, into the position of an agglomeration of small molecules emanating from food digestion. Why, under these circumstances, should the elaborated protein constituents met with in the blood exist? We have been accustomed to look upon these ingredients as constituting the pabulum from which the tissues draw their nutrient supply, but how does this stand in face of the contention that the food-stuff is conveyed direct to the tissues in the form of broken-down products of digestion?

The subject matter that is before us constitutes a deeply *important link in the chain of events connected* with the passage of food to utilisation in the body. It also has a collateral bearing in connexion with the urine, inasmuch as the state of the urine is dependent upon the character of the constituents of the blood with respect to molecular size of its ingredients; and through this, the particular form in which the food-stuffs are transmitted from the seat of absorption to that of utilisation in the tissues is brought into relation with the

QUESTION OF LIABILITY TO ESCAPE WITH THE URINE,

in their passage through the kidney, in an unutilised state, or, on the other hand, their non-liability to do so, in which case retention for service in the system, instead of loss, is provided for.

The question of liability or non-liability to escape in the transit of the blood through the kidney is of sufficient importance to lead me to consider it compulsory to give consideration to a view which has been recently broached regarding the state in which the products of food digestion are conveyed through the circulatory system to the tissues. The view, it is true, relates to the protein portion of food, but it being considered that the line of procedure for the carbohydrate portion is of parallel nature to that for the protein, the discussion has a signal bearing on the subject of these lectures.

It was formerly taught that the digestion products issuing from the fatty and albuminous principles of food, reached the circulation through nature's specially constructed channel placed in connexion with the absorbing mechanism of the alimentary canal. Some 30 years ago, a changed idea was put forward upon the strength of experimental results obtained by Schmidt-Mülheim. In the experiments performed, the urinary nitrogen from nitrogenous food was estimated after obstructing the flow of lymph and chyle into the circulation, and compared with the amount found when the connexions between the absorbent and vascular systems were free. It appeared that no essential difference was discernible, and thence it was inferred that protein matter found its way from the alimentary canal into the circulation by passage through the walls of the vessels belonging to the portal system instead of through the thoracic duct.

Notwithstanding the incompatibilities involved in such a view it is surprising the extent to which it became adopted. In face of the settled knowledge possessed regarding the resistance offered to the transmission of proteins through membranes, we find that the portal vessels are freely talked of as constituting the

CHANNEL FOR THE PASSAGE OF PROTEIN EMANATING FROM THE FOOD

into the circulation. Still more strikingly in defiance of reason, we even find, amongst recently recorded work, an observer looking in the mesenteric veins for the lymphocytes emerging from the villi and supposed to pass, as the natural course taken, through the adjoining capillaries into the portal blood! Picture a lymphocyte forcing its way from a lymphoid lacuna through the membranous walls of a capillary, against the blood pressure existing within!

In the case of protein, with equal pressure on both sides of a capillary wall, the conditions are of a nature to prevent the passage of its molecules either way. If this is so with the equal pressure to deal with, is it permissible to conceive that protein can take the course suggested against the blood pressure existing within the vessels! With a reversal of the circumstances, however, the protein molecules can, and do, pass through in compliance with what is observed under ordinary physical conditions to occur. As a matter of fact, under the influence of the blood pressure within the capillaries, protein transudes into the lymph spaces. It does so in proportion to the existing pressure, and leucocytes even do the same, accounting for the migration that is known to occur. Physical laws permit of these procedures, but are altogether opposed to the idea of passage of protein in the reverse direction—namely, from the lymph spaces into the blood-vessels.

Since the discovery of erepsin, the enzyme which has the power of carrying the hydrolysis of the proteins on to the amino-acids, another view *has sprung up regarding* the procedure by which the proteins are rendered available for appropriation by the tissues. It embodies no less radical an alteration than the

PASSAGE OF PROTEIN IN THE STATE OF BROKEN-UP FRAGMENTS

consisting *of amino-acids through* the circulation to the tissues. Professor W. D. Halliburton has espoused this view and introduced it into the last edition of his "Handbook of Physiology." It is claimed by him that the proteins become hydrolysed at the seat of absorption into the amino-acids, and that these pass straightway into the blood and thence to the tissues where they become linked on to the tissue molecules and applied to the purposes of life.

Protein is thus assumed to be brought into a smaller molecular state than that of albumose and peptone for transmission through the circulation to the tissues. The conditions are parallel to the transmission of carbohydrate through the circulation in the form of sugar, and what applies to sugar running off with the urine, in proportion as it is present in the blood, will equally apply to the amino-acids. The amino-acids do, as a matter of fact, show themselves in the urine in association with the existence of certain pathological states, so that proof is not wanting that, as might be expected on account of their small molecular size, when they are demonstrably present in the system they become equally so in the urine. The existence of these acids in normal blood and urine constitutes a disputed point, and to overcome the difficulty here arising the convenient assumption is advanced that they are taken by the tissue cells as fast as they can reach the circulation. The same kind of argument has been applied in the case of sugar and we know that it does not here hold good.

In this, as it appears to me, extraordinary contention that the broken-down protein of food is conveyed through the circulation in small molecular fragments to the tissues to be there reconstructed into the specific protein belonging to the animal, the proteins of the blood are left out of consideration altogether, although good grounds exist for looking upon them as a pabulum from which the tissues draw their nutrient supply.

The new position that has been taken by Professor Halliburton contrasts strongly with that which he formerly held. In his "Handbook of Chemical Physiology and Pathology" published in 1891 he says (p. 337): "The increased percentage of proteids in the chyle as compared with the lymph illustrates the fact that the lacteals are not merely concerned in the absorption of fatty, but probably also of albuminous food. In the stomach and intestine the proteins of the food are converted into peptones, substances that diffuse with readiness through living membranes; but no peptones (or proteoses, the intermediate products in the formation of peptones) are found in the chyle; during their passage through the intestinal wall, or immediately on entering the lymph or blood stream, they are reconverted into albumin and globulin." This stands in accord with the view that was at the time generally held. Indeed the only unsettled point then engaging the mind was the question that had been raised by Schmidt-Mülheim's ligature of the thoracic duct experiment which bore upon the path through which the passage of the reconstructed protein took place, in connexion with which Professor Halliburton thus wrote: "Schmidt-Mülheim tied the thoracic duct in dogs and found that proteids were still absorbed; this however does not prove that the lacteals are not normally concerned in the absorption of proteid: it merely shows that animals thus treated can continue to absorb proteid by the other path—the blood-vessels."

Passing now to the last edition of Professor Halliburton's

Klebs-Löffler bacilli, yet develop neither pneumonia on the one hand nor diphtheria on the other.

Age.—Colds are the more dangerous to the very young and the very old, but age seems to have no influence whatever upon the incidence of an attack.

Conditions of life.—Those who live much in the open air certainly seem less liable to colds than those who live in cities, but poverty and wealth seem to have but little bearing. Colds are no respecters of persons; if anything the rich are more liable than the poor, or, at all events, they make more of their colds. With a view to ascertain the influence of fatigue and lack of food, upon one day in winter I did without food all day, took excessive exercise, returning home covered with perspiration. Quickly stripping I then stood hot and exhausted at an open window for ten minutes till thoroughly chilled. Although the bacillus of Friedländer was then in my nose, as I had proved the day before, no cold developed. A fortnight later, warmly clad and well fed, I caught an unsought-for cold.

Opsonic index.—Reference to the chart of Case 1 will show that a high opsonic index is no protection against an acute attack, for such supervened when the index stood at 1·56, at 1·36, and again at 1·5. Anything which will, however, cause a sudden lowering of index will probably predispose to an attack. As I will show presently, the tissue plasma has a higher index than that of the blood. It seems probable, then, that local reduction in the index of the tissue plasma of the nasal mucosa is an important adjuvant to infection. How this can be brought about I know not, but can only suggest that local vaso-motor disturbance may play an important part, for one of the earliest symptoms of approaching catarrh is great congestion of the nasal mucosa. This is purely reflex, for it can often be removed by setting up another reflex, as by hanging the head out of an open window, sponging the skin of the body with cold water, or if the affection be unilateral by merely inclining the head to the opposite side. This view is in accord with the universal experience that the onset of a cold may often be determined by a cold draught of air striking the back of the head for a very few minutes. To this question of vaso-motor disturbance reference will again be made under the question of cure. That infection is accompanied, or more probably preceded, by a fall in the opsonic index and recovery by a rise is well shown by the following observations upon Case 1. About six weeks after treatment with a vaccine and cure of the long-standing chronic nasal catarrh a specimen of blood was taken. About 12 hours later all the symptoms of an oncoming acute cold began to develop and a second specimen was taken. Next day the cold had completely aborted and a third sample of blood was obtained. The indices of the three were then found to be as follows: before the onset of the cold, 2·6; at the onset, 2·0; and when the cold had aborted, 5·8. The cause of the spontaneous and speedy recovery was thus very evident.

The influence of the daily processes of life, such as the morning bath, meals, exercise, and rest, upon the opsonic index was also studied. With this end in view specimens of blood were taken at the following times and their indices were determined: (1) immediately on rising; (2) a quarter of an hour after the morning bath; (3) two hours after breakfast; (4) at 4 P.M.; (5) at midnight, i.e., after completion of digestion of dinner and after an evening walk; and (6) at 3 A.M., i.e., after three hours' repose. The results obtained, being the numbers of organisms taken up by 100 polymorphonuclear leucocytes, are set out in the following table:—

Table V.

Date.	1	2	3	4	5	6
15/5/06	380	402	435	—	—	—
15/5/06	317	351	380	—	—	—
29/5/06	680	736	733	810	861	—
1/6/06	165	150	134	—	—	—
6/6/06	534	571	—	—	626	536
12/6/06	375	413	—	—	427	—

From this we see that there is a steady gradual rise throughout the day, a maximum seemingly being attained after digestion of the main meal of the day has been completed and after a full day's exercise has been taken. During the night the index steadily falls and from the determination of 6/6/06 would seem to reach a minimum by 3 or 4 A.M.

Experiments into the causation of this diurnal variation.—Assuming it, then, to be a fact that the opsonic index of the blood to various organisms rises during the day and falls during the night, the question arises as to the causation of this. The digestion of a meal is said to result in a tidal increase and decrease of the alkalinity of the blood, owing to the secretion of hydrochloric acid during digestion in the stomach and of alkalies during digestion in the duodenum. Exercise is said to result in decrease in the alkalinity of the blood owing to the formation of acids by the muscle metabolism. Observations were made to see whether an alteration either in the way of increase or decrease in the alkalinity of the serum had any influence upon the opsonic index. The normal alkalinity of the blood is between N/25 and N/30, say N/28. To one volume of blood serum were accordingly added (1) one volume of distilled water giving an alkalinity of N/56, (2) one volume of N/28 caustic soda giving an alkalinity of N/28, and (3) one volume of N/56 hydrochloric acid = N/112. These diluted sera were then used as if they were normal sera and comparison was made of their opsonic power, with the result (counts are numbers of organisms in 50 cells):—

Table VI.

Date.	Serum.	Alkalinity.		
		N/28	N/56	N/112
		Index.	Index.	Index.
8/6/06	1	71 = 1	47 = 0·66	66 = 0·93
—	2	36 = 1	68 = 1·89	53 = 1·75
12/6/06	1	675 = 1	641 = 0·95	462 = 0·68
16/6/06	1	134 = 1	174 = 1·30	200 = 1·49
—	2	176 = 1	169 = 0·96	190 = 1·14
—	3	139 = 1	189 = 1·35	138 = 1·00
		6·00	7·11	6·99

It will be seen that no constant effect was produced; it would, however, appear that a reduction in the alkalinity of the blood serum has a slight effect in raising the opsonic index. This is in accord with the findings of Hektoen and Ruediger[16] that sodium bicarbonate among chemical bodies is a non-specific anti-opsonin. Lactic acid, again, is another such body; it may therefore be assumed that the accumulation of lactic acid in the body, as occurs during excessive muscular fatigue, will also conduce to infection. So well equipped is the human body with means to cope with disturbances in any of its functions that it is obvious that only when these disturbances are unusually great will the protective mechanism be broken down and predisposition to infection be established.

(To be continued.)

A CASE OF LICHEN PLANO-PILARIS IN WHICH THE SPINOUS ELEMENT PREDOMINATED.

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At the end of April, 1908, a married woman, aged 30 years, consulted me at St. John's Hospital for Skin Diseases, Leicester-square, concerning an eruption which she first noticed about six weeks previously. She had two children, five and two years old respectively. The patient considered herself to be a healthy woman, but had recently felt unusually fatigued and nervous.

Family history.—The patient's mother had died from consumption at the age of 34 years. There was nothing further by them. No doubt, in connexion with life, there is a power in operation of a determining or regulating nature, which leads to the performance of operations which cannot spring from mere chemistry and physics, but observation teaches us that this power manifests itself upon matter through the instrumentality of chemical and physical actions.

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[16] Journal of the American Medical Association, May, 1906.

The absorbent system may be considered to pick up the unappropriated material which has escaped from the blood vessels for the purpose of tissue nutrition, and to convey it back in the form of lymph to the circulatory system. At a period of fasting, such is the nature of the fluid present in all parts of the absorbent system. At a period of digestion, however, the absorbents belonging to the alimentary canal become charged with products derived from the food, which thus supplement the contents that are ordinarily present, and far outweigh them in quantity and significance. We have, then, a product of absorption from the food, which visibly presents itself to our notice, and naturally passes into the blood stream through the thoracic duct.

Let us pursue this matter further and see how the evidence stands bearing on the

PASSAGE OF RECONSTRUCTED PROTEIN FROM FOOD INTO THE CIRCULATORY SYSTEM.

There is no question about the contents of the thoracic duct flowing into the blood stream. What do these contents consist of? At one time, lymph, and at another time, chyle: the former, representing the unutilised exudate from the blood for the nutrition of the tissues, and the latter, this exudate plus material derived from the food. Seeing that the exudate is likely to be, and, as a matter of fact is, very variable in quantity consequent upon the extent to which it is influenced by varying conditions, and that the food item is of a variable nature, it is not surprising to find that much difference exists in the estimates given of the amount of lymph and chyle flowing into the blood.

Amongst text-book authorities, Michael Foster speaks of its having been calculated that in a well-fed animal, a quantity of lymph and chyle equal to that of the whole blood may pass through the thoracic duct in 24 hours, and that of this, about half comes through the lacteals from the abdominal viscera, and therefore to a large extent from food. Upon this basis he reckons that for a man of average weight the quantity discharged into the blood per hour would be a quarter of a kilogramme, or a little under a quarter of a litre, a ratio giving something less than six litres for the 24 hours.

It is a matter that is beset with difficulties to obtain precise information experimentally regarding the rate of flow taking place under natural conditions. Hence many widely conflicting statements have been made by different authorities. Cases are from time to time come across in the human subject where from some unnatural condition connected with the thoracic duct an obstruction is offered to the flow of chyle in its proper direction and it becomes discharged from the lymphatics belonging to a particular portion of the skin.

One such case has recently formed the subject of a communication from the physiological laboratory of University College, London, by J. Molyneux Hamill in the *Journal of Physiology*, Vol. XXXV., 1906. The patient, who was an inmate in University College Hospital, was a man in a fairly healthy state, 20 years of age, and 140 pounds in weight. When a boy of 10 years, the cutaneous lymphatic distension showed itself and led on to the formation of a permanent fistulous opening in the upper part of the right thigh close against the groin. Through this opening lymph and chyle, when not controlled by a pad and bandage, escaped. When escape was prevented, accumulation took place in the affected parts and led on to a state of tension which required to be from day to day relieved by allowing a certain amount of exit to take place. An observation was conducted on

THE RATE OF CHYLE FLOW

by leaving the opening free and allowing the chyle to trickle into a vessel placed to receive it. In this way, over four litres, it is stated, were collected in the course of 12 hours. Further escape was then stopped at the patient's request owing to the great exhaustion it produced. It is seen that the rate of flow was here greater than in the estimate given by Michael Foster. At the same time, however, the collected fluid, it is to be remarked, was considerably more watery than lymph and chyle collected in a direct manner.

Whatever may be the exact volume of liquid flowing from the absorbent into the vascular system, it is evident that it is one of considerable magnitude, and upon this point there is no need here to say more. In pursuing the train of reasoning in hand, I will pass to the consideration of the component nature of the current that flows into the blood. It is closely allied in constitution to the blood itself, and may, in fact, be said to represent rudimentary blood, minus the red corpuscular element. Fat in suspension is present as a collateral ingredient when absorption of fat has taken place from the alimentary canal. This principle, not being mixed up with the point before us, need not be further alluded to. The point of special concern is the presence of lymphocytes, as in blood, and of protein matter precisely under the forms met with in the blood—viz., as albumin, globulin and fibrinogen.

Professor Halliburton in his "Handbook of Chemical Physiology and Pathology," 1891, p. 331, speaking of lymph plasma says: "It may be briefly described as diluted blood plasma." With respect to distinction between lymph plasma and chyle plasma, it is generally admitted that the latter contains a larger percentage of protein than the former, and this falls in accord with the view expressed by Professor Halliburton in the quotation a short time back given from p. 337 of the work I have just referred to.

The flow from the absorbent system, then, carries

PROTEIN MATTER, THAT BECOMES BLOOD PROTEIN,

in company with lymphocytes into the blood stream. I consider it is not justifiable to conceive that the exudate from the blood into the lymph spaces is at all comparable to the product which passes from the absorbent system into the veins. An opportunity is afforded of seeing the comparatively watery character of the lymph space fluid when the quantity is preternaturally augmented as in dropsical conditions, and here, on account of the increased blood pressure in operation, the circumstances are such as even to promote more transudation of protein matter from the blood than is occurring naturally.

The conclusion to be drawn is that protein becomes developed within the absorbent system, and we have an elaborating agency present that suffices to accomplish the work. The lymphocytes represent bioplasmic growth, and it is the property of growing bioplasm to link on molecules of suitable configuration from around it and incorporate them into its substance. It may be reasonably conjectured that the plasmic material not appropriated by the tissues becomes taken up by the lymphocytes, and, in a re-elaborated state, thence restored to the circulation.

Such is what may be said regarding recovery and restoration to the blood, in protein form, of transuded and unapplied nutrient material. Let us next look at what occurs in connexion with the transport of food. It is beyond dispute that food protein is, in the first place, broken down and placed in a position to be capable of diffusing through the innermost layer of the intestinal canal into the subjacent lymph spaces. This is all that is here wanted, and, as far as the process in question is concerned, it is immaterial whether the breaking down stops, as has hitherto been believed, at peptone, or whether it passes on to the amino-acids. For the next step, a necessary condition is that the molecules produced should be susceptible of being taken on by the growing bioplasm with which they come into relation. If this condition is complied with, all that is wanted is here again, at this further stage, supplied.

Let it be supposed that food protein has been broken down and put into a diffusible condition, and that the molecules produced possess the requisite configuration to adapt them for being taken on by the molecules of bioplasm, within the reach of which they may happen to fall. What, it may be asked, next occurs? The view formerly held and systematically taught was that

A RE-SYNTHESIS INTO PROTEIN

was effected by the epithelial cells of the intestine, and that the regenerated protein, in some inexplicable way, made its escape from the cells, and then, upon the strength of the notion started by Schmidt-Mülheim's experiments and in opposition to recognised physical laws, reached the circulation by direct transmission through the walls of the capillaries of the portal system.

Now, besides the bioplasm belonging to the epithelial cells, there is another form of bioplasm present in close of sections were cut from the excised portion of skin, so that the microscopic appearances could be observed both where the follicles were chiefly involved and where the intervening skin showed the slight degree of congestion above mentioned between the follicles. The photograph here reproduced (Fig. 2) shows one of the sections through a congested area of skin. A typical small early papule of lichen planus is seen, exhibiting the increased horny layer, marked stratum granulosum, (*l*) commencing hyaline change of the epithelium, obliterated interpapillary processes, and the underlying œdema and mononucleated infiltration of the papillary body. The clinical appearance of the part had not led one to expect any such histological appearance. On the left side of the section are two depressions which further sections proved to be follicles. Attention is called to the fact that these follicles are filled with lamellæ of horny material, and the epithelium otherwise exhibits the changes usually found in a flat papule of lichen ruber planus, having a marked stratum granulosum, swollen epithelial cells, œdema of the papillary body, and a degree of surrounding infiltration with small and large mononucleated cells. Another distended follicle in the same section, not shown in the illustration, exhibited no alteration in the epithelial cells and no surrounding infiltration. Further sections taken from the same patch revealed a different stage of the process. There were numerous follicles distended with horny material, and the intervening skin showed no trace of any lichen planus papules. In certain of the follicles there was at the blind end a degree of epithelial degeneration such as one finds associated with the flat lichen planus papules, but in certain other follicles which were equally distended with increased horny material there was no abnormal alteration of the deeper epithelial layers. Mononuclear-celled infiltration was present only around a few of the follicles and only at the lower blind end. The blood-vessels of the cutis in the vicinity of the follicles were somewhat dilated. There was no polynuclear cell infiltration either around the follicles or the blood-vessels.

Summary of case.—The interest of the case lies in the fact that it presented so many totally distinct clinical lesions at the same time, and that these were observed from week to week in process of development and again of retrogression. 1. There was a clear history that the advanced lesion on the thigh had started as groups of grey spinous lesions similar to those of later origin observed on the chest. 2. The lesions on the arm were seen to start as small papules of lichen planus without any spinous or follicular lesion either at the beginning or at any stage of their growth and final progress to complete recovery. 3. During the six weeks after the end of April the disease progressed; a pink tinge was seen gradually developing around the mouths of the groups of follicles from which horny spines protruded, and also in some parts of the intervening skin. When a new form of treatment was instituted in June the disease ceased to progress; the rosiness gradually faded away before the pinkness had acquired any clinical appearances of a lichen planus papule, but the microscope revealed that the congestion between the follicles was in reality an early stage of lichen planus. (Fig. 2.) Without the form of treatment started in June the lesions on the chest would undoubtedly have undergone the same change as had occurred in the thigh, where there was a large patch of chronic lichen planus studded with prominent and thick grey spines. It is also a matter of interest that at no time and in no position was there seen an acuminate papule of lichen planus, such as is sometimes seen in cases of widespread lichen planus—i.e., burnished papules, discrete, occurring in the position of a follicle, with a central raised point, and usually without marked spinous protrusion of the follicular contents. Except on the arms and neck the disease in this case started definitely as groups of separate horny spines protruding from the mouths of the hair follicles. This is not the case with the acuminate papules of lichen planus.

Remarks.—There has been much confusion of description and of diagnosis of cutaneous diseases which exhibit protruding spinous processes with or without surrounding congestion. The name lichen pilaris (*seu* spinulosus) has been given to the disease in which spinous processes protrude without any surrounding congestion, but the name lichen is in this connexion somewhat misleading. In the *British Journal of Dermatology* (1905) Dr. H. G. Adamson has made an exhaustive and able research into the history and literature of this subject. He points out that the spinous lesions without congestion occur in at least two recognised forms. 1. They may occur in children without any change in the general health, unaccompanied by itching, inflammation, or by any concurrent lesions of lichen planus. Dr. Adamson describes a case which had been under his care and the histology of the lesions. He found that the epithelium of the hair follicle and the papillary body showed none of the changes peculiar to lichen planus. The disease is extremely rare in this country and appears to be even more rare on the Continent and in America. In Unna's monumental work it is only briefly referred to under the name keratosis follicularis spinulosa. From the histological findings made by himself and those he was able to discover in the literature of the disease Dr. Adamson concludes that Unna's name more correctly describes the anatomy of the disease as it occurs in children. "The pathological process," he says, "is essentially a hyperkeratosis of the follicle, perifollicular inflammation is absent, or at any rate very little marked." The disease in its histology more closely resembles keratosis pilaris than lichen. In keratosis pilaris there is hyperkeratosis involving only the mouth of the hair follicle; in keratosis follicularis spinulosa the hyperkeratosis extends down into the follicle for at least two-thirds of its length. The epithelium reveals none of the changes peculiar to lichen planus. 2. Nevertheless it has been with some reason believed that this spinous lesion was in some way associated with lichen planus. In adults keratosis follicularis spinulosa has usually been associated at some time or other with papules of lichen planus. Dr. Adamson believes that Dr. J. J. Pringle was the first to notice this association and so early as 1895 to use the name lichen plano-pilaris to describe the condition. As a rule when lichen plano-pilaris is present in an adult there are also present numbers of acuminate papules of lichen planus—i.e., papules of an appearance similar to the flat papules of lichen, but acuminate in shape, having a central follicular plug and sometimes also a protruding spine. Dr. Adamson writes: "The spiny lesions in these latter cases are usually associated with the acuminate follicular lesions of lichen planus, and it is most probable that they have therefore merely an accidental association with a perifollicular disturbance ...... Such an hypothesis is made more probable by the fact that similar spines are occasionally associated with the follicular lesions of lichen scrofulosorum and miliary syphilide and also with those of pityriasis rubra pilaris."

In my case, on the contrary, the spinous lesions could not possibly be said to be secondary to the perifollicular disturbance. Both the clinical and the histological appearances pointed to the fact that the hyperkeratosis in the follicle was the primary occurrence and caused the prominent hard spine which existed for some weeks before any congested papule formed around it. The secondary feature was the papule, which presented the histological appearance of a marked hyperkeratosis follicularis spinulosa, associated with the epithelial changes also of lichen planus. In the same excised portion of skin there could be seen other follicles which showed no lichenous changes in the epithelium but only a hyperkeratosis within the follicle, and in some instances a slight perifollicular infiltration. Had the patient not been seen until June, when most of the spines had acquired their surrounding congestion, it is possible that a physician would have concluded that her disease consisted principally of acuminate papules of lichen planus in which the central spine was rather abnormally developed and that its presence was accidental and of secondary importance.

Harley-street, W.

HOSPITAL'S CHANGE OF NAME.—A special meeting of the governors of the Hertford General Infirmary was held on Oct. 22nd for the purpose of repealing some rules and adopting revised ones. The most important change made was in the name of the hospital. Mr. A. H. Smith, M.P., the chairman of the meeting, said that although the General Infirmary at Hertford had a time-honoured name it was thought advisable to alter it on two grounds. The first reason was that the word infirmary was also applied to the workhouse infirmary and often caused considerable confusion. The other reason was that an institution bearing the name of hospital had a higher status in the medical world than one which was called an infirmary. The new name decided upon was the "Hertford County Hospital."

duct, after which, the account runs, the patient at once recovered his strength and spirits, and put on weight.

I think sufficient has been said to render it evident that, notwithstanding any conception to the contrary, the

THORACIC DUCT CONSTITUTES THE CHANNEL

through which the blood is maintained in a replenished condition by the agency of food. We are faced with the recognisable fact that, concomitantly with the absorption of food, there is a concordant flow of protein, partly in the form of lymphocytes, and partly in the form of plasma constituents, into the blood.

An underrated estimate, it must be mentioned, prevails in the minds of many with respect to the number of lymphocytes present in chyle. It is not uncommon for them to be looked upon as though they were devoid of significance, and, as I have mentioned elsewhere, this is probably attributable to a faulty method of manipulative procedure. It has to be borne in mind that they become entangled in the fibrinous coagulum, and to look for them in the serous liquid is tantamount to looking for blood corpuscles in blood serum. To obtain a correct representation, it is necessary to prevent the chyle from coagulating by means of an agent like the citrate of potash. Thus treated, and examined microscopically, the lymphocytes are seen to be as closely congregated on the slide as red corpuscles on a blood film slide. Photomicrographs showing the appearance presented are given in my work on "Carbohydrate Metabolism and Diabetes."

Growth and proliferation may be regarded as the attributes of lymphocytes, and growth means the building up of protein out of more elementary material. The life-history of phagocytes is comparable to that of lymphocytes as far as incorporating power is concerned. In the case of the former, however, the material incorporated is of a grosser nature than in the case of the latter, micro-organisms and other discernible particles of matter being appropriated by them. Having played their part of converting inert matter into living protoplasm, they, lymphocytes and leucocytes alike, melt down and disappear, and in this process the protein that has been built up is set free. Lymphocytolysis and leucocytolysis are processes of admitted occurrence. Just as there are agencies leading to building up, so there are agencies, lysins, leading to breaking down.

Leucocytolysis stands upon the same footing as hæmolysis and bacteriolysis. We are in possession of established knowledge with regard to the mechanism of the two latter processes, and leucocytolysis falls into line with them. Metchnikoff has found that by the agency of the injection of lymphocytes from a lymphatic gland of a rabbit into a guinea-pig, the serum of the guinea-pig's blood acquires the power of quickly dissolving rabbit's leucocytes, no matter what the type of leucocyte present. Evidence is thus afforded that leucocytes are actually susceptible of melting down, and in the melting down, the protein that has been generated within them passes, it may be reasonably concluded, into a state of solution under the form of the

ALBUMIN, GLOBULIN, AND FIBRINOGEN

appertaining to the plasma. Seeing, it may further be said, that the proteins of the lymph and chyle are identical with those of the blood, it is not irrational to conclude that the autolysis spoken of may in part occur before the lymphocytes quit the absorbent system. In this manner the genesis of the proteins in question is traceable throughout to a kindred source.

What has been said with reference to lymphocytolysis is supported by what may be seen to take place in the lymphocytes contained in chyle collected from the receptaculum chyli and afterwards kept for a day or two. I have some stained slides, prepared in the same way as for dry blood films, representing the condition observable shortly after collection and at subsequent periods. Taken on the first day, nothing beyond the ordinary character belonging to the lymphocyte is seen. After keeping the chyle in a small bottle till the following day, and then preparing the slide, the preparation shows that a number of large, round, very faintly stained, nebular bodies had become apparent, and with a specimen that had been kept for another day, these ghost-like bodies are seen to have become larger and still more nebular, and to have scarcely taken any stain at all. They give the idea of consisting of lymphocytes in a state of dissolution, and interspersed amongst them unchanged lymphocytes are to be seen. Mr. S. G. Shattock, to whom I have submitted the slides, concurs with this view ; and if it is accepted, direct evidence is supplied of the occurrence of autolytic action outside the body. Taking it that autolysis occurs, the built-up protein cannot vanish into nothing. The only legitimate conclusion, as far as I can see, is that it becomes resolved into the proteins of the plasma.

We have now to consider what subsequently happens. The broken-down products of food digestion having been re-synthesised (assimilated) at the seat of absorption by lymphocyte growth, and the lymphocytes having been resolved by autolysis into the proteins of the blood, the transmuted food is brought within reach of the tissue cells wherein utilisation occurs. The proteins of the blood, with their large complex molecules, thus become the

PABULUM FROM WHICH THE TISSUES DRAW THEIR SUPPLY,

according to the particular need existing.

If attention is given, it will be noticed that the state of things depicted is identical with that existing in the incubating egg. Do we here find the growing tissues of the chick drawing their supply from a collection of small molecular, broken-down products, as, it has been suggested, the food is converted into for the tissue supply of the developed animal? No, the material provided by Nature for tissue growth and service in connexion with incubation is comparable in character to the protein constituents of the blood.

Having followed the food to the protein constituents of the blood, the point now before us is to inquire into what next occurs. Utilisation in growth, in maintenance, and in energy production are the ends to be reached. For this to be carried out, incorporation with the bioplasmic molecule is necessary. In what precise way, it may be asked, does this incorporation take place? Do the protein molecules as such become linked on to the living cell molecules, or does any preliminary breaking-down action occur?

In the case of the vegetable kingdom, distinct evidence is before us of the occurrence of breaking down by enzyme action preparatory to utilisation. Take, for example, what is observable in the germinating tuber and seed. The store of starch lying within the range of influence of the germinating material becomes broken down into sugar before it is made use of. Again, in connexion with the operations taking place in the life-history of yeast, we know that a sugar, saccharose, which is not susceptible of being turned to account whilst existing as such, is rendered serviceable by the instrumentality of an enzyme, invertase, produced by the yeast, which splits the saccharose up into dextrose and levulose.

The side-chain theory bearing on immunity, &c., also brings in the taking-on of nutrient matter by the bioplasmic molecule, and something allied, as will be later seen, to what has just been mentioned with regard to molecular breaking down, is comprehended in the theory. The theory stands in conformity with the accepted doctrine applying to the dominating factors regulating ordinary chemical action. Affinity and suitable molecular configuration are conjointly at the foundation of chemical union. Let it be supposed that atoms have been joined by a strong bond of union into a group classified as a ring or nucleus. To any member of the group having a free or unsaturated bond, suitable atoms or molecules can be

LINKED ON IN THE FORM OF A SIDE-CHAIN,

which can not only be subsequently removed, but likewise replaced by another, without disturbing the integrity of the original group.

Now, a bioplasmic molecule is viewed as constituting a large and complex molecule, consisting of a nucleus or functioning centre, around which are innumerable arms or side-chains equipped with endings capable of taking on molecules or groups of molecules that are similarly provided with suitably adapted side-chain endings. There must be adaptability between the ending that takes on and that which is taken on, and it is conjectured that an infinite variety of endings exists, so as to make provision for the attachment of the diversity of groupings that become affixed. When linked on, a mutual interchange of influence occurs between the centre and the side-chain groups. At the same time, however, the latter can seemingly be used up or worked off, whilst the former is left intact. It is in this molecular complex that the various chemical changes occur which give of suitable capacity, and the bisulphite as it left the tank to flow into the storage or service reservoir. Assuming that on the large scale the same results can be obtained as in the laboratory, and there appears to be no reason why such should not be the case, the adoption of such a method of water purification may result in an enormous saving in capital expenditure and very greatly reduce the risk of water-borne epidemics.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

HERPES ZOSTER FRONTALIS ASSOCIATED WITH GLAUCOMA.

By A. A. Bradburne, F.R.C.S. Edin.

THE chief feature which is generally relied upon to distinguish glaucoma from iritis is the size of the pupil. A recently published work says: "In glaucoma there is increased tension. In iritis the tension is usually normal, but for those who cannot rely on their estimation of tension there are other valuable points on which to base the diagnosis ...... it is the pupil which will in most cases give us the necessary clue. In glaucoma the pupil is dilated—often pear-shaped. In iritis the pupil is contracted." Glaucoma can, however, be associated with a *contracted* pupil when the iris is fastened down to the lens capsule behind, thus shutting off the posterior from the anterior chamber of the eye. The recognition of such an atypical condition is easy if one be careful to note the plane of the iris which will be either that of the underlying lens, to which it is completely attached, or else ballooned out (iris bombé) by pressure of the aqueous behind it, the edge of the pupil by its attachment to the lens giving the pupil a characteristically cupped appearance.

The interesting feature of this case is the fact that although there was undoubted increase of ocular pressure the pupil was *not dilated*; such a combination of symptoms is quite compatible with an iritis in which the plus tension is due to congestion and swelling of the iris and increased viscosity of the aqueous fluid. What made the case still simulate iritis was the marked swelling of the upper lid and the accompanying intense conjunctival injection; in fact, a superficial preliminary examination presented a typical picture of iritis, and had not the eye been most carefully scrutinised the instillation of a mydriatic would have seemed urgently necessary. On account of the œdema of the upper lid making recognition of increased intra-ocular tension difficult, this feature, contra-indicating the use of a pupil-dilating agent, could easily have been overlooked. Had, therefore, a mydriatic been instilled, as symptoms seemed to call for, a most unfortunate result would assuredly have followed. The cultivation of a faculty for observing minutiæ of detail is the secret of making correct diagnosis in eye affections. Now, not only had Dr. Weldon C. Carter correctly estimated the presence of increased tension, but had further noted that there was an *absence of the rose-red ring of ciliary injection* around the corneo-scleral margin which is always present in inflammation of the iris and ciliary body. He had also noted that the cornea was clear and bright and the iris markings were not obscured, and the pupil was fairly mobile. It was plainly evident, then, that a combination of signs was present which were contradictory in character, and for this reason desired my opinion to help to solve the problem.

The patient was a single woman, aged 53 years, the subject of rheumatoid arthritis attacking mainly the ankle- and shoulder-joints. Her skin was hot and dry, the tongue was furred, and the left side of the face and head was dusky-red and congested. For three days she had been suffering from a most intense pain radiating from the left eye over the forehead, the left side of the nose, and face. As already stated, the upper lid was considerably swollen and in a condition of partial ptosis. The conjunctiva lining the eyelids was congested and to a certain extent the ocular portion as well. Some thin transparent mucus was present as well as profuse lacrymation, and the eye was very sensitive to light and even to the slightest touch. The pupil was four millimetres in diameter, not perfectly circular, and moved under light stimulus. The colour and markings of the iris were unaltered, the cornea reflected brightly, and the media were perfectly clear. The anterior chamber was shallow, and gentle careful palpation revealed increased tension. Some recession of the optic nerve head could be seen, but was not in the condition associated with the later stages of glaucoma. The temperature and pulse were normal. There was another symptom which was out of all proportion to the objective signs, and this was the severity of the pain, its intensity being such as is usually associated with an attack of *acute* glaucoma. The clearness of the cornea, the absence of dusky venous engorgement of the ocular conjunctiva, as well as the absence of extreme hardness of the eyeball negatived a diagnosis of acute glaucoma. Against the case being iritis was the mobility of the pupil, the clearness of the texture of the iris, and the absence of ciliary injection. It was evident, then, that the increase of tension was only a secondary manifestation of a cause which had not so far revealed itself. When the patient first consulted Dr. Carter complaining of the severe pain in and around the orbit, he considered the probability of herpes zoster and kept this probability in view until the development of the eye affection led him to weigh the possibility that the cause might arise from the eye itself. 24 hours after my seeing the patient a crop of vesicles developed on the forehead, which at once revealed the true nature of the affection.

During the course of the disease a change came over the condition of the eye which entailed the necessity for a second consultation. This time the eye was found to be free from pain, photophobia, and sensitiveness to touch. The tension was subnormal, the anterior chamber deep, the pupil semi-dilated and immobile, and the texture of the iris was partially obscured. The explanation of these altered appearances was simple. There was evidently a thin viscid but transparent mucoid secretion present in the aqueous which accounted for the loss of transparency of the media and obscured the texture of the iris. The minus tension could be attributed to the defective secretory function of the ciliary body due to the paralysing effect of the affection on the long ciliary nerves. These symptoms indicated the urgent necessity of preventing adhesions forming between the iris and the lens capsule which the viscid mucus in the anterior chamber of the eye tended to produce. The use therefore of a mydriatic was obviously required now as much as it was contra-indicated in the early condition and under this treatment the eye rapidly recovered.

The case is considered worthy of record if only on account of the manner in which it indicates the importance of observing the minutest details and correctly gauging their true indications and how it is possible for the so-called classical symptoms at times to become absolutely misleading.

Southport.

A CASE OF INTERNAL HÆMORRHAGE CONSEQUENT UPON TUBAL GESTATION WITH UNUSUALLY EARLY SYMPTOMS.

By James Oliver, M.D. Edin., F.R.S. Edin.

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THE patient, aged 27 years and married six years, consulted me on Sept. 30th last. She had had one child but no miscarriage; the child was born five years ago. When I saw her she had had during the previous three weeks a constant hæmorrhagic discharge from the vagina. When this hæmorrhagic discharge made its appearance the patient affirmed that it was the correct time for her being unwell and that she had menstruated as usual four weeks previously. Five weeks before coming under my observation—about two weeks after the last normal menstrual period—she was suddenly seized with severe pain in the right iliac region. This attack lasted altogether about one hour; it was not attended or followed by any hæmorrhagic discharge from the vagina. 14 days after the first attack the patient experienced a second and similar attack of pain and on this occasion the external hæmorrhage made its appearance. During the three weeks that there has been external hæmorrhage there have been three similar attacks of pain; the last attack was on the day preceding her

THE "EFFECTIVE PERIODS" OF TYPHOID "CARRIERS." *

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AND

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In a previous communication[1] we intimated our intention to continue observations upon the typhoid "carrier" whose case we described. Since then we have traced another outbreak to a typhoid carrier and have prosecuted inquiries from several standpoints in order to determine certain factors associated with the transmission of the organism. One of these is connected with the "effective" periods of the carrier, and although the facts already ascertained are limited to few cases we consider that their publication may call further attention to the whole question of typhoid carriers and so indirectly furnish additional material for investigation.

It may be remembered that Mrs. H., the subject of our earlier paper, was found to be the cause of three outbreaks of enteric fever in institutions where she was acting as cook. In November, 1907, she was proved to be a typhoid carrier, and her removal from any contact with food resulted in the disappearance of enteric fever from the institution where she was working. From that time we have had her under strict control, her fæces have been examined frequently, and her clinical condition has been duly noted. In addition to the bacteriological examination of the fæces attention has been paid to the character of the stools, and in Chart 1 these are described as formed, disturbed, diarrhœic. There appears to be some relationship between the unformed stools and the presence of bacillus typhosus in the fæces.

On Dec. 20th, 1907, typhoid bacilli were obtained from the fæces. Negative results were then the rule until the following April 14th, when a luxuriant growth of bacillus typhosus appeared on the plates. Further daily examinations showed the organisms to be present on May 11th, 21st, and 29th, and on June 10th. The urine did not contain the bacillus typhosus. About May 21st Mrs. H. fell ill. The pulse-rate was 120, the temperature was 100° F., and she presented a "typhoid" appearance. Chart 1 gives the temperature and pulse curves. Differential blood counts showed an increase of mononuclear cells—35 to 50 per cent. Unfortunately, at the time it was impossible to arrange for a count of the total number of white cells. Her blood gave a good and prompt agglutination, 1 in 25, but was negative in higher dilutions. With a view to the consideration of other causes the blood was examined bacteriologically. No organisms were present. Her opsonic index was then determined for staphylococci, streptococci, bacillus coli communis, and bacillus typhosus. This was carried out by the opsonic assistant at the Bristol Royal Infirmary, Dr. J. M. H. Munro, to whom we are much indebted. The result was as follows: staphylococci, 0·99; streptococci, 1·07; bacillus coli communis, 1·2; and bacillus typhosus, 1·7. Minute examinations of the fæces failed to reveal any gall-stone, and there were no clinical signs of biliary obstruction.[3] We concluded that the patient was probably suffering from a self-inflicted attack of enteric fever, although we recognise that the attack may have been a cholecystitis, or some form of enteritis. The associated presence of bacillus typhosus in the stools led us to regard it as probably a typhoid enteritis. The duration of the illness was about three weeks.

Since this "carrier" was removed from her position in the dairy in November last she has lived in a separate block with some typhoid convalescents. In July, 1908, a woman with whom she had been daily closely associated for some months was attacked with typhoid fever. It was found that after the carrier had eaten as much as she could of her lunch she handed the remainder to her companion. This suggested a probable means of infection and an endeavour was made to find bacilli on the hands of the carrier after defæcation and before ablution. The investigation is still in progress. Up to the present only cocci, moulds, and motile bacilli have been isolated. No bacillus coli communis or typhoid bacilli have been found. The carrier, however, now endeavours to prevent any soiling of the skin after defæcation, &c. It may be possible to obtain positive results from other carriers before they alter their usual habits.

Second carrier case.—Before considering the question of "periodicity" and "effective periods" we may perhaps mention the details of another case we have met with. In September, 1907, J. H—n had enteric fever and died. His wife, who had nursed him prior to his removal to hospital, had a slight attack of enteric fever in October–November, 1907. After recovery she continued her household duties. All went well until June 6th when her four children were simultaneously attacked with enteric fever. In the absence of any other cause the woman herself fell under suspicion, and it was found that her blood agglutinated bacillus typhosus 1 in 200. On several subsequent occasions the Widal reaction has been obtained in similar dilutions. The fæces are being repeatedly examined from the standpoint of "periodicity."

The May period of infectivity.—We have already pointed out that Mrs. H. was responsible for three outbreaks. In May, 1904, she was at a home for girls, Brislington, where 25 cases of typhoid fever and two deaths occurred. In May, 1905, she was at a girls' home in Clifton, where typhoid fever broke out. In May, 1907, the second and larger group of Brentry cases commenced. At all these places she was present for some time before any typhoid fever appeared. January, February, and March were the months during which she was "ineffective." This year (1908) her isolation has prevented any wide transmission of the organisms, but, curiously enough, she appears to have infected herself about the same time of the year—viz., May—and a single fellow inmate in July. The fæces examined in January, February, and March did not contain typhoid bacilli. In Chart 2 we show these periods. The time during which she was in a position to infect food is shown by a thin line and it will be seen that it was not until May that she became "effective," while, under favourable circumstances, her effectiveness then continued to the end of the year. In the second case, Mrs. H—n, it is again the food preparer who acts as the typhoid carrier. After recovery from her November attack she continued her household duties and everything went well until the end of May or June, when the whole family, except herself and one son, were infected with the typhoid bacillus.

We may now summarise shortly some of the carrier cases already reported.

Kayser's and Klinger's carrier cases.—

Case 1.—Mrs. E., a confectioner, had enteric fever in 1894. Nearly all her assistants suffered from indigestion and diarrhœa shortly after entering her service. On May 20th, 1904, her assistant, L. R., had enteric fever. On May 24th typhoid bacilli were found in the stools of Mrs. E. On August 8th, 1904, her lodger, J. W., was attacked with enteric fever.

Case 2.—Mrs. M., a secondhand clothes dealer, had enteric fever in 1874. In 1899 she had an attack of severe biliary colic. On Nov. 24th, 1904, she was found to be a carrier. On May 20th, 1904, her son-in-law, who lived with her, fell ill with enteric fever. On Nov. 17th, 1904, her lodger, A. B., was similarly attacked.

Case 3.—Mrs. Z., a tailor's wife. In January, 1905, a new servant came into the house. Three weeks later the maid developed enteric fever.

Case 4.—Mrs. L. Her servant was attacked with enteric fever in April, 1905.

Case 5.—Miss N. had enteric fever in 1881. Her servant showed signs of enteric fever on June 28th, 1905.

Case 6.—Mrs. S. had enteric fever in 1877. In August, 1900, she had an attack of biliary colic. In September her children developed typhoid fever.

Soper's case.—The details of this case have been so carefully and fully worked out by Dr. Soper that we may safely assume that during the intervals of the dates mentioned the carrier was "ineffective." In June, 1902, the carrier, who was a cook, joined a family three weeks before the summer exodus. At the end of this time enteric fever appeared. In October, 1903, she entered the service of another family. Nine months later—viz., June, 1904—the family went for the summer holiday, taking the cook with it was formed and also as a general protoplasmic poison. In order to study the healing of gastrotoxic ulcers the ulcers were produced by local injection of the serum into the stomach wall, as by that means an ulcer could be produced without toxic symptoms. It was found that such ulcers healed completely in normal animals in from 14 to 28 days. Repeated injection of the serum did not lead to chronic ulceration, as the animals became immune to it. The position of the ulcer in the stomach did not affect the healing. Hyperacidity of the gastric contents and diminished acidity did not retard the healing and so produce a chronic ulcer.

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* The superior figures refer to the bibliography at the end.

CLINICAL SECTION.

Exhibition of Cases.

A Meeting of this section was held on Nov. 13th, Sir Thomas Barlow, the President, being in the chair.

The President in a sympathetic reference to the death of Dr. J. G. Glover said that all who knew him would unite in an expression of sincere regret at the loss which the section had suffered by his death.

Dr. J. F. Gordon Dill showed a case of Pernicious Anæmia treated by Lactobacillin. The patient was a man, aged 34 years, who had diarrhœa in South Africa in 1901. Since then he had worked at house painting and plastering, until July, 1905, when he was suddenly seized with violent abdominal pain and diarrhœa; persistent vomiting appeared three days later, and these severe symptoms lasted seven weeks. During 1906 and the early months of 1907 he never lost the vomiting or diarrhœa, the motions averaging eight a day. Gradually dyspnœa and palpitation came on. He was admitted to hospital on Oct. 10th, 1907, with tenderness over the colon and extreme anæmia. The stools contained enormous numbers of streptococcus fæcalis and bacillus enteritidis (Gärtner). A blood count on Oct. 12th showed: red blood corpuscles, 1,468,000; leucocytes, 3500 (polymorphonuclears 48 per cent., lymphocytes 52 per cent.); hæmoglobin, 32 per cent.; and colour index, 1·1. Some of the red cells showed punctate basophilia, and in later examinations many nucleated red cells were seen, megaloblasts being noted in three out of 20 examinations. For four months (October, 1907, to January, 1908) he was treated with arsenic and intestinal antiseptics; he also had vaccines made from streptococci from the bowel and from the sore tongue. After this, on Jan. 23rd, 1908, the red cells were 1,568,000, leucocytes 3000, hæmoglobin 60, and colour index 1·8. He was put on lactobacillin from Jan. 14th to March 2nd; on March 19th the red cells were 1,725,000, the colour index 1·3, and leucocytes 1750. On April 3rd, after not having had any lactobacillin for a month, the red cells had fallen to 1,392,000 and colour index 1; he was put on lactobacillin. On April 23rd the red cells were 1,000,000 and colour index 1·8. From this date the blood condition gradually improved until Sept. 30th, when the red count was 4,800,000, leucocytes 6400, hæmoglobin 100 per cent., colour index 1·04, and no nucleated red cells. Except for the month of July he had been on lactobacillin since April 4th.—Dr. George Herschell pointed out the importance of being sure that the lactic ferment used was active, as the market was sometimes flooded with preparations, some good, some useless, and some probably injurious. A tablet should conform to the following tests. It should be pure white in colour, should disintegrate within three or four minutes when placed in water, it should be odourless, neutral in reaction, and when cultivated on Cohendy's serum of milk should give a culture of the Bulgaria bacillus with perhaps one other organism added to improve the flavour of the milk curdled by it.—Dr. Dill, replying to the President, said that there were not any notes about urobilin in the case; and in answer to Mr. G. Eastes he said that the diarrhœa had been ameliorated. He admitted that many of the tablets on the market were inert, but with some he had had remarkable results in intestinal antisepsis.

Dr. F. Parkes Weber showed a case of Congenital Heart Disease with extreme Secondary Polycythæmia and Orthostatic Albuminuria. The patient was a man, aged 22 years, who was undersized and did not look more than 15 or 16 years old. There was great cyanosis of the lips, tongue, nose, ears, hands, and feet. His tongue and lips were bluish-black in colour. There was great clubbing of the fingers and toes. A blood examination (capillary blood from finger) on Oct. 18th, 1908, showed that the blood was very dark in colour, hæmoglobin (by Haldane's method) 160 per cent., red cells 10,300,000 per cubic millimetre, and white cells 7000. A differential count of 500 white cells made by Dr. A. E. Boycott gave lymphocytes, 17·2 per cent.; intermediate, 5·4 per cent.; large hyaline, 2·2 per cent.; polymorphonuclear, 72·2 per cent.; eosinophile, 2·0 per cent.; and mast cells, 1·0 per cent. The red cells appeared quite normal though the colour index was low. The congenital malformation in the present case seemed to be patency of the interventricular septum.

Dr. C. H. Miller showed a case of Polycythæmia. The patient was a man, aged 44 years, who in April, 1906, began to suffer from shortness of breath, palpitation, giddiness, and lately bad headaches and epistaxis. There were general cyanosis and great clubbing of the fingers and toes. A blood count gave the following result: red cells, 12,010,000 per cubic millimetre; white cells, 10,000; hæmoglobin, 140 per cent.; blood volume, $10\frac{3}{4}$ litres; oxygen capacity, 3·375 cubic centimetres (taken by Dr. Boycott). Improvement occurred when treated by rest, warmth, venesection, saline infusions, iodides, and arsenic.

Dr. Miller also showed a case of Splenomegalic Polycythæmia. The patient was a man aged 39 years. His illness began at Christmas, 1906, with shortness of breath, pains in the chest and legs, and occasional bleeding from the gums. The legs were swollen. There was not any clubbing but there was great cyanosis of the lips, face, fingers, and toes. The spleen was enlarged and hard. There were 11,300,000 red blood corpuscles per cubic millimetre and 15,300 leucocytes per cubic millimetre; a differential count gave polymorphonuclears 81 per cent., lymphocytes 12 per cent., others 7 per cent.; no abnormal cells were found.

Dr. H. Theodore Thompson showed a case of Polycythæmia. The patient during the last three years had been gradually becoming blue; he complained of headache and weakness. He had had syphilis many years ago and there was a scar of old gumma of the manubrium. The spleen was much enlarged and there was intense cyanosis. The red count varied from 10,000,000 to 13,000,000 per cubic millimetre; hæmoglobin, 140 per cent. The arterial, venous, and capillary blood pressures were normal. Treatment by iodides and oxygen inhalations was without any effect. The patient was now being treated with the x rays to the bones and spleen.—Dr. H. D. Rolleston suggested in these cases treatment with serum obtained from an animal in which a cytolytic action had been induced so as to affect the red marrow of the bones.—Dr. Weber said that bleeding had been tried with doubtful results in some cases, and the President considered that it was a useful method of treatment when cerebral manifestations were present.

Dr. James S. Collier showed a case of Chronic Purpura. The patient in July last, when suffering from septic gingivitis, developed a whitlow. The temperature rose to 104° F. and remained high for a week, and during this pyrexial period the most profuse purpura appeared, the body being almost universally black. Examination of the blood showed the presence of a few cocci only. The patient's general condition rapidly improved; he now felt in good health. Purpura had occurred almost daily since the beginning of his illness despite every kind of treatment, and frequently he was troubled with an urticarial rash, which was at once benefited by the administration of calcium chloride. The chronic œdema of the forehead suggested some septic focus in the nasal passages, but repeated examination had failed to reveal anything.

Mr. Raymond Johnson showed a case of Fracture of the Patella resulting from syphilitic osteitis.

Mr. A. Carless showed a case of Extensive Fracture of the Pelvis with recovery. The patient was a boy, aged 17 years, over whose sacrum a heavy van had passed.

Dr. F. E. Fenton showed a case of von Recklinghausen's Disease in a woman, aged 52 years, in which about 40 of the largest tumours (which varied from the size of a pea to that of a walnut or even an egg) had been excised, the pedunculated ones being ligatured. Fibrolysin had been injected hypodermically for the last ten weeks, with the result that the size of the tumours had diminished and their consistence had been rendered soft.—Dr. Thompson also showed a case of the same disease.—Dr. Rolleston said that a case of von Recklinghausen's disease should show neuro-fibromata, molluscous tumours, and pigmentation.—Dr. Weber thought that the name should be given to a case with any of the

THE "EFFECTIVE PERIODS" OF TYPHOID "CARRIERS."*

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AND

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In a previous communication[1] we intimated our intention to continue observations upon the typhoid "carrier" whose case we described. Since then we have traced another outbreak to a typhoid carrier and have prosecuted inquiries from several standpoints in order to determine certain factors associated with the transmission of the organism. One of these is connected with the "effective" periods of the carrier, and although the facts already ascertained are limited to few cases we consider that their publication may call further attention to the whole question of typhoid carriers and so indirectly furnish additional material for investigation.

It may be remembered that Mrs. H., the subject of our earlier paper, was found to be the cause of three outbreaks of enteric fever in institutions where she was acting as cook. In November, 1907, she was proved to be a typhoid carrier, and her removal from any contact with food resulted in the disappearance of enteric fever from the institution where she was working. From that time we have had her under strict control, her fæces have been examined frequently, and her clinical condition has been duly noted. In addition to the bacteriological examination of the fæces attention has been paid to the character of the stools, and in Chart 1 these are described as formed, disturbed, diarrhœic, There appears to be some relationship between the unformed stools and the presence of bacillus typhosus in the fæces.

On Dec. 20th, 1907, typhoid bacilli were obtained from the fæces. Negative results were then the rule until the following April 14th, when a luxuriant growth of bacillus typhosus appeared on the plates. Further daily examinations showed the organisms to be present on May 11th, 21st, and 29th, and on June 10th. The urine did not contain the bacillus typhosus. About May 21st Mrs. H. fell ill. The pulse-rate was 120, the temperature was 100° F., and she presented a "typhoid" appearance. Chart 1 gives the temperature and pulse curves. Differential blood counts showed an increase of mononuclear cells—35 to 50 per cent. Unfortunately, at the time it was impossible to arrange for a count of the total number of white cells. Her blood gave a good and prompt agglutination, 1 in 25, but was negative in higher dilutions. With a view to the consideration of other causes the blood was examined bacteriologically. No organisms were present. Her opsonic index was then determined for staphylococci, streptococci, bacillus coli communis, and bacillus typhosus. This was carried out by the opsonic assistant at the Bristol Royal Infirmary, Dr. J. M. H. Munro, to whom we are much indebted. The result was as follows: staphylococci, 0·99; streptococci, 1·07; bacillus coli communis, 1·2; and bacillus typhosus, 1·7. Minute examinations of the fæces failed to reveal any gall-stone, and there were no clinical signs of biliary obstruction.[3] We concluded that the patient was probably suffering from a self-inflicted attack of enteric fever, although we recognise that the attack may have been a cholecystitis, or some form of enteritis. The associated presence of bacillus typhosus in the stools led us to regard it as probably a typhoid enteritis. The duration of the illness was about three weeks.

Since this "carrier" was removed from her position in the dairy in November last she has lived in a separate block with some typhoid convalescents. In July, 1908, a woman with whom she had been daily closely associated for some months was attacked with typhoid fever. It was found that after the carrier had eaten as much as she could of her lunch she handed the remainder to her companion. This suggested a probable means of infection and an endeavour was made to find bacilli on the hands of the carrier after defæcation and before ablution. The investigation is still in progress. Up to the present only cocci, moulds, and motile bacilli have been isolated. No bacillus coli communis or typhoid bacilli have been found. The carrier, however, now endeavours to prevent any soiling of the skin after defæcation, &c. It may be possible to obtain positive results from other carriers before they alter their usual habits.

Second carrier case.—Before considering the question of "periodicity" and "effective periods" we may perhaps mention the details of another case we have met with. In September, 1907, J. H—n had enteric fever and died His wife, who had nursed him prior to his removal to hospital, had a slight attack of enteric fever in October-November, 1907. After recovery she continued her household duties. All went well until June 6th when her four children were simultaneously attacked with enteric fever. In the absence of any other cause the woman herself fell under suspicion, and it was found that her blood agglutinated bacillus typhosus 1 in 200. On several subsequent occasions the Widal reaction has been obtained in similar dilutions. The fæces are being repeatedly examined from the standpoint of "periodicity."

The May period of infectivity.—We have already pointed out that Mrs. H. was responsible for three outbreaks. In May, 1904, she was at a home for girls, Brislington, where 25 cases of typhoid fever and two deaths occurred. In May, 1905, she was at a girls' home in Clifton, where typhoid fever broke out. In May, 1907, the second and larger group of Brentry cases commenced. At all these places she was present for some time before any typhoid fever appeared. January, February, and March were the months during which she was "ineffective." This year (1908) her isolation has prevented any wide transmission of the organisms, but, curiously enough, she appears to have infected herself about the same time of the year—viz., May—and a single fellow inmate in July. The fæces examined in January, February, and March did not contain typhoid bacilli. In Chart 2 we show these periods. The time during which she was in a position to infect food is shown by a thin line and it will be seen that it was not until May that she became "effective," while, under favourable circumstances, her effectiveness then continued to the end of the year. In the second case, Mrs. H—n, it is again the food preparer who acts as the typhoid carrier. After recovery from her November attack she continued her household duties and everything went well until the end of May or June, when the whole family, except herself and one son, were infected with the typhoid bacillus.

We may now summarise shortly some of the carrier cases already reported.

Kayser's and Klinger's carrier cases.—

Case 1—Mrs. E., a confectioner, had enteric fever in 1894. Nearly all her assistants suffered from indigestion and diarrhœa shortly after entering her service. On May 20th, 1904, her assistant, L. R., had enteric fever. On May 24th typhoid bacilli were found in the stools of Mrs. E. On August 8th, 1904, her lodger, J. W., was attacked with enteric fever.

Case 2.—Mrs. M., a secondhand clothes dealer, had enteric fever in 1874. In 1899 she had an attack of severe biliary colic. On Nov. 24th, 1904, she was found to be a carrier. On May 20th, 1904, her son-in-law, who lived with her, fell ill with enteric fever. On Nov. 17th, 1904, her lodger, A. B., was similarly attacked.

Case 3.—Mrs. Z., a tailor's wife. In January, 1905, a new servant came into the house. Three weeks later the maid developed enteric fever.

Case 4.—Mrs. L. Her servant was attacked with enteric fever in April, 1905.

Case 5.—Miss N. had enteric fever in 1881. Her servant showed signs of enteric fever on June 28th, 1905.

Case 6.—Mrs. S. had enteric fever in 1877. In August, 1900, she had an attack of biliary colic. In September her children developed typhoid fever.

Soper's case.—The details of this case have been so carefully and fully worked out by Dr. Soper that we may safely assume that during the intervals of the dates mentioned the carrier was "ineffective." In June, 1902, the carrier, who was a cook, joined a family three weeks before the summer exodus. At the end of this time enteric fever appeared. In October, 1903, she entered the service of another family. Nine months later—viz., June, 1904—the family went for the summer holiday, taking the cook with date. It might also be that the method of displacement of the sac rather than ligature of the sac (before its removal) had the effect of eliminating that cause. The additional sutures placed by some surgeons to close the space above the cord might also effect the same object. The effect of undue strain was undoubtedly considerable. How much trouble might arise from the vomiting which followed the use of anæsthetics it was not possible to estimate. At the end of a fortnight the patient could safely go about again and walk from place to place in moderation, but the muscular exertion which he underwent should be gradually increased and at no time violent. In most of the cases which had been operated on by himself, as well as in those which had been subjected to operation by other surgeons, there was an excess of scar tissue in the inguinal canal which in some instances matted the parts together in a manner which made it difficult to differentiate the structures. In three instances the posterior wall was so firmly fixed to the cord that Foster's operation was done—that is, the cord was not disturbed but the internal oblique was sutured to Poupart's ligament over it after removal of the sac, and the canal closed in the usual manner. As regards the condition of the sac, it was frequently difficult to separate, being thickened and adherent to the cord, but in every instance save one it was ultimately separated and ligatured before removal. The exception was made in a case of direct hernia where the sac presented no definite neck, and was invaginated without the removal of any part of it. In three the hernia had become irreducible, omentum being adherent to the inside of the sac. In two of these omentum required to be excised.—Mr. G. R. TURNER said that in operating for hernia he never let age stand in his way unless the age of the patient was such as to make the giving of the anæsthetic a danger.—Mr. A. E. BARKER pointed out the advantage of using silver wire net-work to support the parts when dealing with very indolent tissues.—The PRESIDENT commented on the diminution in the frequency of recurrence and Mr. BATTLE said he was unwilling to use silver-wire netting because he objected to put such a foreign body into the inguinal region where movement was so well marked.

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* The superior figures refer to the bibliography at the end.

Mr. V. WARREN LOW read a report on two cases of Hæmorrhage into the Testicle. In the first case the patient was a youth, aged 19 years, who went to the out-patient department of St. Mary's Hospital on April 19th, 1907. He complained that two days previously his left testicle had become swollen and painful. The case was considered to be one of tuberculous disease of the testicle and epididymis, and the removal of the organ was advised. That was carried out on May 7th. On section the body of the testis was firm and dry and had a uniform grey colour. In the region of the rete testis were several small ill-defined hæmorrhages. In the epididymis and cord were dilated blood-vessels but no hæmorrhages were here present and no indication of torsion of the cord. The second case was that of a young man, aged 21 years, who was sent to him in May, 1907, with the history that while moving he was seized in his left testicle with a sudden violent pain, of such severity as to cause him to lie on the floor. Mr. Low saw him on May 11th, about four weeks after the attack. The left testicle was then enlarged and slightly, but not excessively, tender. Mr. Low came to the conclusion that the case was one of tuberculous epididymitis and the organ was removed. On examination the body of the testis was firm and had a caseous appearance throughout and the epididymis and cord contained dilated blood-vessels. In the rete testis were thrombosed veins and blood clot almost completely discoloured. In each case there had been a sudden hæmorrhage into the substance of the testicle, with consequent destruction of its glandular elements, and in neither case was the cause of that hæmorrhage at all obvious. Sudden hæmorrhage into the testicle, when it was not an accompaniment of a new growth, was almost invariably the result of torsion, either of the cord or of the "mesentery" of the testicle. But in the cases which he had brought forward no evidence of such a twist could be discovered, and what was, perhaps, of more importance, the testicle and epididymis were normally attached to the back of the tunica vaginalis.—Mr. EDRED M. CORNER said that the trend of modern opinion in regard to these cases was to regard with doubt the ancient diagnoses of gangrene, spontaneous necrosis, thrombosis, &c., and it was now suggested that these cases were due to torsion of the cord, but he did not think that it accounted for all these cases.—Mr. T. H. KELLOCK said that it was important to know how high up the cord the hæmorrhage went.—Mr. BARKER narrated similar cases where he did not operate, and the PRESIDENT pointed out that the question arose where a hæmorrhage began, after which Mr. LOW replied.

OPHTHALMOLOGICAL SOCIETY.

Orbital Abscess following Retinal Embolism.—Nodular Opacity of the Cornea in Three Generations.—Exhibition of Specimens.

A MEETING of this society was held on Nov. 12th, Mr. R. MARCUS GUNN, the President, being in the chair.

Dr. A. L. WHITEHEAD read a paper entitled "A Case of Orbital Abscess following Retinal Embolism." The patient, a woman, aged 42 years, after an illness of ten days' duration, with elevation of temperature and pain in the right shoulder, suddenly lost the sight in one eye. This eye subsequently became acutely inflamed and proptosed and an orbital abscess formed. The abscess was opened and the eye was excised; pus was found to be exuding through a necrosed area of sclerotic. The axillary vein subsequently became thrombosed and suppurated. The absence of any primary focus of suppuration and the presence of a systolic mitral bruit rendered the diagnosis of infective retinal embolism secondary to endarteritis probable.—Mr. J. H. PARSONS, in commenting on the case, drew attention to the importance of a bacteriological examination of the blood in such cases, and showed, by narrating cases, that the behaviour of the case varied greatly according to the particular organism responsible. There was also a strong selective factor as regards site in the case of various organisms.—Mr. ANGUS MACNAB pointed out that in many cases where the abscess contents were afterwards found to be sterile the pneumococcus was the organism responsible.—Dr. WHITEHEAD replied. The pus from the eye was sterile, while that from the abscess contained some diplococci.

Mr. HERBERT H. FOLKER read a paper on Nodular Opacity of the Cornea in Three Generations. 25 members of this family had been examined and the opacity was found in nine of them. In the first and second generations five were examined and nodular opacity was present in three members. In these cases, in addition to the opacities, fine lattice-like lines were found in conjunction with them. This latter condition was absent in members of the third generation. The nodular opacities were fewer in number and less in density in the younger members. In all the cases the opacities appeared to be situated in the anterior layers of the substantia propria, the epithelial layer not being involved. No signs of syphilis or history of rheumatism were present in any of the cases. He was indebted to Mr. George A. Carter of Tunstall, who first sent an affected member of the family to him and who had taken great pains in assisting to trace the various members of the family.—The PRESIDENT remarked on the large amount of work done by the society recently on the question of heredity. In only two cases had he seen nodular opacities of the cornea associated with raising of the epithelium.—Mr. G. COATS described the histology of a case which he had examined.—Mr. MACNAB remarked on the advantage which had accrued when he shaved the cornea.—Mr. J. HERBERT FISHER drew attention to some notes of a case of nodular keratitis which he showed three years ago.—Mr. W. T. HOLMES SPICER also described cases, and said that he had scraped from them material which was found to be hyaline with calcareous deposits in it.—Mr. R. W. DOYNE, Mr. SYDNEY STEPHENSON, Mr. N. BISHOP HARMAN, Mr. E. TREACHER COLLINS, Dr. W. S. INMAN, Major R. H. ELLIOT, I.M.S., Mr. E. NETTLESHIP, and others also joined in the discussion, and Mr. FOLKER replied.

The following card specimens were shown:—

Mr. R. R. JAMES: Birth Injury of Cornea.

Dr. WHITEHEAD: Specimen from a case of Irido-cyclitis followed by Perforation of the Sclerotic and Orbital Abscess.

Mr. STEPHENSON: Crateriform Hole in the Optic Disc.

Dr. RAYNER D. BATTEN: Acute Optic Neuritis in one Eye with Macular Changes in the other.

Mr. LESLIE J. PATON: Cataract developing subsequently to Exposure to the X Rays.

CHART 3.—Periodicity.

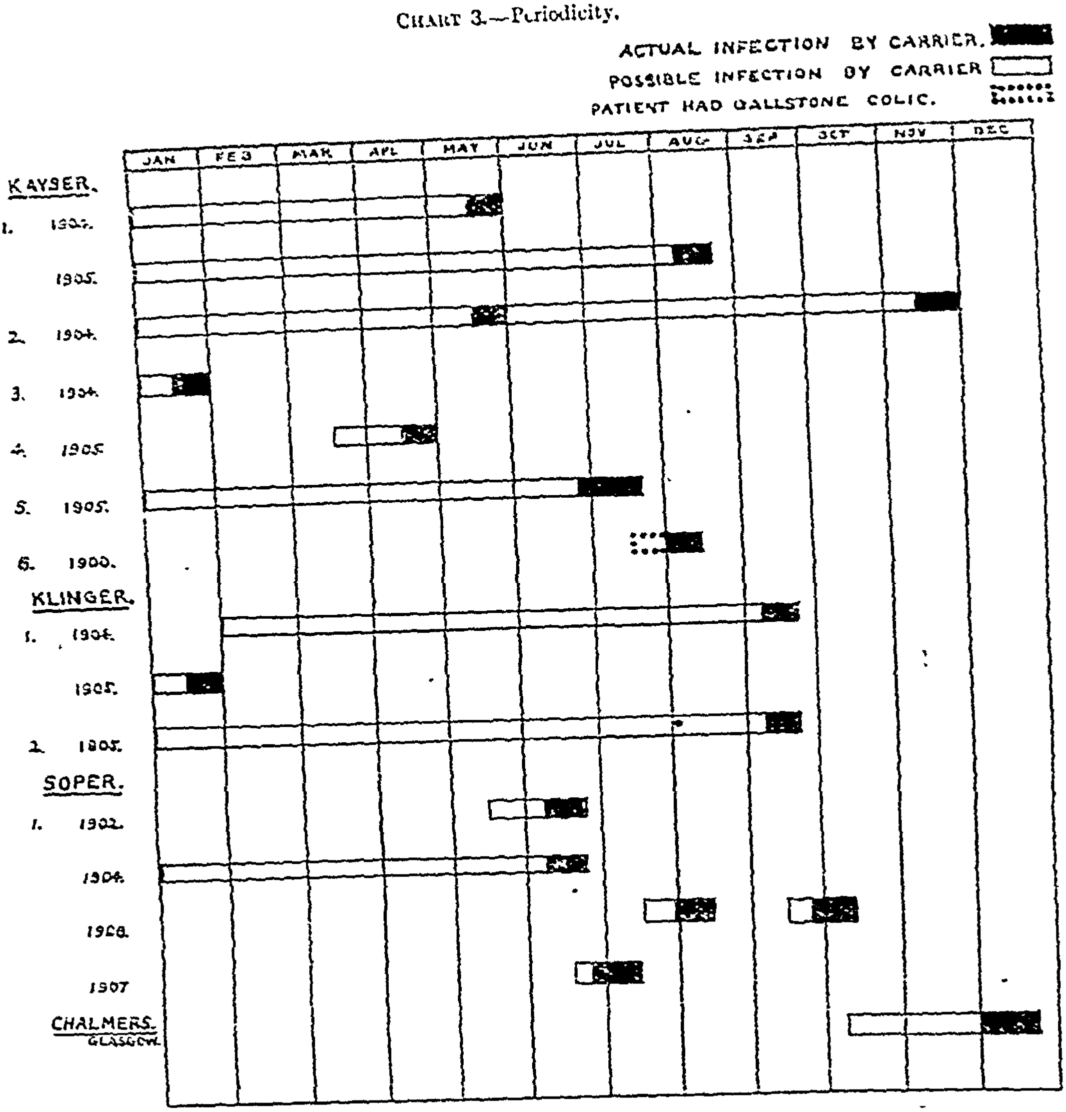

CHART 4.—Typhoid Bacilli in Fæces.

	JAN	FEB	MAR	APL	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
H.	O O	O O O	O O O	+	+ +	O +					+	+
KAYSER.		O O	O						+			
KLINGER. 1.	O	+ + O	O	+ O	O +	+	+	O O	O	O +	+ +	+
... 2.		O +	+	+	+							

The + signifies presence of typhoid bacilli and the O signifies their absence.

Without other assistance than that of the midwife he succeeded in bringing down the arms and subsequently the legs and breech; he then found that there was a second fœtus attached. He brought down the legs of the second child and had little difficulty in delivering the body and after-coming head. The monster died during delivery; the mother made an uninterrupted recovery, the perineum even having escaped laceration.—Mr. T. M. Carter read notes of a case of Rupture of Cerebral Aneurysm in a girl, aged 16 years; the early symptoms simulated hysteria. Death occurred in a few hours preceded by absolute coma. The necropsy revealed an extensive hæmorrhage at the base of the brain.—Mr. G. Munro Smith said that he had seen the patient in the earlier stages of her fatal seizure and had been misled into regarding the symptoms as hysterical.—Dr. J. R. Charles had seen her after she had become comatose and was led to diagnose cerebral hæmorrhage from the ophthalmoscopic appearances which revealed a very early stage of optic neuritis. He mentioned another case which he had seen where a similar condition was responsible for sudden death.—Professor Walker Hall described the post-mortem findings and showed direct colour photographs of microscopic sections from the dilated vessel which had burst; he was unable to say whether the vessel was an artery or vein. Apart from this lesion there were general hypoplasia of the cardio-vascular system and an abnormal fluidity of the blood which had only clotted round the ruptured vessel, but in no other part of the body.—Dr. Edgeworth said that while pathologist at the Royal Infirmary he had met with several cases of basal hæmorrhage in young adults in which, after careful examination, the source of hæmorrhage could not be found.—Dr. D. A. Alexander inquired whether there was any reason for supposing that Arthur Hallam's untimely death from a "determination of blood to the brain" was an instance of this condition.—The President remarked that the mistake of confounding such a case with hysteria would undoubtedly be made again. He asked whether there was any communication between the auricles or ventricles associated with the cardiac hypoplasia; also whether there was any ante-mortem clot which could have been dislodged and given rise to aneurysm in the brain.—The answer was in the negative to both these questions.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Nov. 18th, Professor Gilbert Barling, the President, being in the chair.—Mr. C. A. Leedham-Green showed a case illustrating the improvement which might take place in a Secondary Tuberculous Lesion of the Bladder when the primary focus had been removed. The patient was a young man who for six months prior to coming under observation had noticed that he was passing blood in his urine. On examination of the bladder with the cystoscope the blood was found to proceed from large tuberculous ulcers situated principally round the opening of the right ureter. After catheterisation of the ureters had shown that the other kidney was free from tubercle and was functioning well, the right one, which was wholly disorganised by tubercle, was removed. Almost from the day of the operation the patient's general health began to improve, as was evidenced by the rapid increase in weight. For several weeks after the nephrectomy the urine continued to show the presence of large quantities of blood, but as time went on the hæmorrhage gradually disappeared, until now, not six months from the time of operation, the urine is quite clear.—Dr. J. G. Emanuel showed a boy, aged 11 years, with a Small Pulsating Tumour in the Neck which he believed to be an aneurysm of a branch of the external carotid artery. The swelling was of the size of a hazel nut, pulsatile, and situated at the angle of the lower jaw in a line with the external carotid artery. It had been noticed for two years, and its appearance followed an attack of whooping-cough. There was no history of traumatism and there were no signs of endocarditis suggesting the possibility of an embolism having occurred. There was no evidence of congenital or acquired syphilis.—Mr. F. Victor Milward showed a child whose Spleen he had Excised at the age of 18 months. The child had made a satisfactory recovery and was in good health at the present time, seven months after the operation. A differential blood count showed a marked lymphocytosis.—Mr. L. P. Gamgee showed a specimen of a Large Enchondroma growing from the upper end of the fibula. The patient, a woman, aged 45 years, first noticed the enlargement 25 years ago, and the tumour had been growing steadily in size ever since. Until six months ago she had felt no pain in the part, but for the six months there had been a good deal of aching pain. When the patient was seen on Oct. 9th, 1908, the tumour was as large as an infant's head, bossy and irregular in outline, and of a uniform hardness. There was no adhesion of the skin and there were no signs of secondary deposits. On Oct. 16th amputation through the lower third of the femur was performed. On examination it was seen that the tumour had grown primarily from the upper end of the fibula and that it had pressed on and eroded the tibia secondarily. The upper end of the fibula, which was buried in the tumour, was greatly expanded as though the growth had in the first instance commenced in the interior of the bone; towards the surface of the growth were some patches of calcification. Microscopically the tumour had the structure of an enchondroma with a slightly fibrous matrix.—Dr. J. Miller showed a large series of Lungs of Infants cut entire and stained with Weigert's Elastic Tissue Method, illustrating various forms of pulmonary tuberculosis. Several of the sections showed cavity formation from small dilated bronchioles up to cavities occupying the whole upper lobes. In several instances the cavities were in the lower lobes, a condition found frequently in cases of abdominal tubercle.—Mr. George Heaton showed two specimens of Calculous Pyonephrosis in which a double ureter was present. The first was removed from a woman, aged 37 years, who had had symptoms of renal calculus on the left side for seven or eight years. The kidney was distended into a large multilocular pus sac. Primary lumbar nephrectomy was performed and the patient made a good recovery, and was now, 12 months after the operation, in excellent health. The upper half of the kidney was found to have a separate ureter which passed down separately from its fellow as far as it was exposed in the wound. The portion of the kidney drained by this upper ureter was comparatively healthy and contained no calculi. Preservation of any portion of the kidney was impossible at the operation, as the hæmorrhage was profuse from abnormal renal blood-vessels. The lesser half of the kidney was converted into a series of thin-walled pus sacs and contained four calculi. The second specimen was removed by lumbar nephrectomy from a woman, aged 30 years, who had a very large pyonephrosis on the left side extending from beneath the costal arch to the iliac fossa and considerably beyond the middle line laterally. The kidney was completely destroyed except for a small portion which lay between the pus sacs and the suprarenal gland and which after removal was found to have a separate ureter. This ureter was found to join the main one just beyond the pelvis of the kidney. The pyonephrosis contained one large branched calculus plugging up the mouth of the main ureter and a number of smaller calculi in the distended calyces. The patient made an excellent recovery.

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control the action of the germs. As there is generally no need to deal with the drains, or to disinfect rooms or houses for these special cases, no upset of the domestic arrangements is necessary.

6. In the household where a patient is convalescing from typhoid fever the additional precautions of boiling all the milk or water used for drinking or in the preparation of food should be undertaken, and uncooked foods should be avoided.

Bibliography.—1. Davies and W[illegible] Society of Medicine, April, 1908. [illegible] 1908. 3. Forster: Relation of B[illegible] Bile-ducts, Munchener Medicinische [illegible] 4. Crowe: Excretion of Urotropin in the Bile and Pancreatic Juice, Johns Hopkins Hospital Bulletin, April, 1908. A full bibliography appears in a paper by J. G. Ledingham, Brit. Med. Jour., Oct. 17th, 1908.

Bristol.

THE COMMON COLD: ITS PATHOLOGY AND TREATMENT,

WITH ESPECIAL REFERENCE TO VACCINE THERAPY.[1]

By R. W. ALLEN, M.D., B.S. LOND.,

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I.—INTRODUCTION.

IN a recent publication on catarrhal fevers by Dr. R. Prosser White we find the following: "I venture to submit that our zeal and interest in a disease should be proportional not to its rarity but to its frequency; and to call *trifling*, a disease which incapacitates members of every class of society oftener and more commonly than any other, and has the reputation of initiating so diverse and numerous ailments, is a travesty of facts. This condition, the bane of the household and the scourge of the community is allowed to run riot, practically ignored by our leaders, our medical schools and our text-books." A feeling exactly in accord with that expressed by these very true words was the cause of my undertaking the present research into this common affection, which, again to quote Dr. Prosser White, "is a source of inconvenience, if not danger, to the strong, and is often followed by severest consequences in the old and the young, the feeble and the debilitated—which may be the active factor in overburdening an already embarrassed heart, setting up the final catarrh in the later stages of phthisis or multiplying the difficulties and distresses of the chronic invalid suffering from bronchitis and emphysema." The work conducted during two years' tenure of the Gull studentship has been completed in my private practice, with the result that I think I can fairly claim to have placed the bacteriology upon a sounder footing, indicated means whereby a differential diagnosis of the causal organism or organisms may be made in any given case from a consideration of the clinical features, and to have demonstrated the utility of vaccine therapy not only in shortening acute attacks and thereby preventing secondary complications, but also in curing chronic cases and in securing immunity, more or less complete, from further attacks, acute or chronic, in those who are especially susceptible to this very troublesome and common complaint.

II.—DEFINITION OF A COLD.

For the purposes of this research a cold may be defined as a local inflammation of any portion of the respiratory tract, from the mouth and external nasal meatus to the bifurcation of the bronchi, together with the sinuses annexed thereto; such as the frontal and ethmoidal sinuses, the maxillary antrum, and the Eustachian tube; inflammations due to the ordinary pyogenic cocci are, however, excluded. The conditions thus included are the so-called colds in the head, sore throats, and tracheal coughs. The word "fever" has been avoided, inasmuch as any rise of temperature is, more often than not, local and not general; indeed, the true body temperature, obtained either per rectum or by means of the urine, is more often than not subnormal. Colds are always acute at the onset but may go on to a chronic stage, persisting for even 20 years, punctuated at intervals by acute exacerbations. The acute cold exhibits the following stages. 1. Local anæmia of the mucous membrane. This probably precedes infection, so ought perhaps to be called a pre-catarrhal condition. This is succeeded by local hyperæmia, the natural response of the body to the preceding anæmia. 2. After infection there is a period of incubation, during which the hyperæmia increases to a greater or less extent. Few opportunities of measuring this have presented themselves, but in one case it could be fixed at only two hours; the usual period, however, seems to be about 12 hours, but varies according as to whether the infection is a fresh one from without or due to a lighting up into activity of organisms already resident in these parts. During this period there may be dryness and tickling of the palate and fauces and a few sneezes may be given, soon to be followed by a general feeling of malaise and chilliness, which marks the completion of the incubation period and the onset of the third stage—viz., the period which may be called the "catarrhal plateau." This is characterised by greatly increased mucous secretion, the attempt of the body to rid itself of the invaders. If the fauces be involved there is a definite sore-throat, if the trachea a resultant cough. The feeling of general malaise continues, often accompanied by headache, constipation, and distaste for food; there may be some pyrexia; the secretion of sweat and urine is diminished and the latter may be loaded with urates. After from 18 to 48 hours the mucous secretion diminishes and the fourth or subacute stage is entered upon. The mucous discharges become thick and contain leucocytes and lymphoid cells which cause the discharges to become yellow in colour. This lasts for a period varying from two or three days to as many weeks, when it either ceases and cure is established, or it persists for months or even years and enters upon the fifth stage, which is that of true chronicity, marked by continuous excessive secretion of thick mucus and the feeling aptly described as "stuffiness of the nose." Such a chronic condition is punctuated at intervals by periods of exacerbation or by acute attacks due to a second organism.

III.—BACTERIOLOGY.

A.—*Technique Employed.*

Before any attempt can be made at the determination of the bacterial agents in the production of pathological conditions it is obviously necessary to determine what are the normal bacterial inhabitants of the part or parts. Accordingly healthy noses and throats were examined as well as catarrhal. The technique employed was as follows.

1. *For the trachea.*—The mouth having been thoroughly gargled several times with sterile water, by means of a violent cough some mucus was expectorated and received in sterilised water; a small compact piece was washed two or three times and then inseminated upon one or more of the following—agar, blood agar, nutrose ascitic agar or so-called "nasgar," blood serum. After 24 hours' incubation at 37° C. films were prepared as well as some from the original mucus, stained with methylene blue and by Gram's method, and examined microscopically. The organisms were then isolated when necessary.

2. *For the throat.*—Swabs were taken from the hyperæmic areas, soft palate, posterior pharyngeal wall, fauces or tonsils, and treated as in the case of the tracheal mucus.

3. *For the nose.*—In order to avoid contamination with the organisms infecting the vibrissæ and vestibule the following procedures were adopted: (*a*) A piece of sterilised glass tubing about three inches long and of ample bore so as to admit the passage of a platinum loop was inserted up the nostril; along this tube a sterile loop was pushed and the protruded end rubbed over the surface of the nasal mucosa; it was then withdrawn through the glass tubing and a smear made upon agar, blood agar, blood serum, or nasgar, two or three such smears being usually made upon different media. (*b*) As an alternative method a sterilised nasal speculum was used to separate the nasal orifice and by means of a sterile swab cultures taken as high up the septum and turbinals as it was possible to get. (*c*) Experiment, however, showed that these precautions were hardly necessary in the case of nasal catarrh where organisms are always plentiful and that certain advantages were to be obtained by using the following procedure. The orifice of the nose having been well washed with warm soap and water and dried upon sterile lint, one nostril was closed and the nasal secretion forcibly expelled from the other upon sterilised cotton-wool. Ample material is thus obtained to inseminate numerous tubes and plates and to prepare films. In several cases cultures were made by two of these methods and identical results obtained.

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[1] A thesis accepted for the M.D. degree (Branch II.), University of London.

[illegible] could have been dislodged and given rise to aneurysm in the brain.—The answer was in the negative to both these questions.

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pus sacs and contained four calculi. [illegible] was removed by lumbar nephrectomy from a woman, aged 30 years, who had a very large pyonephrosis on the left side extending from beneath the costal arch to the iliac fossa and considerably beyond the middle line laterally. The kidney was completely destroyed except for a small portion which lay between the pus sacs and the suprarenal gland and which after removal was found to have a separate ureter. This ureter was found to join the main one just beyond the pelvis of the kidney. The pyonephrosis contained one large branched calculus plugging up the mouth of the main ureter and a number of smaller calculi in the distended calyces. The patient made an excellent recovery.

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possess pathogenic properties, and yet these cases have neither pneumonia on the one hand nor diphtheria on the other. The important factors are, *inter alia*, first, one of pathogenicity of the organism, and, secondly, of susceptibility of the individual. These questions I have the more fully investigated in the case of the bacillus of Friedländer and the inference of its causal relationship seems amply justified.

TABLE III.—*Summary of the Bacteriology of the Cases.*

No. of case.	Nature of case.	Bacillus of Friedländer.	Bacillus influenzæ.	Bacillus septus.	Micrococcus catarrhalis.
1	Chronic 12 years.	+	—	—	—
2	Acute 2 days.	—	—	Few.	+
3	,, 1 day.	+	—	—	—
4	Acute upon chronic of 4 months.	+	—	—	—
5	Acute 1 day upon subacute of 2 weeks.	+	—	—	—
6	Acute 5 days.	+	—	Few.	—
7	,, 12 hours.	—	+	—	—
8	,, 12 ,,	—	—	+	—
9	,, 3 ,,	—	—	+	—
10	Subacute 12 days.	—	—	—	+
11	Acute 2 days.	—	—	+	+
12	,, 1 day.	—	—	—	+
13	,, 2 days.	+	—	+	—
14	,, 1 day.	—	—	+	—
15	Subacute 14 days.	—	—	+	—
16	Chronic 17 years.	+	—	—	—
17	Acute 2 days.	—	—	+	—
18	,, 3 days.	—	—	—	+
19	,, 1 day.	+	—	—	—
20	,, 1 ,,	+	—	—	—
21	,, 1 ,,	+	—	+	—
22	,, 2 hours.	+	—	—	—
23	,, 2 ,,	—	—	—	+
24	,, 2 days.	—	—	+	—
25	,, 1 day.	—	—	+	+
26	,, 4 days.	—	—	+	—
27	Acute on subacute of 14 days.	—	—	—	+
28	Acute 1 day.	—	—	—	+
29	,, 2 days.	+	—	—	+
30	,, ,,	—	—	+	—
31	Acute two days upon chronic of 20 years.	+	—	—	+
32	Acute 1 day.	—	—	+	—
33	,, 3 days.	—	—	+	+
34	Chronic tracheal catarrh of 20 years.	—	—	—	+
35	Acute outburst in No. 34.	—	—	—	+
36	Acute 1 day.	—	—	—	+
37	,, 3 days.	?	—	—	—
38	,, 2 ,,	—	—	+	—
39	,, 3 ,,	—	—	—	+
40	,, 3 ,,	—	—	—	+
41	,, 1 day.	—	—	—	+
42	Chronic 10 years, with acute outbursts.	—	—	+	+

As regards pathogenicity, each strain on isolation was introduced into a rabbit, rat, and guinea-pig. In all but two cases where the animals were made extremely ill but survived for three days, when they were killed by chloroform, the animals died, usually within 24 hours. In every case the typical capsulated diplo-bacilli were recovered from the heart blood and peritoneal fluid; post mortem the animals presented areas of pneumonic lung, enlarged spleens, and, where the inoculation had been intraperitoneal, peritonitis, especially over the liver and spleen. The virulence was of a high degree.

Secondly, Case 1 was proved to have the organism continually present in large numbers in the nasal mucosa. During several exacerbations these were discharged from the nose in large numbers; within a very short time workers in the same room, whose nasal cavities had just been proved to be practically sterile and who were free from colds, developed severe attacks, during which the bacillus of Friedländer was found to be abundantly present in their nasal mucus. Further, Case 1 was finally cured both of the chronic and acute attacks by injection of a vaccine prepared from his organism and repeated cultivations have since failed to find the bacillus of Friedländer present. Again, in the instance of Case 4, a chronic one of four months' standing, the disappearance of symptoms and organism was simultaneous.

Thirdly, an emulsion of Friedländer's bacillus was spilt in the laboratory where three individuals were working; within a few hours each developed a mild catarrhal attack during which the bacillus was found in the nasal mucus.

Fourthly, reference to the opsonic charts (1 and 2) appended of Cases 1 and 16 shows that the index to Friedländer's bacillus was abnormally high during the chronic stages and that it was influenced by an exacerbation of the infection just as one would expect it to be were the acute attack due to the given organism.

Fifthly, the percentage of cases in which this organism was found was very much in excess of that found in healthy noses by von Besser, 2·5, and by Lewis and Logan Turner, 4.

The claims of the bacillus influenzæ to be regarded as a cause of nasal catarrh are too well known to require discussion, whilst those of the micrococcus catarrhalis have been well demonstrated by Dunn and Gordon[7] in the case of an epidemic in Hertfordshire which closely simulated influenza, by Pfeiffer, by Lord, and by Bezançon and de Jong in Paris.[8] By accidently sucking up some emulsion of this organism which he had prepared Gordon[9] records the onset after 24 hours of a cold which gradually extended down the trachea. From the nasal discharge he recovered the organism at the close of the attack. In Cases 2, 10, 12, 18, 23, 27, 28, 35, 36, 39, 40, and 44 this organism was obtained in practically pure culture from the nasal mucus. The patient in Case 2 was one of a household of eight who had been attacked one after the other by severe colds. Cases 27, 25, and 28 present this interesting feature—they were "contacts." Case 27 had had a subacute attack for about 14 days and developed an acute cold without sore throat. 24 hours later patient No. 25 had a severe cold beginning with a sore throat. No. 28 then came into contact with No. 25 and followed suit without a sore throat. All three patients yielded abundant growth of the micrococcus catarrhalis; from No. 25 alone was the bacillus septus in addition isolated.

As regards the capacity of the micrococcus catarrhalis to produce nasal catarrh there is then little doubt, but whether it is the direct causal agent in all catarrhal cases in which it alone is isolated is not so certain. A coccus at all events very closely allied to it is, as I have shown, an extremely common inhabitant in normal throats, perhaps even to the extent of from 70 to 80 per cent.

The claims of the bacillus septus are much more difficult to decide. It is true that Cautley[10] found it in seven out of eight cases of cold which he investigated, or in 88 per cent., Prosser White[11] in 17 out of 21, or in 81 per cent., and Benham in 25 out of 27, or in 91 per cent. My results were in 11 out of 42 cases, or 26·2 per cent., by itself, and in three others along with Friedländer's bacillus and in two with the micrococcus catarrhalis. It is true that the percentage of healthy noses which nurture this organism is between 8 and 12 per cent. and the contrast seems almost convincing. It must, however, be noted that these observers were not aware that Friedländer's bacillus could produce a cold and accordingly omitted to consider its etiological claims. In five out of his 27 cases Benham found —Gram bacilli and one of these was proved to be the bacillus of Friedländer and the others may have been; in two others the bacillus influenzæ seems to have been present, and in yet 13 other

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[7] Brit. Med. Jour., August 25th, 1905.

[8] Bulletin de la Société Médicale des Hôpitaux de Paris, March 2nd and 16th, 1905.

[9] Brit. Med. Jour., June 2nd, 1906, p. 1318.

[10] Local Government Board Reports, 1884–85.

[11] Catarrhal Fevers.

Without other assistance than that of the midwife he succeeded in bringing down the arms and subsequently the legs and breech; he then found that there was a second fœtus attached. He brought down the legs of the second child and had little difficulty in delivering the body and after-coming head. The monster died during delivery; the mother made an uninterrupted recovery, the perineum even having escaped laceration.—Mr. T. M. Carter read notes of a case of Rupture of Cerebral Aneurysm in a girl, aged 16 years; the early symptoms simulated hysteria. Death occurred in a few hours preceded by absolute coma. The necropsy revealed an extensive hæmorrhage at the base of the brain.—Mr. G. Munro Smith said that he had seen the patient in the earlier stages of her fatal seizure and had been misled into regarding the symptoms as hysterical.—Dr. J. R. Charles had seen her after she had become comatose and was led to diagnose cerebral hæmorrhage from the ophthalmoscopic appearances which revealed a very early stage of optic neuritis. He mentioned another case which he had seen where a similar condition was responsible for sudden death.—Professor Walker Hall described the post-mortem findings and showed direct colour photographs of microscopic sections from the dilated vessel which had burst; he was unable to say whether the vessel was an artery or vein. Apart from this lesion there were general hypoplasia of the cardio-vascular system and an abnormal fluidity of the blood which had only clotted round the ruptured vessel, but in no other part of the body.—Dr. Edgeworth said that while pathologist at the Royal Infirmary he had met with several cases of basal hæmorrhage in young adults in which, after careful examination, the source of hæmorrhage could not be found.—Dr. D. A. Alexander inquired whether there was any reason for supposing that Arthur Hallam's untimely death from a "determination of blood to the brain" was an instance of this condition.—The President remarked that the mistake of confounding such a case with hysteria would undoubtedly be made again. He asked whether there was any communication between the auricles or ventricles associated with the cardiac hypoplasia; also whether there was any ante-mortem clot which could have been dislodged and given rise to aneurysm in the brain.—The answer was in the negative to both these questions.

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The child had made a satisfactory recovery and was in good health at the present time, seven months after the operation. A differential blood count showed a marked lymphocytosis.—Mr. L. P. Gamgee showed a specimen of a Large Enchondroma growing from the upper end of the fibula. The patient, a woman, aged 45 years, first noticed the enlargement 25 years ago, and the tumour had been growing steadily in size ever since. Until six months ago she had felt no pain in the part, but for the six months there had been a good deal of aching pain. When the patient was seen on Oct. 9th, 1908, the tumour was as large as an infant's head, bossy and irregular in outline, and of a uniform hardness. There was no adhesion of the skin and there were no signs of secondary deposits. On Oct. 16th amputation through the lower third of the femur was performed. On examination it was seen that the tumour had grown primarily from the upper end of the fibula and that it had pressed on and eroded the tibia secondarily. The upper end of the fibula, which was buried in the tumour, was greatly expanded as though the growth had in the first instance commenced in the interior of the bone; towards the surface of the growth were some patches of calcification. Microscopically the tumour had the structure of an enchondroma with a slightly fibrous matrix.—Dr. J. Miller showed a large series of Lungs of Infants cut entire and stained with Weigert's Elastic Tissue Method, illustrating various forms of pulmonary tuberculosis. Several of the sections showed cavity formation from small dilated bronchioles up to cavities occupying the whole upper lobes. In several instances the cavities were in the lower lobes, a condition found frequently in cases of abdominal tubercle.—Mr. George Heaton showed two specimens of Calculous Pyonephrosis in which a double ureter was present. The first was removed from a woman, aged 37 years, who had had symptoms of renal calculus on the left side for seven or eight years. The kidney was distended into a large multilocular pus sac. Primary lumbar nephrectomy was performed and the patient made a good recovery, and was now, 12 months after the operation, in excellent health. The upper half of the kidney was found to have a separate ureter which passed down separately from its fellow as far as it was exposed in the wound. The portion of the kidney drained by this upper ureter was comparatively healthy and contained no calculi. Preservation of any portion of the kidney was impossible at the operation, as the hæmorrhage was profuse from abnormal renal blood-vessels. The lesser half of the kidney was converted into a series of thin-walled pus sacs and contained four calculi. The second specimen was removed by lumbar nephrectomy from a woman, aged 30 years, who had a very large pyonephrosis on the left side extending from beneath the costal arch to the iliac fossa and considerably beyond the middle line laterally. The kidney was completely destroyed except for a small portion which lay between the pus sacs and the suprarenal gland and which after removal was found to have a separate ureter. This ureter was found to join the main one just beyond the pelvis of the kidney. The pyonephrosis contained one large branched calculus plugging up the mouth of the main ureter and a number of smaller calculi in the distended calyces. The patient made an excellent recovery.

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bacillus septus is the production of the sore throat. The fact that in my 220 cases of sore throats the percentage in which this organism was found was only 27 against a percentage of 45 for normal throats would seem to negative this view; but I think that chance, the time of year, or some other factor decreed that my figures for healthy throats should be much too high, for other observers have found the percentage to be between 8 and 12 per cent. To sum up, I believe that the bacillus septus is the true etiological factor in the production of a certain percentage of colds, but that through neglect to use appropriate media and to observe the occurrence of the other possible organisms certain observers have obtained much too high a figure and have been thereby led to the belief that it is *the* cause of the common cold.

As regards the micrococcus paratetragenus, which was not present in any of my cases, ample evidence of pathogenicity is forthcoming. Thus, Bezançon[12] found it in the blood of a patient dying from endocarditis, in a case of fatal pulmonary gangrene, and in the cerebro-spinal fluid of a patient in whom paraplegia followed upon pulmonary infection due to this organism. Not only did he find it in a state of practical purity in the sputum of cases of bronchitis and broncho-pneumonia but also in all those of angina with pultaceous exudate during the winter of 1904-05. Benham[13] records similar results at Brighton during 1907-08.

Three other important considerations there are which strongly substantiate the view that these organisms stand in a directly causal relationship to the common cold. First, that during any given epidemic a diagnosis of the organism present can almost infallibly be made, as is shown later, from consideration of the symptoms, each organism producing its own type of cold; secondly, that during any given epidemic of colds the same organism is recoverable from practically every case in pure culture; and thirdly, that subsequent immunity can be secured by injections at suitable intervals of vaccines of these organisms.

If the results given in Table IV. be compared with those obtained by Benham[14] it will be seen that the symptoms caused by the micrococcus catarrhalis and the micrococcus paratetragenus closely resemble each other.

IV.—DIFFERENTIAL DIAGNOSIS OF THE SEVERAL VARIETIES OF COLD.

Each organism produces a more or less distinct type of cold. If only one organism be present the differential diagnosis is, as a rule, easy, but when two occur together, as in six of my cases, the difficulty is greater. Division of colds into acute, subacute, and chronic facilitates the consideration—by subacute I mean lasting from two to three months, with an occasional slight exacerbation; by chronic those that persist over six months, even to 20 years. Examination of Table IV. will show that the following scheme may be drawn up:—

—	Bacillus of Friedländer.	Bacillus influenzæ.	Bacillus septus.	Micrococcus catarrhalis.
Acute	+	+	+	+
Subacute ...	+	No.	Rarely.	+
Chronic... ...	+	—	—	+

Thus we see that the only three cases of truly chronic nasal catarrh which were fully investigated were all due to the bacillus of Friedländer.

While the micrococcus catarrhalis is probably largely responsible for chronic tracheitis—though secondary infection by staphylococci, streptococci, and more or less avirulent pneumococci also probably plays an important part—it would not appear to cause a chronic nasal catarrh, unless perhaps in cases where the infection extends to the accessory sinuses, and especially the Eustachian tube as in Case 42.

Subacute colds appear to be due to either the bacillus of Friedlander or to the micrococcus catarrhalis or micrococcus paratetragenus. The two latter fall into this category from their great tendency to invade the trachea and bronchi. Neither the bacillus of Friedländer nor the bacillus septus, so far as I am aware, induces catarrh of the trachea; the former probably does in those cases of pneumonia for which it is responsible, but after all these are not common. I have never recovered the bacillus septus from tracheal mucus. The persistent hacking tracheal or "winter" cough is thus probably due either to the micrococcus catarrhalis or micrococcus paratetragenus. Not only does the bacillus of Friedländer fail to affect the trachea, but it also does not cause a painful throat, differing in this both from the bacillus septus and the micrococcus catarrhalis. It confines its attention to the nose and accessory sinuses and the post-nasal space.

The differential diagnosis of the acute forms of cold is not very difficult. The mode of onset and the condition of the throat are very helpful. If the first symptoms affect the fauces and pharynx either the micrococcus catarrhalis or the bacillus septus is certainly present; if the larynx and trachea become speedily involved the former of these or micrococcus paratetragenus is indicated; to hear a patient coughing is quite sufficient to enable a diagnosis of micrococcus catarrhalis or micrococcus paratetragenus to be made. The severity of the constitutional symptoms also varies: those of the bacillus septus are but slight, those of the micrococcus paratetragenus are moderate unless the epidemic assume a broncho-pneumonic type, while the lassitude and mental depression in the cases of the three others, and especially of influenza, may be extreme. The temperature is high as a rule (from 100° to 104° F.) only in the case of influenza and is often accompanied by a relatively slow pulse. Other systems, such as the circulatory, nervous, or digestive, also frequently become involved. Nasal catarrh, as a rule, is slight and much yellowish-green lumpy mucus may be expectorated swarming with the bacilli. In the cases due to Friedländer's bacillus the temperature rarely rises above 99·5°, and the pulse is not slow, nor do other systems become involved. The flow of nasal mucus is always extreme; in one case it was found to be between 15 and 20 cubic centimetres per hour.

Value of differential diagnosis in prognosis.—The bacillus of Friedländer being probably the only cause of a chronic nasal catarrh and the risk of involvement of the Eustachian tube, middle ear, and accessory sinuses being considerable, the prognosis in the case of this organism should be very guarded and much greater care should be taken by the patient. As will be mentioned later, the risks of chronicity can be considerably reduced by the administration of an autogenous vaccine.

In the case of the bacillus septus even sub-chronicity is rare and complications of any sort are very little to be dreaded; this is the type of cold which gets well of itself with very little attention and a good prognosis can therefore be given.

The case of the micrococcus catarrhalis stands upon a different footing and the prognosis must be much more guarded. Extension to the Eustachian tube and middle ear is not altogether infrequent, while downward extension to the trachea and bronchi is habitual.[15] A persistence of the cough is therefore to be anticipated and possible bronchial complications are to be feared. I doubt if these latter ever occur with the bacillus septus and probably but rarely with the bacillus of Friedländer. The nervous, digestive, and circulatory systems are also liable to be affected.

These remarks about the micrococcus catarrhalis probably hold with additional force in the case of the bacillus influenzæ, but of this I cannot speak from experience, having only encountered one mild case during the past four years.

In the case of the micrococcus paratetragenus the chief danger would appear to be bronchitis and broncho-pneumonia, as in Bezançon and de Jong's cases.

V.—CAUSATION OF COLDS.

It may be granted that the essential factor is the occurrence of infection; infection alone, however, is insufficient unless the dose of organisms be sufficiently large and their virulence sufficiently great. As we have seen, from 8 to 12 per cent. of healthy noses contain diphtheroids and from 2·5 to 4·0 per cent. Friedländer's bacillus; similarly a considerable percentage of throats harbour pneumococci and from a case of Pyonephrosis associated with Insanity. After the nephrectomy there was a rapid disappearance of the mental symptoms. 2. Tuberculous epididymitis from a patient aged 70 years. Many years before he had been tapped for ascites.—Mr. W. Thompson showed a Loose Body from the Peritoneum found in the Sac of an Umbilical Hernia. The body contained fæcal concretion.—Mr. Grünbaum showed a section of a Tumour from a case of Neoplastic Diathesis. It was remarkable in showing both carcinoma and sarcoma in close proximity to each other.—Dr. W. H. Maxwell Telling showed a specimen of a Small Traction Diverticulum of the Œsophagus which by perforation had caused gangrene of the lung, suppurative mediastinitis, and pericarditis.—Mr. J. F. Dobson showed a specimen of Endothelioma of the Submaxillary Gland.

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[12] Précis de Microbiologie Clinique, p. 143.

[13] Proceedings of the Brighton and Sussex Medico-Chirurgical Society, 1903.

[14] Loc. cit.

[15] Barker described before the Surgical Section of the Royal Society of Medicine on March 10th last a case of meningitis secondary to otitis media, which in turn must have been secondary to a nasal catarrh. The micrococcus catarrhalis was obtained in pure culture from the middle ear and meninges.

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To give its full and perfectly justifiable title this work is a companion to the latest edition of the British Pharmacopœia, comparing the strength of the various preparations in that official work with those of the United States and other pharmacopœias, to which are added preparations which are not official, together with practical hints on prescribing. This, the eighteenth edition, has been demanded in view of the extraordinary advances which have been made in chemistry, pharmacology, and pharmacy during the last decade. Splendidly as the "Companion" has served in the past so is it calculated to serve equally in the future, for no pains have been spared to of importance in the family history. Her father, three sisters, and one brother were alive and well.

History of eruption.—In the middle of March—i.e., six weeks before the first consultation—the patient had observed tiny elevations, grey and rough to the touch, on the outer aspects of both thighs, but especially marked on the right thigh. These had increased in number and a week or two later a redness had spread between the lesions on the right thigh. This redness was accompanied by itching. About the beginning of April groups of similar grey rough elevations had begun to appear on the chest and abdomen. Towards the end of April she had observed a few red spots on the right forearm of a quite different nature to the other parts of the eruption. This had so alarmed her that she decided to seek advice.

Appearance of eruption when first seen at the end of April.—An eruption was present on the outer aspects of both thighs, very marked on the right side; a few patches were present on the chest, abdomen, and slightly on the back of the neck and on the right arm near the elbow. The eruption presented three totally distinct clinical appearances:—

1. The eruption had commenced on the outer side of the right thigh, and in that situation there was an irregular dark-red patch over 4 inches long and between 2 and 3 inches broad. It was thickened and infiltrated; the red surface was not burnished. The patch was thickly covered with grey spines which protruded ⅛th inch from the widened orifices of the hair follicles. They could be picked out, being hard, grey, and horny, and left a gaping depression. In the neighbourhood of the patch were discrete smaller horny spines without intervening redness, and these were said to be of very recent origin. A section was taken from the middle of this patch (Section 1).

2. On the right arm near the elbow were four distinct small papules of lichen planus. They had the typical waxy, flattened, polygonal papules of that disease. A section was taken from one of them.

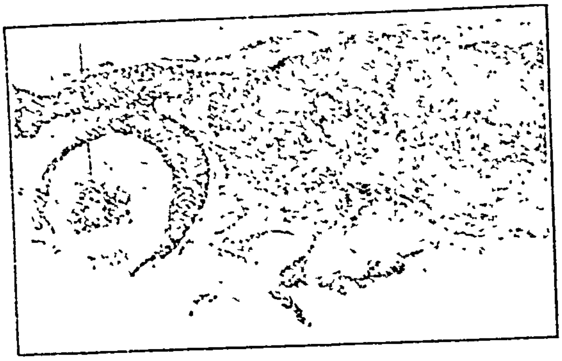
3. On the chest, neck, and abdomen were several groups of grey horny spines without any surrounding papular elevation or redness. Each group was of about the size of a threepenny-bit. There were no intervening redness and no itching. The spines could be picked out with the forceps with but little difficulty, and left a small depression behind. Some of the smaller ones resembled an exaggerated keratosis pilaris. No section was taken at this time (April).

Subsequent progress.—Simple emollient treatment consisting of lard and linseed oil with 20 grains of calamine to the unce was applied externally. A digestive mixture was aken by the mouth. In the middle of June, after six weeks f such treatment, the condition was as follows: (1) The pines on the thigh had become diminished in size but the nfiltrated redness had improved but little; (2) on the right and left arms many new papules of lichen planus had appeared; and (3) on the chest and abdomen the spines were shorter, but around most of them a degree of congestion had appeared, and in a few groups this redness had spread over the entire patch. Coincident with the appearance of this redness there was a marked degree of itching. New groups of grey horny spines without redness had also appeared on the trunk, the individual lesions resembling to the eye an exaggerated keratosis pilaris. A section was taken from a group on the chest which seemed to be progressing with congestion (Section 2). As the disease appeared to be progressing the treatment was altered. Salicylic ointment was given externally, and internally a mixture containing phosphoric acid and strychnine. I had noticed in certain cases of lichen planus that phosphoric acid had done good when the usually recommended remedies had failed. The result was equally remarkable in this case. 1. The infiltration of the thigh rapidly diminished and after three weeks the horny spines ceased to protrude. 2. No new lichen planus papules appeared on the arms; those already present gradually faded away. 3. No fresh spinous lesions appeared on the chest or other parts of the trunk, and the redness between the spines began to fade within a week.

By Sept. 1st (1) the infiltration had quite disappeared from the thick patch on the thigh, and it only presented a pigmented appearance. No spines could be found on it. Scattered over the legs were a few discrete papules like keratosis pilaris; the patient admitted having paid no attention to these and had not applied any ointment to them. 2. The lichen planus papules on the arms had entirely disappeared. 3. On the trunk all the groups of papules had so greatly improved that they had the appearance of groups of comedones; the blackened summits of many of them increased this resemblance. On picking up the skin between the finger and thumb and squeezing it firmly the contents of these follicles were easily extruded. In June these horny cores had been too adherent to the follicular walls to be squeezed out, and when picked out with forceps they had appeared dirty grey, hard, and opaque. In September the cores were bright, greyish-white in colour; when rubbed between the fingers they were resistant and did not flatten into a sticky mass as does sebaceous material obtained from comedones. Under the microscope these cores were found to consist of lamellæ of horny material with a central downy hair.

Histological appearances.—*Section 1* (Fig. 1) was excised from the infiltrated patch on the thigh at the end of April at the first consultation and showed the typical histological appearances of a patch of lichen planus—namely, the horny layer thickened, the stratum granulosum unduly marked, the hyaline alteration of the rete, and the flattened papillary processes, due to the presence of the continuous band of small-celled infiltration in the papillary body. These changes involved the hair follicles also. They were widely distended with increased horny layer, a mononucleated infiltration was present immediately beneath the epithelium, and a slight degree of œdema was evident near some of the follicles between the epithelium and the cutis. The swollen hyaline alteration of the follicular epithelium was as marked as in the neighbouring epithelium of the lichen patch between the follicles.

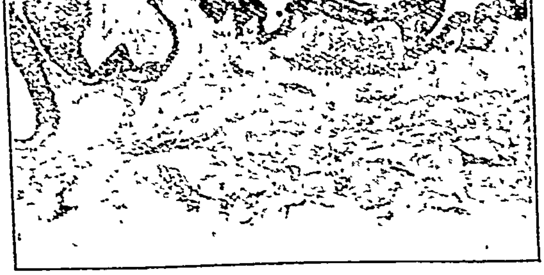
FIG. 1.



Section taken from patch on the thigh.

Section 2 was taken in June from the chest. The group of spiny processes from which the section was taken had been under observation for two months and was showing signs of progression—that is to say, a rosy tint was beginning to spread between the spines, and some of the spines were the central point of a small congested papule. A large numbe

FIG. 2.



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THE

STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

BY JOHN C. THRESH, M.D. VICT., D.SC. LOND., F.I.C.,
LECTURER ON PUBLIC HEALTH, LONDON HOSPITAL MEDICAL COLLEGE; MEDICAL OFFICER OF HEALTH, ESSEX COUNTY COUNCIL.

AT the present time I have under observation several important public water supplies which are invariably satisfactory from a chemical point of view but which from time to time contain bacillus coli in small numbers, indicating some slight pollution with water of an objectionable, if not dangerous, character. In some instances experiments made with fluorescein have enabled the source of the undesirable water to be discovered but in others efforts made to discover the source of pollution have failed. In certain of these cases an enormous expense would have to be incurred to obtain a safer source of supply, in others the available sources are just as likely to be contaminated as those at present in use. The problem of finding a means of purifying such waters has therefore engaged my attention for some time and as the result of prolonged investigations I had concluded that such waters could be purified either by treatment with metallic copper or with calcium hypochlorite. Copper, however, appears to have a selective action upon bacteria; it may destroy all the typhoid bacilli in a water yet not affect the bacteria of the coli group. Calcium hypochlorite, on the other hand, destroys both with equal ease.

When in Boston, Massachusetts, recently, my friend, Professor Sedgwick, directed my attention to some work which had been done by Dr. Phelps who is engaged in carrying out a long series of experiments for the city of Baltimore, having for their object the sterilisation of the effluent from bacteria beds before allowing it to enter Chesapeake Bay, where there are extensive oyster layings. Dr. Phelps kindly showed me these results which proved that a very small quantity of calcium hypochlorite was capable of producing sterilisation provided the effluent was fairly clear and free from easily oxidisable organic matter, and he hinted that such a method of purification was being considered for a public water-supply. Upon my return I resumed my experiments with calcium hypochlorite, using natural waters, to which the bacillus typhosus and bacillus coli were added, without at the same time introducing an abnormal quantity of organic matter. To my great surprise I then discovered that exceedingly minute quantities of this chemical sufficed for sterilisation—in most cases 1 part of chlorine as hypochlorite to 1 million of water being sufficient —and that the action took place in a very few minutes. By the addition of a little sodium bisulphite at the end of the time required for effecting the destruction of the bacteria the remaining chlorine can be removed and the palatability of the water remains unimpaired. Experiments of a varied character have been made with waters from divers sources, but the following will suffice as showing their scope and the results obtained.

1. To chalk water to which had been added five cubic centimetres of a clear sewage effluent to each litre hypochlorite equivalent to two milligrammes of available chlorine was added and the mixture allowed to stand for 30 minutes. The untreated water contained some thousands of bacteria per cubic centimetre and one cubic centimetre gave acid and gas with bile-salt glucose broth. The treated water caused no growth whatever in the same broth when ten cubic centimetres were added thereto.

2. To the same water was added a filtered dilute broth containing a growth of the typhoid bacillus and an equal quantity of a diluted bile-salt broth containing the bacillus coli. Chlorine in hypochlorite was added, two milligrammes per litre, and allowed to stand for one hour. The colonies from one cubic centimetre of untreated water on malachite green medium exceeded 3000, of which about half appeared to be the bacillus typhosus. Acid and gas were produced by 0·1 cubic centimetre in bile-salt broth. After treatment there was no growth whatever from one cubic centimetre upon the malachite green medium. Neither acid nor gas was produced by the treated water when one, five, ten, and 20 cubic centimetres were added to the bile-salt broth.

3. To water from a rainwater tank mixed with a dilute broth containing the bacillus coli was added chlorine in hypochlorite equivalent to two milligrammes per litre. The excess of hypochlorite was destroyed by sodium thiosulphate before applying bacterial tests. The results were as follows:—

	Min.	Mins.	Mins.	Mins.
Time of action...	1	... 10	... 20	... 30
Colonies from 1 cubic centimetre on agar in 24 hours ...	Thousands	... 3	... 4	... 1

Acid and gas were given by one cubic centimetre of the impure water in bile-salt glucose broth. Neither acid nor gas was produced by the pumped water with 36 cubic centimetres.

4. To ten litres of tap-water + 3 cubic centimetres of a fermenting bile-salt broth chlorine in hypochlorite was added, 1 milligramme per litre. This mixture gave acid and gas in bile-salt glucose broth when 0·1 cubic centimetre was added, and upon agar 1 cubic centimetre gave 3120 colonies in 24 hours.

	Minutes.	Minutes.	Minutes.
Time of action	10	 20	 30
Colonies from 1 cubic centimetre on agar	0	 0	 0

Neither acid nor gas was produced by 36 cubic centimetres of the treated water in bile-salt broth.

5. Repetition of using a soft rainwater instead of tap-water gave identical results. Apparently the water was absolutely sterilised.

6. Water from a well in the new red sandstone infected with bacillus coli. The untreated water gave 2380 colonies on agar plate from 1 cubic centimetre. Acid and gas were produced in bile-salt broth from 0·1 cubic centimetre.

Chlorine in hypochlorite per litre of water.	Duration of action.				
	1 minute.	6 minutes.	12 minutes.	18 minutes.	24 minutes.
0·5 milligramme.	+	+	+	+	+
0·75 "	+	+	+	+	–
1·0 "	+	–	–	–	–

The 1 milligramme Cl per litre water at the end of five minutes gave acid but no gas when 20 cubic centimetres were added to bile-salt broth. After 24 minutes there was no growth whatever, neither acid nor gas being produced from 20 cubic centimetres.

In all these and many other experiments the amount of chlorine (available) in the water was determined. Some failures which occurred in the earlier experiments were found to be due to the fact that the organic matter added had absorbed all the available chlorine, leaving none to act upon the bacteria. As a rule about half the chlorine was used up. In passing it may be remarked that the quantity of chlorine destroyed by a water appears to be a good index of its quality, and experiments bearing upon this point are being undertaken.

From inquiries made at chemical works I find that calcium hypochlorite containing 33 per cent. of available chlorine can be delivered at £15 per ton and sodium bisulphite at £16 per ton. The waters which use up very little chlorine can be sterilised by the use of 3 parts of hypochlorite (= to 1 part of available chlorine) per million, or 30 pounds of hypochlorite per million gallons. The cost, therefore, works out as under: hypochlorite, 4*s.* 5*d.*; bisulphite, 1*s.* 2*d.*; total, 5*s.* 7*d.* per million gallons; or 15,000 gallons for 1*d.*, or 0·067*d.* per 1000 gallons. Waters containing organic matter, such as peaty moorland waters, could probably be sterilised for less than 10*s.* per million gallons.

Further experiments with natural waters from divers sources are being made, but so far no water has been met with which two parts of chlorine per million failed to sterilise. The amount of chemicals added is so small that they do not affect in any way the character of the water. The chlorine and hardness are only increased by a minute fraction of a grain or degree per gallon. There should be no practical difficulty in adding the chemicals and no special apparatus would be required. The hypochlorite would be added as the water entered a tank from a case of Pyonephrosis associated with Insanity. After the nephrectomy there was a rapid disappearance of the *mental symptoms.* 2. Tuberculous epididymitis from a patient aged 70 years. Many years before he had been tapped for ascites.—Mr. W. Thompson showed a Loose Body from the Peritoneum found in the Sac of an Umbilical Hernia. The body contained fæcal concretion.—Mr. Grünbaum showed a section of a Tumour from a case of Neoplastic Diathesis. It was remarkable in showing both carcinoma and sarcoma in close proximity to each other.—Dr. W. H. Maxwell Telling showed a specimen of a Small Traction Diverticulum of the Œsophagus which by perforation had caused gangrene of the lung, suppurative mediastinitis, and pericarditis.—Mr. J. F. Dobson showed a specimen of Endothelioma of the Submaxillary Gland.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Nov. 11th, Dr. W. Milligan, the President, being in the chair.—Professor J. Lorrain Smith discussed the equivocal results which have been obtained in the attempt to study the pathogenic action of bacillus coli by means of (*a*) agglutination, (*b*) opsonic index, and (*c*) bactericidal action of the serum. He pointed out that as yet no clue of this kind had been discovered by means of which the effects in the body of bacillus coli infections might be followed. He then dealt with the loss of bactericidal power in the glandular secretions in cases of bacillus coli infection, (*a*) in the bile, where the bacillus flourishes, (*b*) in the pancreatic juice where the bacilli are as a rule absent even in cases where the liver is invaded, and (*c*) in the intestine, where the normal regulation of bacterial growth is disturbed. He also dealt with the occasional failure of alkaline treatment in pyelitis and suggested that this was probably due to the establishment of necrotic foci in the tissues where the bacilli could grow in spite of the inhibitory influence of the alkali.—Dr. C. Christopher Heywood read a paper on Calmette's Tuberculin Reaction and considered the claims of Calmette that the reaction is easy of application, harmless, and trustworthy. He thought that the test was practically harmless if the strength of the tuberculin used was never greater than 0·1 per cent. Excessive reaction was almost always due to the use of too strong a solution or to repeating the test on the same eye at too short an interval. It was not infrequent, even with a weak solution, to get a phlyctenular conjunctivitis. In considering the trustworthiness of the test he analysed the results of 127 cases. Of these 37 were definitely tuberculous and all except four gave the reaction. The four negative cases died in a short time. There were 20 "doubtful" cases and of these 13 gave a positive and seven a negative reaction; practically all the seven negative cases proved to be not tuberculous. Of the remaining cases (70) thought not to be tuberculous, ten gave a positive and 60 a negative reaction. The ten positive cases included seven cases of chorea and Dr. Heywood's experience was that 50 per cent. of cases of chorea gave a positive reaction. He summed up by saying that he considered the negative reaction to be more trustworthy than the positive.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 18th, Dr. P. Boobbyer, the President, being in the chair.—A motion, proposed by Dr. A. C. Reid and seconded by Dr. W. Hunter, earnestly requesting the corporation of Nottingham to make provision for the erection and maintenance of a municipal crematorium in the future, was agreed to by a large majority.—Mr. W. Morley Willis, in a paper entitled "The Surgeon's Night-bell," alluded to some of the emergencies which might need immediate operation at any hour. In the case of perforated gastric ulcers no one factor had such a favourable influence on operation as early diagnosis and immediate resort to it. Of cases operated on within 12 hours of the accident occurring 80 per cent. recovered, whereas if operation were postponed to 36 hours or longer the prospect of cure became very remote. In certain cases, however, the area of peritoneum contaminated was limited by adhesions, and such cases, both clinically and in the matter of prognosis, were subacute rather than acute. For anatomical reasons Mr. Willis urged the erect rather than a recumbent posture for the patient before operation, for it was better that contaminating material escaped from the stomach should gravitate towards the pelvis rather than remain in the neighbourhood of the diaphragm, and it was found as a matter of experience that perforation usually occurred near the lesser curvature. After illustrating his paper by an account of several cases which had been under his own care, Mr. Willis passed on to the consideration of cases of ruptured ectopic gestation, in which, as a rule, speedy operation gave the patient her best chance of recovery. A specimen of a ruptured tubal sac of the size of a large walnut removed from a patient with a successful result was shown. In this case transfusion of saline solution had to be resorted to as the patient was extremely collapsed at the time of operation, from four to five pints of clotted blood and fluid being found free in the abdomen.—The paper was discussed by the President, Dr. J. Watson, Dr. J. A. Waring, Dr. Hunter, Dr. F. H. Jacob, Dr. J. S Bolton, Dr. R. Heelis, Dr. A. J. Sharp, and Dr. J. H. Thompson, and Mr. Willis replied.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Nov. 17th, Dr. C. C. Heywood being in the chair.—Mr. E. Stanmore Bishop read a short paper on Some Points in Gastric Surgery, illustrated by lantern slides. After depicting on the screen radiographs of a normal and of a dilated stomach, Mr. Bishop discussed the effect of posture upon the outline of that organ. He then proceeded to set forth the views of different authorities upon the effects of gastro-enterostomy: (1) it might be regarded as a means of drainage and giving rest to the stomach; (2) it acted as a safety valve in cases of obstruction; and (3) it might act in both ways at different times. In support of the last view the speaker drew an analogy between the stomach after the operation of gastro-enterostomy and the male urethra when a perineal opening had been surgically established in cases of strictures. Mr. Bishop then showed on the screen the results of observations upon stomachs made by himself and Dr. Barclay by means of the x rays, after the performance of gastro-enterostomy for gastric ulcer, &c., noting especially the route by which farinaceous food left the stomach. Finally, Mr. Bishop exhibited and discussed several forms of stomach clamps, with special reference to the advantages to be derived from the use of a pattern introduced by himself.—Dr. E. Vipont Brown gave a brief description of two cases of Malignant Disease treated with Trypsin, and set forth that although no cure could be claimed the condition of the patients had been so ameliorated that this method of treatment should receive a more extensive trial.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 19th, Dr. George Williamson, the retiring President, being in the chair.—The annual report of the council was submitted and adopted and the following office-bearers were elected for the session 1908–09:—President: Dr. David Rennet. Vice-President: Dr. John Marnoch. Secretary: Dr. G. M. Duncan. Assistant Secretary: Dr. Henry Peterkin. Recording Secretary: Dr. Thomas Fraser. Treasurer: Dr. A. H. Lister. Librarian: Dr. P. Howie. Members of council: Dr. J. F. Christie, Dr. G. M. Edmond, Dr. H. M. W. Gray, Dr. J. Gordon, Dr. A. W. Mackintosh, Dr. H. Peterkin, Dr. C Rose, and Dr. George Williamson.

Reviews and Notices of Books.

Squire's Companion to the British Pharmacopœia. By PETE WYATT SQUIRE. Eighteenth edition. London: J. & A Churchill. 1908. Pp. 1459. Price 14*s*. net.

To give its full and perfectly justifiable title this work i a companion to the latest edition of the British Pharmacopœia, comparing the strength of the various preparation in that official work with those of the United States an other pharmacopœias, to which are added preparations whic are not official, together with practical hints on prescribing This, the eighteenth edition, has been demanded in vie of the extraordinary advances which have been made i chemistry, pharmacology, and pharmacy during th last decade. Splendidly as the "Companion" ha served in the past so is it calculated to serv equally in the future, for no pains have been spared t visit to me. She complained of no bladder or rectal symptom. With regard to the physical signs, palpation of the abdomen revealed nothing, but the patient kept her abdominal wall rather rigid. The cervix uteri was rather low and was located towards the left wall of the pelvis. The body of the uterus could not be differentiated. In Douglas's pouch and the right quarter of the pelvis was felt a small, firm, and rather convoluted swelling of the consistence of old blood clot.

Operation was performed on Oct. 5th. I opened the abdomen. There was free fluid blood in the general peritoneum which had escaped from the fimbriated extremity of the right tube. The distal end of the right Fallopian tube was the seat of the gestation sac.

Gordon-square, W.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Action of Splenotoxic and Hæmolytic Sera.—Idiopathic Dilatation of the Bladder.—Mode of Action of Gastrotoxic Serum and the Healing of Gastrotoxic Ulcers.

A MEETING of this section was held on Nov. 17th, Mr. S. G. SHATTOCK, the President, being in the chair.

Mr. L. S. DUDGEON, Dr. P. N. PANTON, and Dr. E. A. ROSS communicated a paper on the Action of Splenotoxic and Hæmolytic Sera on the Blood and Tissues. Their experiments were undertaken for the purpose of determining whether it would be possible to produce a splenotoxic serum possessing specific properties, or whether the action of the serum would be on the lymphoid tissue in general, or whether the results obtained were due to the hæmolytic property of the serum. The investigation was further extended to the action of the splenotoxic and hæmolytic sera on the blood and tissue with special reference to the production of fatty degeneration, cell necrosis, and the formation of "hæmolymph glands." They immunised three series of rabbits: (1) with splenic extracts; (2) with unwashed blood corpuscles; and (3) with washed corpuscles obtained from guinea-pigs. The immune sera when injected into guinea-pigs gave results which might be regarded as almost identical, the only difference being that the hæmolytic sera were usually slightly more potent. Another series of rabbits were inoculated with the unwashed blood corpuscles of cats and splenic extracts freed from blood by an elaborate process of washing. The effects resulting from the injection of the splenotoxic and hæmolytic sera were as a rule the death of the animal within 24 hours with small hæmorrhages chiefly into the peritoneum and mesentery, marked swelling and congestion of the spleen, the colour of which was almost jet black, while the remaining viscera were abnormally pallid. In the mesentery dark red glands were found and occasionally similar glands were met with in the groin. The immune sera thus obtained produced changes in the tissues of animals of almost similar character, only they were more pronounced. The fat was of a primrose yellow colour and the viscera and conjunctivæ had a marked "icteroid" tinge. The urine contained a large amount of blood and albumin but no casts and the urine and blood serum were free from bile pigment. The chief microscopical changes consisted of enormous distension of the sinuses of the spleen with red blood corpuscles at the expense of the lymphoid tissue, leaving the Malpighian corpuscles comparatively unaltered and inducing in the endothelial cells a high degree of phagocytosis for erythrocytes and blood pigment. In the affected lymph glands similar histological appearances to those observed in the spleen, that is to say, so-called hæmolymph glands, were noted. There was widespread necrosis of epithelial cells, particularly in the liver and kidney, and extreme fatty degeneration occurred in the same viscera, but, unlike diphtheritic toxin, spared the heart muscle and diaphragm. When the immune serum was heated or saturated with suitable red cells in vitro the final results obtained were similar to those produced by the untreated serum. With the immune serum obtained from one specimen of animal by inoculating with the tissues of another species and then injected into a third species no abnormal effect was produced.

The PRESIDENT exhibited a Dilated and Hypertrophied Bladder with Double Hydronephrosis from a man who had never suffered from any urinary symptoms, in whom there was no enlargement of any part of the prostate, and whose urethra admitted the passage of a catheter without difficulty. He used the term idiopathic in the way in which it was used in the case of the colon, œsophagus, or stomach, in which similar dilatation and hypertrophy occurred; and of these conditions he gave different tentative explanations. In the case of the pelvic colon the dilatation usually commenced shortly after birth. It was a significant fact that in the case of the bladder dilatation without recognisable cause had also been observed in infancy and in the newly born child, one excellent example of the latter being in the Museum of the Royal College of Surgeons of England. The dilatation might be due to incoördination between the contraction of the detrusor and the dilatation of the sphincter; and there was the theoretical possibility, also, of a hypoæsthetic state of the mucosa whereby the reflex of micturition would not arise until the viscus had reached what in normal circumstances would be an abnormal degree of fulness. Experiments made by Dr. T. G. Brodie and himself showed that in the cat, if the vesical mucosa was anæsthetised by means of cocaine, on the bladder being filled with warm salt solution micturition was abolished, the organ becoming markedly distended. This result indicated that the reflex of micturition was initiated by the tension of the vesical mucosa—i.e., the contraction of the detrusor and the associated dilatation of the sphincter. Whether anæsthesia or hypoæsthesia of mucous membranes occurred as a hysterical phenomenon was a subject that would repay investigation.

Dr. CHARLES BOLTON read a paper on the Mode of Action of Gastrotoxic Serum and the Healing of Gastrotoxic Ulcers. He said that the gastrotoxic serum referred to was prepared by immunising the rabbit with guinea-pig's gastric cells. The action of the serum was manifested in two directions: (1) by the production of general symptoms of intoxication; and (2) by the formation of patches of necrosis in the mucous membrane of the stomach which developed into ulcers. It was proved that the serum acted directly upon the gastric cells and not primarily upon the capillary wall leading to hæmorrhage, because if the gastric juice were neutralised with an alkali at the time that the serum was injected no lesions resulted. Neutralisation of the gastric juice would, of course, not prevent a hæmorrhage occurring. The actual necrosis of the mucous membrane was produced by the gastric juice, because no microscopic change could be seen in the cells when the gastric juice was put out of action. It appeared, therefore, that some pathological change was produced in the cells whereby they were rendered susceptible to digestion by the gastric juice. That pathological change was probably a devitalisation of the cell and not the removal of any specific resisting power possessed by the cells, because other poisons, hepatotoxin, enterotoxin, and hæmolysin, were able to produce an action on the gastric cells of precisely the same nature only to a much less extent. Those two observations, the initiation of self-digestion resulting from the circulation of a poison in the blood and the non-specificity of the poison, were considered of great importance because they raised the question whether there might not be many endogenous and also exogenous poisons (bacterial or otherwise) which by their action on the gastric cells could bring about self-digestion. It was shown that certain protoplasmic poisons in solutions, which were of themselves inert, were able to increase the lesions produced by gastrotoxin if they were introduced into the stomach when the latter was injected into the animal. Such solutions were hydrochloric acid above 0·3 per cent., sulphuric acid above 0·5, acetic acid above 0·5, and lactic acid above 2 per cent. It was therefore considered probable that hyperacidity of the gastric juice or the taking of inert solutions of certain substances by the mouth (e.g., vinegar) could in the presence of a devitalising agent in the blood bring about self-digestion. The gastric lesions produced by hepatotoxin, enterotoxin, and hæmolysin were shown to be increased by the acids also. It was considered that no cytotoxin was specific, each acting especially upon the cells against which sequence of symptoms are traced in a number of cases, and the relation between the temperature and the number of trypanosomes in the patient's blood is demonstrated by means of several excellent charts, by which it is made clear that as a rule these vary in direct proportion to each other; and the greater the number of the parasites the higher the temperature. To this rule, however, there are striking exceptions towards the fatal termination of an attack, when the temperature is sometimes subnormal, even although the blood swarms with trypanosomes.

As regards prophylactic and curative measures the authors have no new suggestions to make. The disease is endemic in the Malay States and the authors suggest the slaughter of all animals found to be affected and also of all animals emaciated without any apparent reason. They recommend that herding of cattle in large numbers, especially near jungle, should be avoided and they advise the detention of all imported animals at the port of arrival until such time as they have been examined. Treatment by atoxyl has been tried in several cases but the good results obtained in some were only temporary, death being the usual ending. No better results were obtained with mercuric chloride and tartarated antimony. Some excellent plates, prepared from photographs, illustrate the morphology of the trypanosoma Evansi.

The Government entomologist, Mr. H. C. Pratt, has contributed an article on the Distribution of Certain Species of Biting Flies in the Federated Malay States, and this, together with a map of the country, completes this interesting little scientific brochure which is worth the attention of all students of tropical medicine, since the conclusions arrived at here may serve to throw further light on human trypanosomiasis. Tropical medicine is indebted to the conjoint authors for their endeavours to elucidate further the phenomena of this serious disease. The printers have done their work well; the printing and binding leave nothing to be desired.

A System of Syphilis. In Six Volumes. Edited by D'ARCY POWER, M.B. Oxon., F.R.C.S. Eng., and J. KEOGH MURPHY, M.D., M.C. Cantab., F.R.C.S. Eng. With an Introduction by SIR JONATHAN HUTCHINSON, F.R.S. Vol. I. With 68 plates. London: Hodder and Stoughton and Henry Frowde. 1908. Pp. xxxv.-380. Price £2 2*s.* net per volume.

THE appearance of a work on syphilis containing among the names of the contributors those of Professor Elie Metchnikoff and Sir Jonathan Hutchinson cannot fail to excite the interest and to arouse the expectation of the reader. We may say at once that in the first volume of this work such expectations will be more than fulfilled. The book is one of great merit and the editors are to be congratulated cordially on this exceedingly good beginning to their enterprise. If the remaining volumes maintain the high level of excellence of the first, the whole will form a treatise on syphilis of the utmost value and importance. The sections of most interest in the present volume are the introduction by Sir Jonathan Hutchinson and the account, as absorbing as a romance, of the microbiology of syphilis written by Professor Metchnikoff and translated with much success by one of the editors, Mr. Keogh Murphy. In his introduction Sir Jonathan Hutchinson surveys the whole field of syphilis in the light of the most recent work and especially of the discovery of the spirochæta pallida. At the same time he utters a wise and weighty warning to the many workers in the new field of experimental study which has been opened up by the discovery of the specific organism of syphilis and the fact of its communicability by inoculation to some of the higher apes, that their inferences should not be hastily accepted without clear proof and that they should remember the disastrous results of the conclusion of John Hunter, based on erroneous experiments, that gonorrhœa and syphilis were caused by the same poison.

It is only necessary to read the series of questions propounded by the writer of this essay to realise how many and important are the problems connected with this disease on which our knowledge is at the present time of the very scantiest description. Possibly in the course of time the stimulus which the recent discoveries in this field of medicine have given to further investigations may lead to the elucidation of some at any rate of these perplexing questions.

The first chapter in this volume is one on the history of syphilis by the well-known authority on this subject, Dr. Iwan Bloch. He demonstrates beyond the possibility of doubt that the last decade of the fifteenth century—particularly the years 1493-1500—was the time when syphilis first appeared in the Old World. Further than this, he shows certainly that syphilis was unknown in Europe before the year 1493 and that its home was the island of Española or Haiti, whence the crew of Columbus brought it after the latter's first voyage. The various arguments as to the pre-Columbian origin of syphilis are considered fully and refuted, and this is followed by a short account of the early and later history of syphilis in Europe.

Professor Metchnikoff's article contains, as we have said, a most absorbing account of the work done in the search for the specific organism of syphilis ending in the brilliant discovery by the late Fritz Schaudinn—foreshadowed, as he shows, by the work of the French microscopist, Donné, as early as the year 1837—of the spirochæta pallida and the proof of its etiological relation to all the lesions of this protean disease. Professor Metchnikoff's generous recognition of the brilliant work done by Schaudinn is reflected in the happy inspiration of the editors who have dedicated their work to his memory and to the trio of distinguished syphilographers, still with us, Fournier, Hoffmann, and Hutchinson.

The section on the general pathology of syphilis is contributed by Dr. F. W. Andrewes and we can pay it no higher compliment than to say that it is quite as good as the chapters which precede it. From his very large experience Colonel F. J. Lambkin, R.A.M.C., writes with authority on the subject of the primary lesion and early secondary symptoms as seen in the male. In the very excellent tables which he gives to render the diagnosis of a chancre easier we must confess that we think the use of the term chancroid liable to mislead, especially as the next table is headed non-syphilitic ulceration, which, we infer, may be of the same character—namely, chancroid. Does Colonel Lambkin mean by this term a mixed chancre or the ulcus molle, the soft chancre, or what Sir Jonathan Hutchinson suggests had much better be called the non-indurated ulcer? The confusion is likely to be even worse if the term chancroid is to be used in reference to the very atypical primary lesions so often met with in women.

The early manifestations in the female sex are described by Dr. Arthur Shillitoe who calls special attention to the fact that often no obvious primary lesion is to be found even after the most careful examination and to the interesting question of a pigmentary syphilide of the neck as an early secondary symptom. The final chapter on congenital syphilis is from the pen of Dr. G. F. Still and contains a most complete account of this important phase of the disease.

The plates, 68 in number, are very good and we may call special attention to the direct colour photographs now used for the first time to illustrate clinical conditions and for which the editors acknowledge their indebtedness to Mr. Tubbs and Dr. Arnold Moritz. The printing and type are three symptoms, and the PRESIDENT considered that to deserve the name there must be an intimate relation between the nerves and the tumours.—Dr. FENTON, in reply, said that pigmentation appeared after the nodules had formed.

Mr. T. H. OPENSHAW showed a case of extreme Coxa Vara of the Left Leg, of traumatic origin. He also exhibited a case of Ununited Intracapsular Fracture of the Neck of the Femur, treated by screwing, with union. The patient could now stand on his right leg without pain and could walk all day long without fatigue.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Cæsarean Section and Total Abdominal Hysterectomy.—Cancer of the Cervix Uteri.—Hysterectomy for Fibro-myoma of the Uterus.

A MEETING of this section was held on Nov. 12th, Dr. HERBERT R. SPENCER, the President, being in the chair.

The PRESIDENT read a short communication on Cæsarean Section and Total Abdominal Hysterectomy for retroflexion of the uterus at term by fibro-myoma adherent in Douglas's pouch. The patient was a primigravida, aged 38 years, and was admitted into University College Hospital. She was in labour and the pelvis was found to be occupied by a hard, fixed tumour of the size of the fist. On abdominal examination the lower part of the uterus was noticed to bulge forward to an unusual degree and appeared very thin. The child was removed by Cæsarean section but was found to be dead. The whole uterus and the tumour, which was fixed by adhesions, were removed by Doyen's method. The peritoneum was completely closed by a silk purse-string suture. The subsequent examination of the specimen showed that the uterus was retroflexed almost to a right angle, the angle of the canal being a sharp spur formed by the posterior wall at the internal os. The anterior wall had been greatly stretched and the lower segment was only seven millimetres thick. Retroflexion of the uterus at term produced by an adherent fibro-myoma was rare. Cases recorded by Herman and Varnier and Delbet were referred to. With regard to the diagnosis between adherent fibro-myoma and ovarian tumour, the presence of other tumours in the wall of the uterus would aid in the diagnosis, but the President was disposed to attach considerable value to the bulging and thinning of the lower segment as evidence that the tumour was a uterine fibroid and that the uterus was retroflexed. Cæsarean section followed by total abdominal hysterectomy was the treatment required.—Dr. W. RIVERS POLLOCK referred to a successful case of his own where he had performed Cæsarean hysterectomy for fibroids obstructing labour.—Dr. AMAND J. M. ROUTH congratulated the President on his treatment of this case.

Dr. C. E. PURSLOW read a short communication on a case of Cancer of the Cervix Uteri, with unusual microscopical appearances, in a patient, aged 21 years.

Mrs. M. A. D. SCHARLIEB read a paper entitled "Notes on a further 100 Cases of Hysterectomy for Fibro-myoma of the Uterus." The degenerations and complications were especially dealt with and illustrated by tables. At the end of the paper Mrs. Scharlieb pointed out that in this second hundred series of operations for fibroids none were done by the vaginal route. Pan-hysterectomy was done 42 times and she considered this the ideal operation.—Mr. ALBAN H. G. DORAN considered that this brilliant series showed that a patient might be relieved at very little risk of the mental distress caused by the presence of a uterine fibroid. At the same time he thought that many of the cases included in the tables were much too recent. Removal of a fibroid uterus was quite different from ovariotomy; an after-history of at least two years was necessary before the full benefits of the hysterectomy could be determined. He also regretted that the tables did not include a column noting the treatment of the ovaries, as well as a column for the after history, as in his own series brought before the Obstetrical Society just three years ago. His experience was identical with that of Lucas-Championnière who recently declared that an artificial menopause was a very grave matter and that year by year he spared more and more ovaries when performing hysterectomy.—Dr. AMAND ROUTH joined his congratulations to those of Mr. Doran and would merely criticise one point in Mrs. Scharlieb's paper. Would it not have been more correct to place the occurrence of carcinoma of the endometrium in the "Complication" rather than in the "Degeneration" column? Carcinoma uteri—whether of the body or cervix—was surely a complication and could not be grouped with necrobiosis, sloughing, or even with that variety of sarcoma which was truly a degenerative change. He noticed that Mrs. Scharlieb had not removed the cervix in the second case of carcinoma and fibroids (No. 152), but he presumed the cancer was not diagnosed till afterwards. As the patient was operated on in 1905 he would like to hear if recurrence had yet taken place.—The PRESIDENT and Dr. MACNAUGHTON-JONES also complimented Mrs. Scharlieb on the low rate of mortality in her series of cases.

MEDICAL SOCIETY OF LONDON.

Recurrence after the Operation for Radical Cure of Inguinal Hernia.—Two Cases of Hæmorrhage into the Testicle of Doubtful Origin.

A MEETING of this society was held on Nov. 23rd, Mr. C. B. LOCKWOOD, the President, being in the chair.

Mr. W. H. BATTLE read a paper on Recurrence after the Operation for Radical Cure of Inguinal Hernia. He said that there were 35 operations recorded in his case-books which had been performed for recurrent inguinal hernia, and of those 34 were required on male subjects and only one on a female patient. These were almost equally divided between the right and left sides. The general impression was that suppuration was the most frequent cause for the return of a hernia after attempted radical cure. In only four of these 35 operations was there clear evidence that suppuration had followed the original operation, in nine it was not possible to come to a conclusion on that point, whilst in 22 there was no doubt that primary union had been obtained. That was all the more noteworthy because all cases presenting the slightest trace of pus were put down under that heading, no matter how slight the amount, whether merely a stitch abscess or a more general suppuration. In a series of 107 recurrences after operation for hernia reported from St. Thomas's Hospital the cases in which it was recorded that there had been suppuration during the after-treatment only numbered 22. That hardly bore out the statement of Jacobson, "In nearly all the relapsed cases some suppuration had occurred and that was no doubt the main cause of the relapse." There was no doubt that suppuration sometimes acted disastrously by loosening or destroying perishable sutures and rendering others a source of continued irritation; still, most of them had probably seen instances in which a satisfactory result had been obtained in spite of their fears—the formation of a large amount of scar tissue binding the parts firmly together. If a hernia was going to relapse the return would take place within a few months of the date of the first operation. In the series of 35, the period of time varied considerably; in one it happened almost immediately, whilst it was found within 12 months in 16 patients, between one and two years in 11, and more than two years in the remainder—eight in number. In other words, it returned within 12 months in nearly half the cases. Inadequate operation might leave the patient exposed to the formation of another kind of hernia on the same side, and until a second operation was performed the nature of that hernia would not be known. Obliteration of the sac was undoubtedly an important part of the process of radical cure, and the peritoneum must be shut off smoothly at the internal ring, so that there was no pouching left into which omentum could force its way. He was of opinion that in some of the instances in which recurrence took place at an early date there had been a slipping of the ligature after the sac had been cut off, and that the omentum had found the weak spot and passed along the cord. The importance of the presence of the cord was fully recognised by operators, for all would admit that recurrence was hardly known in the female. In addition to the mere presence of the cord, which had a tendency to drag on the inner margin of the internal ring and acted as a guide to the descent of a peritoneal pouch, it was possible that during the application of the ligature, in the neck of the sac, some of the cord might be included in the ligature and that in replacement of parts before the suturing of the wall of the canal that attachment might be pulled upon and a small pouch formed from the very first. Or again, the dragging of the testis in normal movement of the body might bring that point down at a later sequence of symptoms are traced in a number of cases, and the relation between the temperature and the number of trypanosomes in the patient's blood is demonstrated by means of several excellent charts, by which it is made clear that as a rule these vary in direct proportion to each other; and the greater the number of the parasites the higher the temperature. To this rule, however, there are striking exceptions towards the fatal termination of an attack, when the temperature is sometimes subnormal, even although the blood swarms with trypanosomes.

As regards prophylactic and curative measures the authors have no new suggestions to make. The disease is endemic in the Malay States and the authors suggest the slaughter of all animals found to be affected and also of all animals emaciated without any apparent reason. They recommend that herding of cattle in large numbers, especially near jungle, should be avoided and they advise the detention of all imported animals at the port of arrival until such time as they have been examined. Treatment by atoxyl has been tried in several cases but the good results obtained in some were only temporary, death being the usual ending. No better results were obtained with mercuric chloride and tartarated antimony. Some excellent plates, prepared from photographs, illustrate the morphology of the trypanosoma Evansi.

The Government entomologist, Mr. H. C. Pratt, has contributed an article on the Distribution of Certain Species of Biting Flies in the Federated Malay States, and this, together with a map of the country, completes this interesting little scientific brochure which is worth the attention of all students of tropical medicine, since the conclusions arrived at here may serve to throw further light on human trypanosomiasis. Tropical medicine is indebted to the conjoint authors for their endeavours to elucidate further the phenomena of this serious disease. The printers have done their work well; the printing and binding leave nothing to be desired.

A System of Syphilis. In Six Volumes. Edited by D'ARCY POWER, M.B. Oxon., F.R.C.S. Eng., and J. KEOGH MURPHY, M.D., M.C. Cantab., F.R.C.S. Eng. With an Introduction by Sir JONATHAN HUTCHINSON, F.R.S. Vol. I. With 68 plates. London: Hodder and Stoughton and Henry Frowde. 1908. Pp. xxxv.–380. Price £2 2*s.* net per volume.

THE appearance of a work on syphilis containing among the names of the contributors those of Professor Elie Metchnikoff and Sir Jonathan Hutchinson cannot fail to excite the interest and to arouse the expectation of the reader. We may say at once that in the first volume of this work such expectations will be more than fulfilled. The book is one of great merit and the editors are to be congratulated cordially on this exceedingly good beginning to their enterprise. If the remaining volumes maintain the high level of excellence of the first, the whole will form a treatise on syphilis of the utmost value and importance. The sections of most interest in the present volume are the introduction by Sir Jonathan Hutchinson and the account, as absorbing as a romance, of the microbiology of syphilis written by Professor Metchnikoff and translated with much success by one of the editors, Mr. Keogh Murphy. In his introduction Sir Jonathan Hutchinson surveys the whole field of syphilis in the light of the most recent work and especially of the discovery of the spirochæta pallida. At the same time he utters a wise and weighty warning to the many workers in the new field of experimental study which has been opened up by the discovery of the specific organism of syphilis and the fact of its communicability by inoculation to some of the higher apes, that their inferences should not be hastily accepted without clear proof and that they should remember the disastrous results of the conclusion of John Hunter, based on erroneous experiments, that gonorrhœa and syphilis were caused by the same poison.

It is only necessary to read the series of questions propounded by the writer of this essay to realise how many and important are the problems connected with this disease on which our knowledge is at the present time of the very scantiest description. Possibly in the course of time the stimulus which the recent discoveries in this field of medicine have given to further investigations may lead to the elucidation of some at any rate of these perplexing questions.

The first chapter in this volume is one on the history of syphilis by the well-known authority on this subject, Dr. Iwan Bloch. He demonstrates beyond the possibility of doubt that the last decade of the fifteenth century—particularly the years 1493-1500—was the time when syphilis first appeared in the Old World. Further than this, he shows certainly that syphilis was unknown in Europe before the year 1493 and that its home was the island of Española or Haiti, whence the crew of Columbus brought it after the latter's first voyage. The various arguments as to the pre-Columbian origin of syphilis are considered fully and refuted, and this is followed by a short account of the early and later history of syphilis in Europe.

Professor Metchnikoff's article contains, as we have said, a most absorbing account of the work done in the search for the specific organism of syphilis ending in the brilliant discovery by the late Fritz Schaudinn—foreshadowed, as he shows, by the work of the French microscopist, Donné, as early as the year 1837—of the spirochæta pallida and the proof of its etiological relation to all the lesions of this protean disease. Professor Metchnikoff's generous recognition of the brilliant work done by Schaudinn is reflected in the happy inspiration of the editors who have dedicated their work to his memory and to the trio of distinguished syphilographers, still with us, Fournier, Hoffmann, and Hutchinson.

The section on the general pathology of syphilis is contributed by Dr. F. W. Andrewes and we can pay it no higher compliment than to say that it is quite as good as the chapters which precede it. From his very large experience Colonel F. J. Lambkin, R.A.M.C., writes with authority on the subject of the primary lesion and early secondary symptoms as seen in the male. In the very excellent tables which he gives to render the diagnosis of a chancre easier we must confess that we think the use of the term chancroid liable to mislead, especially as the next table is headed non-syphilitic ulceration, which, we infer, may be of the same character—namely, chancroid. Does Colonel Lambkin mean by this term a mixed chancre or the ulcus molle, the soft chancre, or what Sir Jonathan Hutchinson suggests had much better be called the non-indurated ulcer? The confusion is likely to be even worse if the term chancroid is to be used in reference to the very atypical primary lesions so often met with in women.

The early manifestations in the female sex are described by Dr. Arthur Shillitoe who calls special attention to the fact that often no obvious primary lesion is to be found even after the most careful examination and to the interesting question of a pigmentary syphilide of the neck as an early secondary symptom. The final chapter on congenital syphilis is from the pen of Dr. G. F. Still and contains a most complete account of this important phase of the disease.

The plates, 68 in number, are very good and we may call special attention to the direct colour photographs now used for the first time to illustrate clinical conditions and for which the editors acknowledge their indebtedness to Mr. Tubbs and Dr. Arnold Moritz. The printing and type are

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Baths and Mineral Waters.—Exhibition of Case.

A MEETING of this section was held on Nov. 6th, Dr. W. G. SMITH, the President, being in the chair.

The PRESIDENT gave an address on Baths and Mineral Waters, and some Fallacies connected Therewith. After some general remarks and a brief reference to radio-activity as a possible factor of efficiency, he drew attention to the chemical analyses of mineral waters and the misleading way in which the analytical figures were often expressed. Chemical analysis of a water should simply state the respective amounts of each acid, and basic radicle, i.e., of each ion, for no one knew or could tell how these were severally distributed as salts. The subjects of ionisation and of osmosis were touched upon. Did they know anything of the physiological action of pure water? Nothing whatever. Pure water was extremely difficult to prepare, and the modifying influence of even the slightest salinity was strikingly shown by observations of the electrical conductivity of water, which depended upon the ions present in solution. The purest water in nature was that from molten natural ice. But the purer the water was the more injurious was it to the tissues and hence the evil effects of drinking snow or glacier water. The essential factors of the external or local action of baths were two: (1) temperature; and (2) stimulation of the sensory surface of the skin. Soot baths, mud and peat baths were to ordinary waters what brown bread was to white bread; they tickled more. In explanation of the benefits which undoubtedly accrued to the crowds who flocked to baths and spas, reference was made to the late Mr. Ernest Hart's acute observations published in the *British Medical Journal* in 1887 and entitled "Spray from the Carlsbad Sprudel," and which were of general application. A Carlsbad (or other) "cure" was a very complex therapeutic agent. It was a rest cure, a diet cure, an air cure, a music cure, an exercise cure, a mind cure, and a body cure. There were very few forms of gastric, intestinal, renal, and nervous cases which were not capable of being benefited by such a treatment, even if that were not at all mineralised. In default of these pleasant and essential accessories it was vain to expect similar good results from waters alone if they were situated in places where these collateral advantages were denied by nature, by poverty, or by other adverse conditions.—Dr. JAMES LITTLE said that in selecting a mineral water for a patient the medical man had to consider the characteristics of the patient, the climate of the place to which he was going, the bathing and drinking facilities, and the social amenities of the place, and the medical practitioner under whose care the patient was going. He did not think that mineral waters did as much good nowadays as 50 years ago, because the patients of former times had realised incomes and could go away without any mental disturbance, but patients now worked up to 2 o'clock in the morning arranging their business, and then rushed off and drank more than they were ordered, and so got little benefit. A patient with organic disease who was sent to mineral waters had usually incalculable injury done to him, but if the disturbance was only functional real benefit would be derived. He thought that the reputation of many watering places depended on the ability of the local medical men.

Dr. P. DEMPSEY exhibited a case of Mycosis Fungoides in a man, aged 62 years, by occupation a small farmer. Up to five or six years ago he had enjoyed perfect health. There was nothing peculiar in his family history. At first a rash appeared on his back and remained for a year. It then invaded his chest and spread to his legs. It became indurated in places and was also scaly. One and a half years ago a small lump appeared on his shoulder and increased very much in superficial extent but not in height. Other lumps followed. Some disappeared spontaneously after a few months. The general health did not suffer, despite the extent of, and the irritation caused by, the disease, but the patient thought himself less able for hard work. The case was being treated with the x rays and had so far had four exposures.—The PRESIDENT said that the disease was extremely rare in Ireland. He had seen no case for ten years. The name "mycosis fungoides" had been introduced into the nomenclature by Alibert 100 years ago, and modern pathologists had not yet been able to give it a definite place.

BRISTOL MEDICO-CHIRURGICAL SOCIETY. — A meeting of this society was held on Nov. 11th, Dr. J. Michell Clarke, the President, being in the chair.—Dr. E. C. Williams showed a child, aged two years, who had recently recovered from Basic Meningitis with Temporary Amaurosis. During the course of the disease there had been complete loss of sensibility to light without any visible change in the ophthalmoscopic appearances. The case had markedly benefited from small doses of liquor morphinæ administered regularly. Recovery had left the child unable to walk or to talk, but the vision was apparently good. He regarded the case as an example of that form of posterior basic meningitis during the course of which the child appeared to lose his sight without any discoverable ophthalmoscopic change. The children at a later date often regained both their sight and health. They were usually below two years of age.—Mr. H. F. Mole, in discussing the case, suggested that possibly the child was deaf as the result of the meningitis and hence was unable to regain the lost art of speech.—Dr. Bertram M. H. Rogers said that his experience did not agree with that of Hutchison (previously cited) that about half of the cases of posterior basic meningitis made a more or less complete recovery.—Mr. Cyril H. Walker suggested that the amaurosis was due possibly to a retro-ocular neuritis; the loss of pupil reflex to light pointed to this conclusion.—Dr. F. H. Edgeworth referred to the treatment of this disease by serum, which had reduced the mortality in the Belfast epidemic 30 per cent., questioning whether the same serum would prove efficacious in the sporadic cases. The meningococcus in the two varieties, although morphologically and culturally identical, gave different agglutination and opsonic reactions, so that it was probable that the serum of the epidemic variety would fail with the sporadic. He had seen in three or four cases very good results from the morphine treatment advocated by Barr.—Professor I. Walker Hall thought that admirable as Flexner's serum had proved in some epidemics the correct plan to follow was that of preparing a serum from individual cases or epidemics wherever practicable.—Dr. P. Watson Williams showed a patient upon whom he had operated for Suppuration in the Frontal Sinus by the osteoplastic flap method. The result had been excellent not only from the point of view of relieving the symptoms but also as regards the cosmetic effect, the scar being barely visible.—Dr. J. Lacy Firth agreed that the operation was a very good one; he had found that it gave the best access to the ethmoidal region and left no deformity.—Mr. James Taylor read a paper on Some Fallacies in Skiagrams, which he illustrated by actual mistakes, showing how a fracture might escape notice completely if photographed in a single plane. Tuberculous masses in the kidney simulating calculi and other examples were shown.—Dr. James Swain insisted on the importance of such facts being published from the medico-legal aspect. He said that frequently the result of treatment of a fracture looked bad in a skiagram, while clincally no inconvenience was experienced.—Dr. Watson Williams emphasised the value of stereoscopic skiagram which cleared up many difficulties.—Dr. G. E. Bowker spoke of the misleading appearance of exostoses in some cases of suspected injury.—Mr. E. W. Hey Groves, referring to the transparency of callus, said that the patients might, by seeing a skiagram, be led to suppose that there was no union between the ends of a fractured bone.—Mr. A. L. Flemming said that during the South African war he had come to realise the value of stereoscopic skiagrams.—Dr. H. L. Ormerod read notes of a case of a Double Monster. In a full-time birth in a primipara, aged 25 years, the two embryos were joined by a broad isthmus from the manubrium sterni to the umbilicus (thoracopagus); their total weight was 11¼ pounds; the sex was female. When he arrived the mother had been in labour 18 hours, the waters had broken one hour previously, the pains were vigorous, and the abdomen was unduly prominent. The cervix was well dilated and the presentation was a third vertex; progress had come to a standstill. The head was delivered with forceps but the body would not follow. Vaginal examination revealed some abnormal prominence over the chest, in compiling a work which has been much needed for very many years past; it cannot properly be termed a public officer's *vade mecum* because of its size but it may certainly be regarded as a work of reference of the greatest utility.

Verhandlungen des Vereins Süddeutschen Laryngologischen, 1908. (*Proceedings of the Society of South German Laryngologists.*) Würzburg: A. Stuber. Price 2 marks.—There are ten papers reported in this issue of the Proceedings of the South German Laryngological Society. One by Brüning on the Lighting Principles of Endoscopic Tubes is of very great interest, as it is beautifully illustrated and will be found of undoubted benefit to those laryngologists who are using these instruments which now appear to have arrived nearly at perfection. This is followed by a paper by Körner on the Clinical Causes of Ocular Paralyses and Paralysis of the Recurrent Nerve; Goris contributes a short note on the Radical Removal of Commencing Nasal Sarcomata; Guyot has a paper of rather greater length on Tuberculous Tumours of the Nose and Naso-pharynx; and Manasse a short paper on the Pathology and Therapy of Malignant Diseases of the Antrum of Highmore; whilst Meyer showed preparations from a case of Leukæmic Affection of the Pharynx. A case was shown by Kante of a Tumour of the Pontine Angle of the Cerebellum, with discharge of cerebro-spinal fluid from the nose, which is of interest when we remember the interesting case similar in some respects to this one, which was reported by Dr. StClair Thomson. Nager contributes a paper on Tumours of the Naso-pharynx; Schaefer describes a stool for Laryngoscopy and other examinations; and Jurasz demonstrates an Unusual Anomaly of the Naso-pharynx. The articles are all very short but they are extremely well written and edited.

Die Lehre von der Intubation. (*The Study of Intubation.*) Von Professor Dr. J. VON BOKAY, Direktor des "Stefanie" Kinderspitals zu Budapest; Ehrenmitglied der Moskauer kinderärztlicher Gesellschaft; korrespondierendes Mitglied der Société de Pédiatrie in Paris und der Aertzlicher Akademie in Rom. With 113 Illustrations in the Text and 2 Plates. Leipsic: F. C. W. Vogel. 1808. Pp. 250. Price 10 Marks.—At first sight it would appear difficult, without undue padding, to produce a book of this large size on the subject of intubation, but when we come to examine critically the result of Professor Bokay's labour a very different impression is derived, for not only is the whole history from O'Dwyer's original communication, just ten years ago, given in detail, but also practically all the literature on the subject which has appeared in the medical press in any language has been brought under contribution. The instruments, from their earliest form to the present, are accurately described and faithfully reproduced. The value of intubation in other diseases besides diphtheria, such as chronic subglottic hypertrophy, scleroma laryngis, laryngeal papillomata and stenosis, is carefully considered. The *pros* and *cons* for intubation *versus* tracheotomy are likewise weighed with judicial impartiality; finally there is what it would be imagined is a most complete bibliography of the literature, comprising some 30 pages. As a work of reference on intubation the book cannot well be surpassed and must inevitably prove extremely valuable to all future writers on, and students of, the subject.

JOURNALS AND MAGAZINES.

Ophthalmology. Edited by H. V. WURDEMANN, M.D., of Milwaukee; Assistant Editor, G. I. HOGUE, M.D. Vol. V., No. 1. October, 1908. Issued quarterly. Editorial and Publishing Offices, 105, Grand-avenue, Milwaukee, Wisconsin, U.S.A. Price per number, 6*s.*; per annum £1 1*s.*—In addition to numerous abstracts from the current literature on ophthalmology and reviews of recently published works on that subject this number contains the following original articles: 1. Artificial Illumination of Schoolrooms, by Myles Standish, M.D., of Boston. In this article the arrangements adopted in the Boston schools with tungsten lamps with Zalinsky shades are described. 2. The Treatment of Chronic Simple Glaucoma, by C. A. Veasy, A.M., M.D., of Philadelphia, with numerous diagrams in the text. The author shows that the meiotic treatment often fails and gives suggestions for the adoption of operative measures. 3. Glaucoma following Secondary Cataract (Capsular) Operation, with a report of three cases, by Frederick E. Cheney, M.D., of Boston. 4. Microphthalmia, by H. H. B. Cunningham, M.D. Brux., F.R.C.S. Irel., M.R.C.S. Eng., of Belfast. 5. Case of Papilloma of the Cornea, by Eugene Smith, M.D., of Detroit, Michigan, with a drawing. 6. Extirpation of the Lacrymal Sac, When and How? by Jesse S. Wyler, A.B., M.D., of Cincinnati, Ohio. The operation is especially applicable to cases of ulcus serpens. 7. The Ocular Symptoms of Ethmoidal Disease, by Frederick Krauss, M.D., of Philadelphia. 8. A Solution of Dr. George T. Stevens's New Phenomenon of Colour Conversion, by E. E. Blaauw, M.D., of Buffalo, New York.

Annals of Ophthalmology. Edited by WILLIAM T. SHOEMAKER, M.D., of Philadelphia, and C. W. PARKER, M.D., of St. Louis. Vol. XVI., Nos. 3 and 4. St. Louis, Missouri, U.S.A.: Jones H. Parker. Price, with "Annals of Otology," $7.00.—These numbers contain a biographical sketch of W. Thompson, M.D., of Philadelphia, an eminent American ophthalmic surgeon; The Amplitude of Accommodation at Different Periods of Life and its Relation to Eye Strain, by Edward Jackson, M.D., of Denver, Colorado; Anisometropia, by W. Bruner, M.D., of Cleveland, Ohio; Double Perforation of the Eyeball by Metallic Bodies, by Edward Adams Shumway, M.D., of Philadelphia; History of a Case of Subretinal Cysticercus by Fernando Lopez, M.D., of City of Mexico; Observations on the Motais Operation for Ptosis, by W. T. Shoemaker, M.D., of Philadelphia; and there are also numerous abstracts from the ophthalmic literature of England and the continent.

The Edinburgh Medical Journal.—The most interesting paper in the November number of this journal is perhaps a post-graduate lecture by Sir Alexander Russell Simpson on Uterine Fibroids, in which a historical sketch is given of the gradual progress of gynæcology in operative measures for uterine conditions. The introductory address of Mr. F. M. Caird on the Evolution of Surgery in Edinburgh is also historical in type. Dr. D. P. D. Wilkie writes on vaccine treatment for mixed infection in tuberculous disease, from which he has obtained good results in the direction both of prophylaxis before operation and of cure of post-operative fistulas. Sir George Thomas Beatson records a case of rapidly growing Fibro-adenoma of the Mamma; and Mr. Alexander Don one of Congenital Diaphragmatic Hernia in an old man.

The Dublin Journal of Medical Science.—A portrait of the late Sir Arthur Vernon Macan forms the frontispiece of the November issue of this magazine and a paper from his pen on the Operative Treatment of Puerperal Fever constitutes the main original article. He notes the brilliant results that have been obtained in cases of threatened or early peritonitis from the procedure of separating the uterus as far as possible from its surroundings, administering large doses of iodine, and stimulating the action of the kidneys. Ligature or removal of infected veins and hysterectomy are also discussed. Dr. Robert J. Rowlette contributes a pathological report of the Rotunda Hospital for the year ending on Oct. 31st, 1907.

produce punched-out sores. The note was also discussed by the President, Dr. F. W. B. Young, Dr. E. T. Davies, Dr. S. M. Whittaker, and Dr. J. Lloyd Roberts.—Mr. G. P. Newbolt read a paper on *Suprapubic Prostatectomy.* He advised operation in the following conditions: (1) complete retention and catheter life in otherwise healthy men; (2) frequent micturition rendering life unbearable and coming on at an early age; (3) profuse hæmorrhage from the prostate and recurring at frequent intervals; and (4) occasional retention with difficulty in the passage of, or inability to pass, a catheter. He did not advocate the operation in malignant disease. He considered that any after-trouble in the way of stricture was due to removal of the membranous urethra.—Mr. F. T. Paul considered that the operation was very remarkable in the results derived from it. In performing the operation he made as small a wound in the bladder as he could work with. He commenced enucleation within the neck of the bladder. If hæmorrhage occurred after the operation he removed the tube when, as a rule, the bleeding would stop. He never operated in cases where he considered the enlargement to be malignant.—Mr. W. Thelwall Thomas believed that the mortality would in the future be lessened by operating earlier in the condition. He always made a curved transverse incision and employed air distension of the bladder. Recently he had employed perineal drainage, as suggested by Lynn Thomas, and was very pleased with this improved method.—*The paper was also discussed by the* President, Dr. Davies, Mr. D. Douglas-Crawford, and Mr. R. A. Bickersteth.

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THE LANCET.

LONDON: SATURDAY, NOVEMBER 28, 1908.

Fifty Years of the General Medical Council: Progress and Retrospect.

ON Tuesday, Nov. 24th, there opened the eighty-eighth session of the "General Council of Medical Education and Registration of the United Kingdom," and the session is a jubilee one. For rather more than 50 years ago—to be precise, upon August 2nd, 1858—the body with the above somewhat cumbrous title came into existence "by the Queen's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled and by the authority of the same." The object of the Act with the above preamble was not, as many persons both within and without the medical profession imagine, so much to benefit that profession but to enable persons requiring medical aid to distinguish qualified from unqualified practitioners. We have made this statement very many times, but hardly a week goes by without the receipt of some communication, in response to which we have to point out that the General Medical Council has neither the powers nor the mission to act in the way desired. The ability to make a differential diagnosis between qualified and unqualified men is, as the Act states, "expedient," but in many cases laymen do not seem yet to concern themselves much as to whether a practitioner is qualified or unqualified. The resulting abuses are, however, under serious consideration, and the thinking members of the public are on the side of reform. The progress of medicine has determined them to be so. The 50 years which have elapsed since the passing of the Medical Act of 1858 have seen far-reaching and most important changes in the science and art of medicine and in the teaching of the same. Bacteriology, pathology, etiology, the physiological or biological processes with which are concerned the subjects of opsonins and of vaccine therapeutics have opened up new regions for research and have trebled the armament of medical men in the fight against disease. The medical student of to-day is no longer the type of man described by DICKENS, THACKERAY, and ALBERT SMITH, but a serious-faced youth oppressed with the burden of a five years' curriculum and such an infinity of subjects to be learned that the five years prove quite inadequate. Sir DONALD MACALISTER in his presidential address to the Council, which we publish this week, made no attempt to deal with the vast changes which have taken place since the Council was instituted. Nor shall we. No one could have told the story better than the President of the General Medical Council, but his restraint, his determination to be silent rather than to use up valuable time, must meet with universal approval.

Now although the general standard of knowledge and of work is to-day far higher than that of 50 years ago, we of to-day should remember the debt that we owe to those who have laboured in the same field before us. There is no greater incentive to the medical man of to-day to walk humbly and earnestly and to do his best to add something to the knowledge of his profession than to consider the bygone worthies of medicine. Every medical man should have a hobby and one of the most pleasant and profitable hobbies is the study of the history of medicine. This study may either be pursued at first hand, which takes considerable time, or it may be carried on simply by absorbing the labours of others. To those who care to take their historical studies easily we can commend a book which has recently appeared—one, moreover, written by one of the most cultured and able physicians of to-day, who worthily holds the post of Regius Professor of Medicine in the University of Oxford. In "An Alabama Student and other Biographical Essays"[1] Professor W. OSLER recalls to our minds such men as THOMAS DOVER, LOCKE the philosopher who was also a physician, BEAUMONT, HARVEY, Sir THOMAS BROWNE, and the Alabama student whose name was JOHN Y. BASSETT. The Alabama student was a man whose example is one for all time so far as concerns his burning desire for knowledge. Of such stuff are made the FARADAYS, the VELPEAUS, and all who have struggled with success to learn. BASSETT practised in Alabama in 1835, a date at which that state was, if not exactly a wilderness, at least but sparsely populated. He had studied at the Washington Medical College and had evidently learned that great lesson, how to learn. So consumed by a desire for knowledge he left his wife and children, not without a hard struggle, and set out for Europe, and above all for Paris, that lodestone of all medical men in the former half of the last century. Arrived in Paris he attached himself to VELPEAU for teaching in surgery and anatomy and with true singleness of heart he again began dissecting. The student of to-day will feel a not unnatural envy when he reads BASSETT'S statement that a subject cost six francs and the body of a child only 40 sous. In a letter to his wife he gives an interesting account of the anatomical school at Clamart, a school which still exists and concerning which the present-day French students have recently been agitating. Before very long his industry met with its reward, for VELPEAU appointed him as his *externe*. BASSETT apparently returned to Alabama after a year's study in Europe. Another notable American physician was BARTLETT who, after study in Paris, brought out in 1842 a work on fevers in which the differentiation between typhus and typhoid fever was clearly laid down some years before the work of JENNER and MURCHISON appeared in this country. THOMAS DOVER is a shining example of the "all-round" man of former days, for he started in life as a buccaneer and in 1712 was one of the discoverers of "Robinson Crusoe." In 1721 he was admitted a Licentiate of the Royal College of Physicians of London and in 1732 he published a work on medicine of a popular nature. In this book he describes the celebrated powder which is still one of the most valued remedies that we have. DOVER'S doses, produce punched-out sores. The note was also discussed by the President, Dr. F. W. B. Young, Dr. E. T. Davies, Dr. S. M. Whittaker, and Dr. J. Lloyd Roberts.—Mr. G. P. Newbolt read a paper on Suprapubic Prostatectomy. He advised operation in the following conditions: (1) complete retention and catheter life in otherwise healthy men; (2) frequent micturition rendering life unbearable and coming on at an early age; (3) profuse hæmorrhage from the prostate and recurring at frequent intervals; and (4) occasional retention with difficulty in the passage of, or inability to pass, a catheter. He did not advocate the operation in malignant disease. He considered that any after-trouble in the way of stricture was due to removal of the membranous urethra.—Mr. F. T. Paul considered that the operation was very remarkable in the results derived from it. In performing the operation he made as small a wound in the bladder as he could work with. He commenced enucleation within the neck of the bladder. If hæmorrhage occurred after the operation he removed the tube when, as a rule, the bleeding would stop. He never operated in cases where he considered the enlargement to be malignant.—Mr. W. Thelwall Thomas believed that the mortality would in the future be lessened by operating earlier in the condition. He always made a curved transverse incision and employed air distension of the bladder. Recently he had employed perineal drainage, as suggested by Lynn Thomas, and was very pleased with this improved method.—The paper was also discussed by the President, Dr. Davies, Mr. D. Douglas-Crawford, and Mr. R. A. Bickersteth.

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[1] An Alabama Student and other Biographical Essays. By William Osler, M.D. Oxon., F.R.S. Oxford: At The Clarendon Press. Pp. 334. Price 7*s*. 6*d*. net.

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The Objects of Examinations.

For want of a better method of coming to a decision as to the capabilities of intending practitioners of medicine examinations are employed but few would be so bold as to venture to assert that the examining system is perfect. Its faults are many, for in addition to those which may be termed intrinsic, as resulting from the very nature of an examination, there are also extrinsic faults which follow from the nature of the examiners and form no essential part of the examination itself. The object of an examination in medicine is to discover if the candidate is competent to carry on the work of a medical practitioner. Now, apart from an examination, an opinion on this point could be most easily formed by someone conversant with the whole life-history and training of the candidate, for it is by suitable and adequate training that the best results can be obtained. The examining bodies and the General Medical Council lay down schemes of study which the candidate must have completed by the time that he presents himself for examination, but every teacher and every examiner in medical subjects know what appalling ignorance may remain even after the student has passed through a prescribed course of study. This fact, for fact it is, is the basis of the need for examinations, and therefore an examination must be searching if the result of it is to be conclusive, yet the time devoted to the examination is so short that it is not easy for an examiner to decide at once on the merits of the average candidate. Some candidates are, of course, so obviously well trained and acquainted with the subjects of examinations that their passing is never for a moment a matter of doubt, and a few are obviously hopeless from the start; but the majority of candidates stand between these extremes and the difficulties of estimating the knowledge of each candidate are indeed great. The personal peculiarities of the examiner are likely to show themselves much more in the *vivâ voce* portion of the examination than in the written portion, but even in the examination papers there is much scope for infelicity in choosing questions. In pass examinations the questions cannot be too straightforward; they must be absolutely unambiguous and the terms and expressions employed should be those which are commonly employed in the subject, and they should not be the special creations of one special school or teacher. In the present issue of The Lancet we publish a letter in which complaint is made of one of the questions set at a recent examination of the University of London. We are not entering into the question whether the complaint is well founded or not, but if it be true that a large proportion of the candidates had never heard the expression on which the question was based it is clear that the expression was not in such common use as to justify its appearance in the paper of a pass examination. The main evils of examination papers are three. In the first place, the paper is liable to be too long unless the examiner takes the trouble to estimate, roughly at least, how long an adequate answer would take to write. It has been suggested that an examiner should be required to furnish with his set of questions typical written answers to his own questions. This would be perhaps rather hard on the examiner but it would certainly be very interesting to see the results. Secondly, a by no means infrequent fault is the employment of the rarer names for morbid conditions; it is better in an examination paper to speak of whitlow than of paronychia and of hip disease than of morbus coxæ. We have known instances in which each of these terms has caused much distress in the minds of many candidates. It may be urged that any well-educated candidate should be acquainted with these terms; that may be, but when the written question is such as this, "Describe the causes, symptoms, and treatment of morbus coxæ," the chance of obtaining a correct answer is made to depend not on the candidate's knowledge of the disease but on the chance of his knowledge of one of its rarer names, and that is a very different matter. It may be that the candidate possesses a good knowledge of disease of the hip, both theoretical and practical, but if it should happen that he has never heard or has forgotten "morbus coxæ," he is utterly unable to answer the question. Success in this case is made to depend not on a knowledge

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Annotations.

"Ne quid nimis."

THE LONDON MILK-SUPPLY: A SERIOUS REVELATION.

At a meeting of the London County Council held on Nov. 17th the public health committee presented a report upon the steps which it had taken since July 1st ult. in accordance with the authority delegated to it by the Council under Part IV. of the London County Council (General Powers) Act, 1907, in dealing with the question of the milk-supply in connexion with tuberculosis. The report states that—

> A veterinary inspector has been appointed for the purposes of this Act, for the inspection of cows at farms outside London which supply milk within the county, and an arrangement has been made with the director of the Lister Institute for the examination of samples of milk taken under the Act. The first quarterly return of our action is now due, and for convenience we have extended the period under review to Oct. 10th, 1908. In the period in question we have had under consideration the method by which the Council's power can be most efficiently and economically exercised with a view to the protection of the London population from the risk of consumption of tuberculous milk. As the Council's powers have not been in operation long enough to allow of our reporting in detail upon the whole question, we think it well to submit the results of the examination of samples of milk and of veterinary inspection of the farms to the date already mentioned.
>
> During this time 204 samples of milk have been taken, 60 of which were of milk carried by the London and North-Western Railway Company, 48 by the Great Eastern Railway Company, 60 by the London and South-Western Railway Company, and 36 by the Great Western Rail Company. The examination of 92 of by the Lister Institute, with the resu 23·9) have proved to be tuberculous. has visited 20 of the farms from which the samples were taken and inspected the animals at 19 of them, it being proved that the remaining farm had not sent the sample of milk to London. As the result of clinical examinations nine cows were at once reported by the Council's veterinary inspector to have tuberculous udders. Another cow has subsequently proved to have a tuberculous udder, making ten cows in all proved to be suffering from this disease. The owner or manager at once undertook not to send to market in London more milk from these cows.
>
> The cost incurred by the Council in carrying out the provisions of Part IV. of the Act, for the period covered by this report, is estimated not to exceed £100.

It does not require much expert knowledge to realise the gravity of the state of affairs revealed by this research. The results are so striking that they claim the attention not only of the London County Council but of Parliament. That very nearly a quarter of the milk samples taken at random from the metropolitan supply should prove to be tuberculous affords a grave reflection upon the present provisions for its regulation. Year by year authoritative opinion tends more strongly to proclaim the frequency of alimentary infection in tuberculosis, and it is now the plain duty of the Government to pay attention to its expert sanitary advisers. It may seem useless to urge the discussion of a departmental measure at a time when such large issues as licensing and education are before Parliament but we make bold to consider that a "Pure Milk" Bill such as Mr. Burns was to have introduced in the summer session, but which has not yet seen the light, provided it be wisely drafted, will prove of no less vital importance to the country than larger Government measures which do so much more for their promoters' political reputation. Such a Bill will, we hope, be the speedy outcome of this disquieting report. In the meantime the fruits of the modest £100 which the public health committee of the London County Council has spent in the matter, should result in a special grant being made with which to carry on wider investigation. We trust that our readers will take every opportunity of making known the statements contained in this report. If medical men in family practice in London were to tell the mothers under their charge that there were only three chances to one in favour of obtaining for their children milk free from the active germs of a terrible disease, such a strong public opinion would be formed that Members of Parliament for metropolitan constituencies might find themselves being heckled with considerable vigour as to what they intended to do to prevent the children of the nation from being poisoned systematically.

DAMPNESS AND DISEASE.

The subject of dampness in its bearing on health does not seem to have received serious detailed study, or, if it has, very little light has been thrown on the exact way in which dampness acts as an etiological factor in disease. It is easy enough to suggest why dampness should lower the resistance of the human body to disease, but why in particular it appears to encourage such ailments as rheumatism, neuralgia, and diseases of the respiratory tract is not so apparent. The risks attending the sleeping in a damp bed can be understood, because when clothing is damp its function—viz., that of insulation—ceases and it no longer provides against the body losing its heat and so a chill is engendered, and a chill may bring almost any disease in its train, for a chill is nothing but a weakened resistance. Does the dampness of the air or of the soil act in a similar way? It is probable, for dampness permeates almost all materials and therefore life in a damp atmosphere means a body exposed to an undue loss of that animal heat which is necessary to keep the organism strong and vigorous. Conversely, a dry air, though intensely cold, is perfectly healthy so long as the individual protects or conserves his calorific status by wearing suitable non-conducting clothing. The analogue of the electric current is suggested. In dry countries the electric wires are frequently bare, requiring no insulation, whereas in damp places the leakage of current would be considerable if the wires were not well covered with insulating material. There are those who believe, further, that when dampness emanates from the soil it may carry with it disease-producing entities and, moreover, a moist environment is more congenial than is a dry one to the growth and development of micro-organisms. Indeed, when exposed long enough to very dry air some organisms may be destroyed. Dampness implies stagnation, a gloom in which evil things are lifted from the soil and kept suspended and brought within reach of the human organism. It is thus not difficult to generalise about dampness in its relation to disease but so far its influences have not been susceptible of really correct measurement. That it is associated with disease is evident from the instances of health being improved when the individual is removed from a damp to a dry locality.

NEALE *v.* THE BARTITSU LIGHT CURE INSTITUTE, LIMITED.

In this action, which was tried before Mr. Justice Grantham and a special jury, the plaintiff, Dr. A. E. Neale, sued the defendants for damages for breaches of an agreement, and the defendants counter-claimed for damages, alleging negligence and incompetence on the part of the plaintiff. The plaintiff was awarded by the jury £600 damages on his claim and obtained a verdict as defendant to the counterclaim, judgment being given in his favour and a stay of execution refused. The agreement in respect of which the damages were given secured the services of the plaintiff as medical superintendent of the institute upon terms safe-guarding him against loss of dignity and against any allegation of ethical misconduct. He was to have entire control of the treatment, he was produce punched-out sores. The note was also discussed by the President, Dr. F. W. B. Young, Dr. E. T. Davies, Dr. S. M. Whittaker, and Dr. J. Lloyd Roberts.—Mr. G. P. Newbolt read a paper on Suprapubic Prostatectomy. He advised operation in the following conditions: (1) complete retention and catheter life in otherwise healthy men; (2) frequent micturition rendering life unbearable and coming on at an early age; (3) profuse hæmorrhage from the prostate and recurring at frequent intervals; and (4) occasional retention with difficulty in the passage of, or inability to pass, a catheter. He did not advocate the operation in malignant disease. He considered that any after-trouble in the way of stricture was due to removal of the membranous urethra.—Mr. F. T. Paul considered that the operation was very remarkable in the results derived from it. In performing the operation he made as small a wound in the bladder as he could work with. He commenced enucleation within the neck of the bladder. If hæmorrhage occurred after the operation he removed the tube when, as a rule, the bleeding would stop. He never operated in cases where he considered the enlargement to be malignant.—Mr. W. Thelwall Thomas believed that the mortality would in the future be lessened by operating earlier in the condition. He always made a curved transverse incision and employed air distension of the bladder. Recently he had employed perineal drainage, as suggested by Lynn Thomas, and was very pleased with this improved method.—The paper was also discussed by the President, Dr. Davies, Mr. D. Douglas-Crawford, and Mr. R. A. Bickersteth.

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THE SERUM TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

EPIDEMIC cerebro-spinal meningitis is attended by such a high mortality that any treatment which gives promising results deserves a trial. As was shown at the discussion at the last meeting of the British Medical Association there is now considerable evidence[1] that a serum prepared from the horse in a similar way to that for the treatment of diphtheria exercises a markedly beneficial effect. Such a serum was first produced in 1906 by two German workers, Kölle and Wassermann, by inoculating horses with both dead and living cultures of the meningococcus. Then Kromer treated 17 cases of cerebro-spinal meningitis by injecting hypodermically from 20 to 30 cubic centimetres of serum and repeating the injection on the second and third days. In 11 cases the serum was on the second occasion injected into the spinal canal. Only five of the patients died. In 1907 Schone treated a series of 30 cases with a death-rate of 28 per cent. against 53 per cent. in other cases. Of many serums manufactured the best appears to be one prepared by Dr. Simon Flexner at the Rockefeller Institution, New York. In monkeys he produced meningitis by injection of cultures of meningococci through a lumbar puncture. The animals for the most part rapidly died with lesions resembling those of cerebro-spinal meningitis in man, but serum treatment proved remarkably successful. In the *Edinburgh Medical Journal* for October Dr. Claude B. Ker has reported most favourably on the value of Flexner's serum in the recent epidemic of cerebro-spinal meningitis in that city. The usual dose given to children was 30 cubic centimetres, which was injected into the spinal canal after removing as much cerebro-spinal fluid as would flow on lumbar puncture. The dose was usually administered daily for three or four days. In favourable cases there was usually a lower temperature on the next day and there were frequently less delirium and some return of consciousness. The cyanosed face assumed a more healthy colour and the rigidity of the neck diminished. Occasionally the disease terminated in crisis—a point on which Dr. Flexner lays great stress, as the natural tendency is to termination by lysis. The mortality rate was 42·3 per cent., against 80·5 per cent. for the cases otherwise treated. Other writers have published even better results from this serum. Dr. A. Gardner Robb in the recent Belfast epidemic had a mortality of only 30 per cent. Observations made in the City Hospital Laboratory, Edinburgh, by Dr. T. Lauder Thomson show that the injections had a remarkable action on the cerebro-spinal fluid. Before the injections the fluid was sometimes very turbid and contained many extra-cellular and intra-cellular organisms. The extra-cellular ones disappeared early and the staining properties of the diplococci altered, and in one or two days they appeared to disintegrate and it was difficult to grow cultures from them. Dr. Ker has also tried several other serums but he finds that Flexner's gives the best results and that the serum prepared by Kölle and Wassermann comes next. In the *Boston Medical and Surgical Journal* of Oct. 22nd and 29th Dr. F. T. Fulton has reported good results from Flexner's serum. In nearly all the cases in which there was reason to hope for benefit an improvement was coincident with administration of the serum and recovery gradually took place. The total mortality was 37 per cent. and on eliminating moribund and chronic cases the mortality was only 20 per cent. The effect on the cerebro-spinal fluid was even more striking. In all but one case the purulent or turbid fluid became clear and the meningococci disappeared.

LAMP EXPLOSIONS.

Mr. William Thomson, F.I.C., F.R.S. Edin., who has for several years conducted for the Manchester and Salford Sanitary Association an investigation into the causes of lamp explosions, has brought it up to date in a report just presented to the association. The report confirms the conclusions of THE LANCET Commission on Dangerous Paraffin Lamps, published in THE LANCET of Jan. 4th, 1896. It runs as follows:—

> Since my last report of the 31st March, 1906, the chief constables of Manchester and Salford have passed to me through you for investigation the remains of six lamps which were alleged to have exploded during the year 1906, and of five lamps during the year 1907, the descriptions of which are given in the table annexed hereto. You will see from this table that 10 lamps out of [illegible] seven of which are without a side tube [illegible] employed in the lamps which exploded [illegible] out of the 11, two having a flash-point of 85° Fah., one of 83° Fah., and the last 91° Fah. This shows that the oils of the Russian type are more [illegible] than either the low flash-point oils of the [illegible] flash-point oils of the Scotch type. It may [illegible] number of alleged explosions of oil-lamps which have occurred in Manchester and Salford during the last 12 years (1896–1907) as follows:—

	Explosions.		Explosions.
In 1896	15	In 1902	4
,, 1897	12	,, 1903	4
,, 1898	18	,, 1904	4
,, 1899	17	,, 1905	3
,, 1900	9	,, 1906	6
,, 1901	8	,, 1907	5

> In 1908 up to the present time (Nov. 17th) none.
>
> On comparing this with my previous reports it will be observed that a marked diminution has taken place in the number of alleged lamp explosions since the association first entered upon this investigation, indicating great improvement in the construction of lamps. The number of explosions would, I think, be still further reduced if the length of the wick tube were increased.

> *Details of the Lamp Explosions in 1906 and 1907.*
>
> *March 27th, 1906 (Manchester).*—Supposed to have originated by the bursting of a paraffin lamp which had been left burning. The bedding was on fire. Damage about 30*s.* Queen Anne burner with side tube. Flash-point of oil, 91° F.
>
> *April 4th (Manchester).*—Lamp exploded whilst standing on the kitchen table, setting fire to the table and dresser. Duplex burner. No oil sent.
>
> *April 7th (Manchester).*—The tenant of the house was about to remove the table in the kitchen when the lamp exploded and set fire to a table cloth and apron, also doing damage to the kitchen floor. Queen Anne burner without side tube. Flash-point, 85° F.
>
> *June 10th (Manchester).*—The tenant was moving a paraffin lamp in the bedroom when it exploded in her hand. The flames were put out before any damage was done. Queen Anne burner with side tube. No oil.
>
> *Sept. 2nd (Salford).*—Lamp exploded whilst standing on the table. Set the curtains on fire. Damage 2*s.* Queen Anne burner without side tube. No oil
>
> *Nov. 6th (Manchester).*—Paraffin lamp exploded, setting fire to some clothing in the kitchen. Damage about 8*s.* Queen Anne burner without side tube. No oil.
>
> *March 28th, 1907 (Manchester).*—Lamp exploded whilst standing on the table. The curtains were set on fire. Queen Anne burner without side tube. Flash-point, 83° F.
>
> *April 2nd (Manchester).*—Lamp exploded whilst hanging on the back window frame. Set fire to the furniture. Damage £17. Queen Anne burner without side tube. No oil sent.

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[1] THE LANCET, August 15th, 1908, p. 472.

bring the present edition into complete line with the elegances and refinements of modern pharmaceutical attainments. Needless to say, the record of this pharmaceutical progress faithfully described in the pages has necessitated the practical rewriting of the work. The following figures serve to show the growth of the "Companion" since it was first introduced. In 1864 the "Companion" contained 220 pages; in 1874, 458 pages; in 1886, 562 pages; in 1890, 660 pages; in 1894, 733 pages; in 1899, 882 pages; and the present edition no less than 1459 pages. While, therefore, there was a steady addition of about 100 pages in the succeeding editions up to 1899 the number of pages added to that edition and now contained in the present edition is nearly 600. It may be said, therefore, that very nearly half of the text in the new edition has been allocated to new pharmacy, to the advances, that is to say, which have been made in the testing and chemical and physiological standardisation of drugs and chemicals used in medicine, in the elaboration of synthetic remedies, in the presentation of old medicaments in new and more effectual form, and so forth. Further, the new editions of the foreign pharmacopœias, including even the Japanese Pharmacopœia, have received consideration. The publication of the "Companion" was in fact delayed owing to the author's desire to include the more important tests of the French Codex which has only recently been published. In spite of the attention which has thus been given to points on which the modern practitioner and pharmacist will welcome an authority, the "Companion" preserves its old "get-up" and the general arrangement remains the same as before. The special feature which, for example, has rendered the book so convenient as a work of reference in the past is the prominent distinction in type which is drawn between the "official" and "not official" preparations. This plan, to mention one decided advantage, places before the prescriber a complete list of "official" and "not official" preparations given under each substance immediately following the dose, so that he can readily and without further reference ascertain the various forms in which any medicament may be given.

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Surra in the Federated Malay States. By HENRY FRASER, M.D. Aberd., Director of the Institute for Medical Research; and S. L. SYMONDS, V.S. Melb., Government Veterinary Surgeon. With a note on the Distribution of Certain Species of Biting Flies in the Federated Malay States by H. C. PRATT, Government Entomologist. Numerous illustrations and diagrams. Singapore: Kelly and Walsh, Limited. 1908. Pp. 38. Price 3*s.* 6*d.* net.

THIS short treatise on surra is the ninth of a series of studies issued by the Institute for Medical Research, Federated Malay States. The work at present before us is the result of the coöperative researches of the medical, veterinary, and entomological experts, the result of such combined work being eminently satisfactory. The treatise embodies a short description of the exhaustive and far-reaching experiments which have been carried out in the Malay States for the purpose of making clear the causation, means of spread, and possibilities of prevention and treatment of this fatal animal scourge. The observations—made, as they are, independently of the researches which have been, and are being, carried out in India (where the disease was discovered by Evans, after whom the causal trypanosome is named)—are valuable as confirming and extending our knowledge of the disease.

The experiments recorded have been carried out intelligently and clearly demonstrate that the causal organism is the trypanosoma Evansi and that it is indistinguishable in morphology and pathology in horses, cattle, and dogs, the only differences being in regard to virulence. It is equally clear that the biting flies which are responsible for its transmission from animal to animal belong to the genus Tabanus, the existence of which flies is dependent on the presence of jungle; hence there is a much lower percentage of cases in the towns. A most important problem still, however, remains unsolved, and that is as to whether the trypanosome passes one part of its life-cycle in the fly, and experiments conducted to elucidate this proved inconclusive. It was, however, shown that trypanosomes are not to be found in the intestinal tract of the infected fly after 24 hours.

Observations have been made on naturally infected horses, oxen, and dogs, and on cases which have been infected experimentally, the subjects for these latter being chosen to demonstrate the course of the disease in animals of various ages and condition. Animals in good condition and others in poor condition have been infected and the result in all cases has been the same provided the quantity of material used was similar. The most certain method of transmission was subcutaneous inoculation with infected fresh blood, but it has also been shown that a mere scratch with an infected needle is sufficient to set up the disease. It has been found a difficult and often disappointing task to effect the transmission of the trypanosome by the natural means—namely, the Tabanus. The course of the disease and the ailments met with in general practice. The proceedings terminated with the toast of "The Society of Apothecaries," proposed by the Lord Mayor, to which the Master replied in suitable terms. In spite of the somewhat crowded state of the charming old hall the occasion was a most enjoyable one and a good programme of music provided further for the entertainment of the guests.

THE PRODUCTION OF ALKALI BY THE BACILLUS PESTIS.[1]

THE latest addition to the very valuable series of Memoirs by Officers of the Medical and Sanitary Departments of the Government of India is concerned with the property possessed by the bacillus pestis of producing alkali when growing in broth. The author, Lieutenant-Colonel W. B. Bannerman, I.M.S., shows that the arrest of growth which occurs in plague cultures after a month or six weeks is not due to exhaustion of the medium, still less to the production of acid, but to this constant development of alkali by the bacillus. The amount of alkali produced is equivalent to 1·5 to 2·5 per cent. of normal sodium hydroxide, and this quantity which is reached in from six weeks to two months causes arrest of growth but not death of the bacillus. Neutralisation of the alkali is followed by fresh growth. An interesting sidelight on the unexpected connexion between science and religion is afforded by the fact that as artificial peptone may not be employed in the manufacture of the cultivating medium lest the religious prejudices of certain sections of the Indian community should be offended, it has been necessary to devise a method of preparing broth by digestion of meat in dilute hydrochloric acid which avoids this difficulty. The broth as made according to this method, devised by Dr. F. Maitland Gibson, appears to be very suitable for the growth of bacillus pestis.

A NEW MICRO-ORGANISM CAUSING DISEASE IN THE CAT.

FOR some years past an epidemic has occurred during the winter among the cats in the domain of La Gastine (Eure). During February of this year the body of a cat which had died from this disease was sent to the laboratory of M. Danysz, owing to the fact that the proprietor of the domain had employed the Danysz cocco-bacillus for the destruction of rats, and he supposed that the epidemic among the cats might be derived from this source. The disease was investigated by M. M. Z. Skrzynski, who found that it was due to a hitherto undescribed organism belonging to the group of the colon bacillus. It proved to be entirely different from the Danysz bacillus, since it was pathogenic for the cat but practically harmless to rats and mice. His results are described in detail in the August number of the *Annales de l'Institut Pasteur*, and they constitute an interesting addition to the pathogenic members of the colon group of organisms. The organisms have the form of rods with rounded ends but also occur in ovoid forms. They never form filaments. They can be distinguished from typical colon bacilli by the fact that they are immobile in all media and under all conditions of culture, by the appearance of the cultures on agar, and by the fact that they do not cause fermentation of the cane-sugar in a medium containing agar and sugar. The organism is readily stained by the ordinary aniline stains but does not retain the stain in Gram's method. It does not form spores or possess a capsule. It grows well on all ordinary culture media between the temperature limits of 12° and 46° C., with an optimum at 37° C. The cultures on certain media acquire a fœtid odour like that of bacillus coli after two or three days' growth. The organism grows with great rapidity in bouillon which becomes turbid two or three hours after inoculation. It does not liquefy gelatin. On agar the culture becomes apparent after from four to six hours. The colonies are shiny and moist, with regular margins slightly raised in the form of a cone, with a central white point. In a culture of several days' growth long crystals become visible, evidently due to the precipitation of phosphates. The investigation of its bio-chemical properties shows that it has no appreciable action on protein substances but that it produces indol. It also produces reducing substances but its power in this direction is from 10 to 12 times less than that of the bacillus coli. Experiments showed that this organism produced fatal disease in cats but that immunity could be produced either by inoculation with attenuated cultures or by preparing a specific serum.

JUSTICES AND DIRTY MILK.

ALTHOUGH two samples of milk taken at Eastbourne recently were each found by the analyst to contain a trace of pus and blood, the prosecuting authority met with failure when the cases came before the justices. The milk was genuine and free from preservatives, but, in view of the discoveries made, it was thought necessary in the interests of the public health that proceedings should be taken. In the case that was taken first objection was raised to the certificate of the analyst on the ground (1) that it was too vague; and (2) that the analyst did not certify whether any change had taken place in the milk. The justices upheld the latter objection and the case was dismissed, the presiding magistrate remarking that he thought "trace" was also too vague. In view of this result the prosecuting solicitor did not proceed with the second case. The decision of the justices is rather surprising, and not the less so seeing that it is said that immediately after hearing the case referred to they fined a dairyman for selling weak milk. Weak milk would be far preferable to milk containing pus and blood, no matter how infinitesimal the quantity might be. However, it is to be hoped that the sanitary authority concerned will cause a thorough inspection to be made of the two farms which supplied the milk from which these samples were taken, and, so far as the present laws will permit, will call upon the farmers to remedy any evils that may be found to exist.

DANGEROUS PERFORMANCES.

WE have had occasion from time to time to record serious accidents to performers of foolhardy feats at public shows, accidents which in more than one instance have had a fatal ending. In August last, for instance, we called attention to the fate of an unfortunate lion-tamer's assistant who was mauled to death at a Gloucester theatre by one of his dangerous charges. Accidents of a similar nature have happened in the past to high-wire walkers, chariot drivers, acrobats, "parachutists," and others, who daily take their lives in their hands to gain the means of living. The most unfortunate of these episodes which is within our recollection happened at a London music hall on the night of Nov. 23rd in the course of a "fancy shooting turn" by a performer described as "Clementine—Lady Expert, Queen of Firearms." One of her feats was based on the well-known William Tell act, in which the performer discharges a rifle at a ball poised above an assistant's head. In most of such performances, we understand, the end is attained by some sort bring the present edition into complete line with the elegances and refinements of modern pharmaceutical attainments. Needless to say, the record of this pharmaceutical progress faithfully described in the pages has necessitated the practical rewriting of the work. The following figures serve to show the growth of the "Companion" since it was first introduced. In 1864 the "Companion" contained 220 pages; in 1874, 458 pages; in 1886, 562 pages; in 1890, 660 pages; in 1894, 733 pages; in 1899, 882 pages; and the present edition no less than 1459 pages. While, therefore, there was a steady addition of about 100 pages in the succeeding editions up to 1899 the number of pages added to that edition and now contained in the present edition is nearly 600. It may be said, therefore, that very nearly half of the text in the new edition has been allocated to new pharmacy, to the advances, that is to say, which have been made in the testing and chemical and physiological standardisation of drugs and chemicals used in medicine, in the elaboration of synthetic remedies, in the presentation of old medicaments in new and more effectual form, and so forth. Further, the new editions of the foreign pharmacopœias, including even the Japanese Pharmacopœia, have received consideration. The publication of the "Companion" was in fact delayed owing to the author's desire to include the more important tests of the French Codex which has only recently been published. In spite of the attention which has thus been given to points on which the modern practitioner and pharmacist will welcome an authority, the "Companion" preserves its old "get-up" and the general arrangement remains the same as before. The special feature which, for example, has rendered the book so convenient as a work of reference in the past is the prominent distinction in type which is drawn between the "official" and "not official" preparations. This plan, to mention one decided advantage, places before the prescriber a complete list of "official" and "not official" preparations given under each substance immediately following the dose, so that he can readily and without further reference ascertain the various forms in which any medicament may be given.

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[1] [illegible] Pestis. By Lieutenant- [illegible] No. 33 (New Series) [illegible] and Sanitary Departments of the Government [illegible] 1908. 12 pp. Price 5 annas (6*d*.).

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A very novel and powerful two-seater is the 12-h.p. Sizaire-Naudin, which, fitted with a wind screen and hood, makes a fast and reliable car for professional use. The front axle is quite original; it is really the front member of the frame, and the steering-head spindles slide through the ends of this forging, and thus each front wheel is free to rise or to fall independently of the other, and a front inverted semi-elliptic spring supports the weight of the chassis. The drive is by a cardan shaft to a live axle and a tube hinged to a cross member of the chassis and fixed to the axle casing takes the torque. The change-speed mechanism is in the axle casing.

The makers of the popular little red "taxies," Messrs. Renault, have a small two-cylinder, 7-9-h.p. car which, if fitted with a different body to the one shown, struck me would make an ideal two-seater, with a Cape-cart hood and a front mica wind screen. It looked just the handy sort of car for the medical man who drives himself.

Messrs. Bentall, who have for years made parts of cars, are now turning out entire cars at their factory near Maldon in Essex. Their exhibit comprised samples of their 11-h.p. two-cylinder and 16-h.p. four-cylinder cars. Unlike in the majority of this year's cars, they have low-tension magneto, which the makers think less complicated than the high-tension. The clutch is of the internal cone type, faced with fibre and runs in oil, and is said to be very soft in action. The rest of the car follows the modern up-to-date lines and seems in every way well built and designed.

The Singer Company of Coventry have a neat little four-cylinder; the engines are 80 by 90 and give 12-14-h.p. Ignition is by coil and accumulator, as well as high-tension magneto. Cooling is by thermo-syphon, the usual water-pump being conspicuous by its absence. The gear-box gives four forward speeds, the direct being on the third, and there certainly seems an advantage in having four instead of three speeds; often, and especially in these small four-cylinders, one comes to a hill which is just too much for the top speed; with only three speeds, the second is too great a drop. With four the third is just what is often needed, and two more gear wheels is not a great addition for this advantage.

The gallery seemed very crowded, especially that part where the tyre dealers are all herded together; no end of people seemed interested in the tyre exhibits, and I should say that their makers must have booked many orders, even though some of the multitude around may have been "dead-heads." Messrs. Harvey, Frost, and Co. showed their "Baby" Car and "Garrage" vulcanisers, which certainly seemed excellent aids to the preservation of the life of a tyre. It is so true with tyres that "a stitch in time saves nine"; a small cut in a cover filled in and vulcanised may prolong the existence of that cover for many a month; ordinary stopping may, of course, stay in, but a proper vulcanised repair is much safer.

Messrs. Rotherham of Coventry had on view a large number of lubricators, oil cups, and grease feeders, components that even careful drivers who do screw up these parts may occasionally lose and which can be more easily matched by these makers than elsewhere. They also make pressure taps, needle valves for carburettors, nipples and unions for water and petrol pipes, as well as trembler blades, for both wipe and make and break commutators.

The chief feature of the accessories shown by Messrs. Brown Brothers is the autoclipse lamp; these lamps produce two distinct sets of rays, one to light the road its full width near the car, the other to project for a long distance. The long distance rays can be cut out when desired without affecting the ordinary light. In traffic by means of a small pedal all excessive glare can be immediately suppressed and when needed the full illuminating power can be resumed. It seemed to me that these lamps supplied a want of the medical motorist, especially in the country, where night trips in non-lighted country lanes may often have to be undertaken. Messrs. Brown also show a useful brake lining "raybestos" which is made of asbestos woven with brass wire and will neither burn nor carbonise in any heat. A good many people still have cars with band brakes that are lined and for these this lining will be found most efficacious; it should be attached by countersunk screws, the ends of which should be well burred over. Some drivers like a musical alarm horn; if so, they will find the Gabriel, also shown on this stand, certainly a musical one. It is worked off the exhaust gases. Occasionally it is needful to alter or replace the radiator of a car, and those who are thinking of so altering their water-cooling apparatus should inspect the manufactures of the Coventry Motor Fittings Company who in addition to the honeycomb radiator have a variety of bonnets, silencers, wings, and oil-tanks on view.

An enormous number of lubricating oils are shown, and in addition most motorists constantly receive circulars about lubricating oils and greases, and what astonishes me is the difference in price. All the makers claim increase of friction-reducing capacity, with diminished carbonising tendency; all also claim that the viscosity is such that at working temperatures they are efficient lubricants, and that their flash-point is so high that they are not liable to volatilise in the cylinder with the production of smoke. Well, medical men can easily roughly test these claims for themselves; all that is needed is the ordinary apparatus, which we all have for estimating sugar in urine, and a thermometer. I think it can be taken that if the flash-point is not far short of 500°, the oil will do for petrol engines. Take a little of the oil, heat in a porcelain dish over a bunsen flame, and stir the oil with a thermometer; occasionally bring a lighted taper near to the heated oil, if there is no blue flame—that is, if it does not flash until the thermometer is near 500°, that oil can pass muster. Another test is to see how long a certain quantity takes to run out of a burette drawn out to a fine point, and to compare the time with that taken by a similar quantity of a known good oil; if there is a great difference at the same temperature, and the oil flashes at much under 400°, reject it, even if it is given to you free of charge. It is cheaper to pay for the lubricant than to be constantly taking off the cylinders to clean away soot, the cause of pre-ignition.

The serisol terminals shown by J. Lacoste and Co. are most useful; they merely push on and contact is made and they can be released as easily. Anyone who has spent a few moments in trying to connect up a lead to a coil terminal, especially when it is underneath, will appreciate not to have to use the box spanner and nuts. These insulated terminals are adapted for coils, plugs, commutators, and accumulators. Coils trembler and non-trembler for one, two, three, and four-cylinder engines are also shown. These are fitted with the lumen trembler, which consists of two blades of different temper rivetted together, but with a space between, so that when the current is passed in the induction circuit the bottom blade is drawn to the core, but the upper one is left in contact for a shade longer and then it descends and the circuit is cut, the induced current accumulating until that time, and so the rapidity of breaks is great and the spark of good quality, and sticking of the trembler rarely occurs.

The British Bariquand and Marre Engine Company show types of their four- and six-cylinder engines. Their fitments show the care and accuracy employed, the exhaust valve lifter with hardened rollers, the perfectly ground crank shafts, and the excellent fit of the pistons. Their automatic carburettor is fitted with a primary air orifice at the side and in the spray chamber are four triangular ports normally shielded by a piston that slides up and down the chamber, so that as the suction increases this auxiliary air-supply is brought into action.

Another engine which is bound to attract attention is the White and Poppe. The crank shafts are of the built-up type and phosphor-bronze bearings are provided between each crank web. The gudgeon pin is a drive fit and a ring is sprung over to prevent any possibility of scoring. Hardened rollers are fitted to the valve lifters. Ignition is by Simms Bosch magneto.

Messrs. Benton and Stone show some excellent lubricators that can be employed either with the exhaust or forced feed type. The glasses are easily removed for cleaning and can be replaced in a few moments, and in addition a small electric glow lamp is fitted that illuminates the drips at the will of the driver.

Another interesting exhibit is that of Messrs. Willans and Robinson, Limited, who show crank shafts of vanadium steel clear and the whole work gives promise of being so important an addition to the literature of syphilis that we look forward with interest to the appearance of the remaining volumes.

Attention. By W. B. PILLSBURY. London: Swan Sonnenschein and Co. 1908. Pp. 346. Price 10*s.* 6*d.*

THIS work forms an elaborate endeavour to bring together in an orderly way the results of different researches, and the theories resulting therefrom, on the subject of the attention. Mr. Pillsbury defines attention, from the standpoint of its conscious characteristics, as an increased clearness and prominence of some one idea, sensation, or object, whether remembered or directly given from the external world, so that for the time it is made to constitute the most important feature of consciousness. This central position of the process in question depends upon two general factors, the present environment on the one side and the entire past history of the individual on the other. Nor is man's experience only composed of the comparatively few events which have brought him into direct contact with nature, but through tradition and books he has summed up within himself the entire experience of the human race. Through heredity also it may be possible to trace some small number of the conditions which have to be taken into consideration in explaining any act of attention back to the acts and surroundings of his predecessors in the course of evolution. The physiological processes which are peculiar to attention are reinforcement or facilitation and inhibition. Reinforcement is defined as increase in the activity of one nerve cell by the action of another cell or cells not in the direct line of transmission, while inhibition is a mutual opposition of two cells in their activity. It seems probable that the anatomical seat of attention is in the frontal lobes. These are not indeed the seat of spontaneous energy but are the association centres that mediate between sensory, and sensory and motor, areas of the cortex. The degenerations of mind are nearly all accompanied by weakened or deranged attention, and in insanity two forms of change may be noted, the general instability that forbids any concentration, as in mania, and the distorted attention that gives rise to fixed ideas, as in paranoia.

Attention is of importance in memory. What is remembered at any moment is dependent upon the objective and subjective setting of that moment. The ease with which an event is recalled is largely due to the interest with which the impression was received in the first place and to the way in which it fitted in with the other elements in consciousness at that period. An impression received in one way at its first entrance may take on an entirely different aspect when it reappears. New interpretations may be given to it, new meanings put upon it, because of the new knowledge which has been received between the times of the first and second entrance. In every way then is memory influenced by attention, and its conditions as a whole are very similar to the conditions of attention.

The author concludes his work with an interesting chapter upon the applications of the theory of the attention to education. The first problem which meets the teacher is how to hold the attention of the pupil, and if this can be satisfactorily accomplished everything else will be comparatively simple. The question is, What is likely to hold the attention of a particular child? The only answer, according to the author, that can be given is in terms of the earlier history of the child. Anything will be interesting that the child knows something about and which is neither too old nor too new, which can in some way be attached to the pupil's earlier experiences and at the same time is new enough not to seem commonplace. Furthermore, the new material must be presented in such a way that the connexions with the older elements shall come out prominently. The first condition for the teacher is to know the child, and this knowledge must be not only statistical but also sympathetic. It must include some knowledge of the home life of the child and, ideally, of his parents also. But to decide what shall be taught to a child in terms of his interests alone is but one side of the question. The aim of education is to mould the child for useful participation in the life of the community, and the test which every scheme proposed must meet is whether it puts the child in possession of those portions of traditional knowledge which shall most thoroughly prepare him for life in the community, and to arrive at this end the attention of the child must be held to all those elements of knowledge which are essential to his individual progress and any influence which can be regarded as the natural determinants of attention must be used.

Mr. Pillsbury's work is an exhaustive one and should be of very considerable interest to those concerned in psychological and educational problems. His subject-matter necessarily consists in the treatment of highly abstract ideas, but he has made judicious use of such elementary positive knowledge of the operations of mind as we possess and has represented his data and theories in a style of much literary merit.

LIBRARY TABLE.

Encyclopædia of Local Government Board Requirements and Practice. Being an Encyclopædia of the Requirements and Practice of the Local Government Board in connexion with Applications to Them, including a Summary of the Statutory Provisions Governing each Matter dealt with. By A. E. WOOD and T. R. JOHNSON. In two volumes. Vol. I., pp. 452 + 55; Vol. II., pp. 435 + 55; total, pp. 887 + indexes. London: Butterworth and Co. and Shaw and Sons. 1908.—It is only those who are brought officially into contact with the Local Government Board who have any proper conception of the enormous scope of the Board's duties or of the intricate nature of the multitudinous matters with which it deals. Even those, like medical officers of health, clerks to local authorities, members of district councils and of boards of guardians who are in touch with certain aspects of local government find themselves bewildered by the numerous orders, circulars, and explanatory notices which are issued annually by the Board in connexion with new and old statutes and in modification of existing practices and interpretations. It is with a view to reduce chaos to some semblance of order and to facilitate the work of local officials that the two volumes now under review have been written, and although the work cannot, of course, be regarded in any sense as an official publication, it has the merit, for in the circumstances it is a distinct advantage, that the authors are themselves on the clerical staff of the Local Government Board and thus the book is given a certain *cachet* which it might not otherwise possess. The two volumes are together divided into 59 parts, each part dealing with a particular subject, such, by way of example, as arbitrations under the Public Health Act, 1875, boarding out of pauper children, borrowing, burial grounds, commons and open spaces, emigration, housing of the working classes, provisional orders, sea defences, telephonic systems, workhouses, water-supply, and, in fact, all matters concerned with local government. Each part deals with every aspect of the subject and indicates the procedure which should be adopted to conform with the statutes and with the practice of the Local Government Board; it comprises also the Parliamentary papers relating to each subject. The whole is well got up and capitally arranged and the volumes possess in addition the great advantage of lightness in weight. The authors have, we think, succeeded

One possible source of the disease which fell under suspicion was certain bales of rags brought round from Newcastle, the time of the arrival of the rags coinciding with the average period of incubation of plague, and there are good reasons to think that the mate may in some way have come in contact with them. The rags in question, however, had been dealt with in Liverpool and no one who handled them was any the worse for it. Moreover, as soon as they were unpacked they were dealt with in a carboniser, a process subjecting them to a high temperature and the intense fumes of hydrochloric acid. All hands at the mills remain well. The source of origin of the first case, therefore, is extremely obscure but the origin of the two other cases is abundantly evident, these persons having obviously been infected on the barge. There is very little reason to apprehend that anything further will arise in connexion with this particular outbreak and it seems hardly necessary to say that the main importance of the incidents arises not from any effect upon the public health which may ensue but from the great commercial injury which may be done to the port unless every care and discretion are exercised.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE twenty-third annual meeting of the Fellows and Members of the Royal College of Surgeons of England was held at the College on Nov. 19th. Mr. HENRY MORRIS, the PRESIDENT, was in the chair and 15 other members of Council were present. The meeting was large and it included 13 Fellows in addition to the Council and 115 Members.

The proceedings were commenced by the PRESIDENT presenting to the meeting the annual report of the Council of the College on the work of the College for the past academical year; it contained references to many matters of interest, and especially it included replies to, and comments on, the resolutions carried at the 1907 meeting of Fellows and Members. The President proceeded to mention most of the items in the report, commenting on them as he came to each. One of the more important matters transacted during the year was the poll of the Fellows and Members on the question of the admission of women to the examinations of the College.

Dr. WALTER SMITH then introduced the first item on the agenda. He asked, "How many diplomas of deceased Fellows, Members, and Licentiates who have died during the past year have been returned to the College and what steps, if any, have been taken to insure they be returned or improper use be not made of them?" Dr. Walter Smith stated that to his knowledge many diplomas of deceased Members of the College were being employed fraudulently and he thought that the Council should endeavour to obtain the return of the diplomas of deceased Members by applying to the relatives, and he was anxious to know if the Council was taking any steps to prevent the misuse of these diplomas.

In reply the PRESIDENT stated that he had heard of a few cases where the diplomas of deceased Members of the College had been used by unqualified persons, but he had no knowledge of the fact as stated by Dr. Walter Smith that the practice was at all common. As to the question if any action was being taken by the Council to insure the return of disused diplomas, he informed the meeting that every diploma of the College had attached to it a slip of paper on which was a request that the diploma might be returned at the death of the Member and the Council hoped that this would be productive of good. In reply to further questions the PRESIDENT stated that this practice of attaching the slip to each diploma had been in use only about a year and that during the past year only one diploma had been returned on the death of a Member.

The President was asked if any steps were being taken in reference to the proposed coöperation between the two Royal Colleges and the University of London, and if the holders of the present Conjoint diplomas would be entitled to the degrees of M.B. and B.S. In reply, the PRESIDENT stated that negotiations were proceeding and that if they arrived at any arrangement the future holders of the diplomas of M.R.C.S. and L.R.C.P. would also have the degrees of M.B. and B.S., but the arrangement would not be retrospective.

The PRESIDENT then called upon Mr. JOSEPH SMITH to introduce the first motion which was in these terms:—

> That this meeting thanks the Council for having for the first time in its history taken a poll of the Members of the College but regrets that the Council found itself unable to abide by the result. This meeting also trusts that the Council will shortly take a further poll of the Fellows and Members on the question of Direct Representation of Members as requested by the last annual meeting.

Mr. Joseph Smith thanked the Council for its action in taking a poll of the Members, and also for relieving the Members of all responsibility in regard to the admission of women to the examinations of the College, for, as the Council had acted in direct opposition to the votes of the majority, the Council alone was responsible. He hoped that that was only the beginning of polls of the Members; one common argument put forward against polling the Members was the great cost; but the expense was not very great, for it had cost only about £110. In regard to the second part of the motion he claimed that the Council, though composed of good surgeons, could not be in touch with the general practitioners. For 23 years this motion had been brought forward and carried every year by enormous majorities or unanimously but the Council had not taken any action in the matter. He was as anxious as anyone could be to put an end to this internal dispute in the College, and the dispute could be ended at once by admitting a certain number of Members on to the Council. Four Members on the Council or even eight Members would always be a small minority, and therefore they could never in the least degree control the action of the Council, but if Members were on the Council they could give valuable information as to the feelings and wishes of the general practitioners of the country; for instance, the action of the Council in the matter of the Midwives Bill was in opposition to the wishes of the great majority of general practitioners. He hoped that before long this small boon would be granted to the Members and when that had been *done*, and the Members were represented on the Council, then the President would indeed be the President of the College as a whole and not of the Fellows only.

Dr. SIDNEY C. LAWRENCE seconded the motion. He remarked that he thanked the Council for taking the poll and especially for showing how to take an incomplete and inaccurate poll. More than 3000 Members had received no card at all and 37 per cent. had received two cards apiece. He could not understand why 92 votes should be rejected merely because of a few added words. The Council had absolutely contemned the majority of 703 Members, and it had in effect said that it cared nothing for the opinions of the Members. The Council appeared to have forgotten that in 1895, at the annual meeting of Fellows and Members, a proposal to admit women to the examinations of the College was rejected by a large majority. The Council on that occasion acquiesced in the opinion of the meeting, but in this year the opinion of the Fellows and Members was asked and then rejected. As to the question of the representation of Members on the Council, when the Council took a poll of the Fellows, a large proportion of the Fellows voted for the representation of the Members. There were many reasons why the Members should be represented on the Council. First, there were many questions affecting the Members only, and these could be adequately dealt with only by Members; secondly, questions affecting general practitioners could not be understood by consultants; and thirdly, if there were Members on the Council they would serve as a channel of communication between the Council and the Members. The appointment of general practitioners on the General Medical Council had not revolutionised the business of that Council.

Dr. MICHAEL BEVERLEY moved an amendment to omit the words, "but regrets that the Council found itself unable to abide by the result." He considered that the College of Surgeons had done justice to a large body of women in admitting them to the examinations of the College. Medical women had been admitted into the British Medical Association and no harm had resulted. No harm could result from their admission to the College. He failed to see why Members should take exception to the admission of women.

Dr. D. A. HAYDEN seconded the amendment.

Mr. F. W. COLLINGWOOD expressed his agreement with the admission of women but that was not the question; the real point in the motion was whether the Council should or should not have gone in opposition to the vote of the Members.

clear and the whole work gives promise of being so important an addition to the literature of syphilis that we look forward with interest to the appearance of the remaining volumes.

Attention. By W. B. PILLSBURY. London: Swan Sonnenschein and Co. 1908. Pp. 346. Price 10s. 6d.

THIS work forms an elaborate endeavour to bring together in an orderly way the results of different researches, and the theories resulting therefrom, on the subject of the attention. Mr. Pillsbury defines attention, from the standpoint of its conscious characteristics, as an increased clearness and prominence of some one idea, sensation, or object, whether remembered or directly given from the external world, so that for the time it is made to constitute the most important feature of consciousness. This central position of the process in question depends upon two general factors, the present environment on the one side and the entire past history of the individual on the other. Nor is man's experience only composed of the comparatively few events which have brought him into direct contact with nature, but through tradition and books he has summed up within himself the entire experience of the human race. Through heredity also it may be possible to trace some small number of the conditions which have to be taken into consideration in explaining any act of attention back to the acts and surroundings of his predecessors in the course of evolution. The physiological processes which are peculiar to attention are reinforcement or facilitation and inhibition. Reinforcement is defined as increase in the activity of one nerve cell by the action of another cell or cells not in the direct line of transmission, while inhibition is a mutual opposition of two cells in their activity. It seems probable that the anatomical seat of attention is in the frontal lobes. These are not indeed the seat of spontaneous energy but are the association centres that mediate between sensory, and sensory and motor, areas of the cortex. The degenerations of mind are nearly all accompanied by weakened or deranged attention, and in insanity two forms of change may be noted, the general instability that forbids any concentration, as in mania, and the distorted attention that gives rise to fixed ideas, as in paranoia.

Attention is of importance in memory. What is remembered at any moment is dependent upon the objective and subjective setting of that moment. The ease with which an event is recalled is largely due to the interest with which the impression was received in the first place and to the way in which it fitted in with the other elements in consciousness at that period. An impression received in one way at its first entrance may take on an entirely different aspect when it reappears. New interpretations may be given to it, new meanings put upon it, because of the new knowledge which has been received between the times of the first and second entrance. In every way then is memory influenced by attention, and its conditions as a whole are very similar to the conditions of attention.

The author concludes his work with an interesting chapter upon the applications of the theory of the attention to education. The first problem which meets the teacher is how to hold the attention of the pupil, and if this can be satisfactorily accomplished everything else will be comparatively simple. The question is, What is likely to hold the attention of a particular child? The only answer, according to the author, that can be given is in terms of the earlier history of the child. Anything will be interesting that the child knows something about and which is neither too old nor too new, which can in some way be attached to the pupil's earlier experiences and at the same time is new enough not to seem commonplace. Furthermore, the new material must be presented in such a way that the connexions with the older elements shall come out prominently. The first condition for the teacher is to know the child, and this knowledge must be not only statistical but also sympathetic. It must include some knowledge of the home life of the child and, ideally, of his parents also. But to decide what shall be taught to a child in terms of his interests alone is but one side of the question. The aim of education is to mould the child for useful participation in the life of the community, and the test which every scheme proposed must meet is whether it puts the child in possession of those portions of traditional knowledge which shall most thoroughly prepare him for life in the community, and to arrive at this end the attention of the child must be held to all those elements of knowledge which are essential to his individual progress and any influence which can be regarded as the natural determinants of attention must be used.

Mr. Pillsbury's work is an exhaustive one and should be of very considerable interest to those concerned in psychological and educational problems. His subject-matter necessarily consists in the treatment of highly abstract ideas, but he has made judicious use of such elementary positive knowledge of the operations of mind as we possess and has represented his data and theories in a style of much literary merit.

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Professor **BATESON** here pointed out that he had shown a pedigree as an example which did not conform to Mendel's rules.

Professor **PEARSON** said that he was very glad to hear that. With regard to Dr. Latham's paper, Dr. Latham seemed to suppose that a certain degree of immunity was acquired and that that immunity was inherited. He did not understand him to say that in stating that he was accepting the hypothesis of the inheritance of acquired characters. But if that was to be said it was time to make a strong statement that it differed from the whole of the present biological tendency. And if it was true he feared Mendelism of every form collapsed. With regard to the actual problem being discussed, that of inheritance of a constitution, he thought it conceivable that the weakness of the constitution could lie in one particular organ, and therefore when he came to touch the subject of tuberculosis he carefully inquired among men with considerable experience whether it was desirable to club together all forms of tubercle, and the opinion given to him was that it was desirable to keep pulmonary tuberculosis apart from other forms. If that were done, and one said the constitution was inherited, what would be the effect of that? By leaving out the other forms one weakened the intensity of inheritance. To argue that they had been left out only meant that there ought to have been a far higher degree of inheritance than was found. All Dr. Latham's criticisms applied to that: that if the statistics were bad they ought to increase the strength of the inheritance; there should be a spurious value. But every time the statistics were weakened one approached more nearly to the problem of picking up random men in the street and arguing that if they had both got the disease they must be correlated together as father and son. That would bring relationship to zero. A question arose in his own mind whether the points made by Dr. Mercier as to the reduction of the disease were not really due to survival of the fitter. The view would not be very acceptable in that gathering, because the medical man liked to feel that the reduction in the cases was due to his efforts. He (Professor Pearson) was not sure that it was not largely due to the prevalence of tuberculosis in the last few generations. Dr. Mercier said that if there were 50 per cent. when the record was completed of offspring of tuberculous parents, then tuberculosis ought to increase. Why? His own view was that if the population was suitable there would be the same proportion of tuberculous people in the next generation. 50 per cent. of the children of tall parents might be tall, but it did not follow that the whole population was becoming taller. While the fraternities of the tuberculous were very large, averaging 6 and running up to 12 and 15, the offspring of the tuberculous gave a much less number of children. In other words, however late one might be postponing the period at which tuberculosis produced death, the period at which the oncome of the disease occurred was still from 25 to 28 years. He admitted that he appeared to be very dogmatic, but a little dogmatism was a good thing, it stirred people up to think and to inquire, and what was much wanted at the present day was to get a wave of inquiry in the medical profession, that its members would spend time and care, not in asking questions of hospital patients whom they saw only occasionally but in following up cases carefully. The formation of pedigrees was not easy, every pedigree was almost a work of art, and under those conditions it possessed a permanent value. If only one medical man in ten would once in their life collect two pedigrees, then in the course of the next generation there would be all the material necessary to answer those questions.

Dr. J. **EDWARD SQUIRE** said in regard to heredity in relation to pulmonary tuberculosis that tuberculosis, being the result of a bacterial infection, was not in itself a hereditary disease; it was only the predisposition to suffer from the infection which could be considered in relation to heredity. Undoubtedly there was a susceptibility to tuberculous infection in human beings differing in degree from that of other animals. That racial susceptibility was no doubt passed on by heredity. The point which they had to consider was whether there was in addition a special degree of susceptibility or predisposition affecting certain individuals which was transmitted from tuberculous parents to their offspring. In many diseases common to mankind, such as measles, certain individuals and certain families tended to suffer more than others, not only in the susceptibility to infection, but also in the severity of the resulting illness. That applied to tuberculosis. Was that greater degree of susceptibility a specific inherited peculiarity and was it of sufficient potency to constitute an important etiological factor of the disease? The question was important from the point of view of preventive medicine. No one would be prepared, he took it, at the present time to deny that various causes outside heredity—such as environment, previous illnesses, &c.—influenced the susceptibility of the individual to suffer from infection by the tube bacillus and the relative influence of such conditi required to be determined in each case before it possible to assess the possible influence of heredity. I the investigation of heredity in human beings they w of necessity restricted to statistics based on the exami tion of pedigrees. When one person in every ten w or had been affected with a given condition—and tub culosis was at least as common as that in this country it was hardly safe to infer a special inherited influen because they found instances of the condition in sever generations of any family unless they could show the com parative rarity of the condition in the majority of familie Even when the facts could be accurately ascertained, which i regard to tuberculosis was extremely difficult, only a traine statistician could manipulate them with advantage. Som years ago he published[1] some figures in connexion with heredity in consumption which he would summarise briefly. His statistics—if they might be dignified by that term—possessed all the fallacies which were inherent to investigations of that nature, but such as they were they served a useful purpose. When he published them the belief that consumption was essentially an inherited disease was widely prevalent. As evidence which tended to show that heredity was not all-powerful and that environment was a potent etiological factor they had, he believed, a certain value. Briefly he showed that in 1000 families, comprising 6457 children, whilst 33·16 per cent. of the children of phthisical parents became tuberculous, 23·65 per cent. of the children of non-phthisical parents in a similar rank of life developed the disease—a difference of less than 10 per cent. to represent possible hereditary influence. When the greater risk of infection run by those children who lived with consumptive parents was considered it seemed that the hereditary influence could not be very great. It was true that when both parents were tuberculous the percentage of tuberculous individuals amongst

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[1] Transactions of the Royal Medical and Chirurgical Society, 1894, and American Journal of the Medical Sciences, November, 1897.

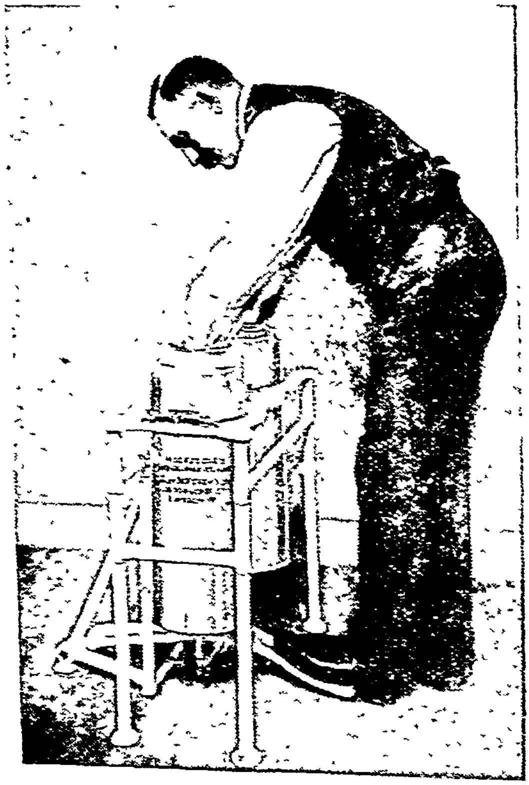
The Medical Chronicle.—The November number contains only one original communication, an article on Post-Anæsthetic Acidosis, or Delayed Chloroform Poisoning, by Mr. Hugh T. Ashby. The author notes that the condition is almost confined to children and may follow the administration of chloroform for quite small operations. He favours the view that the acidosis which occurs is due to the presence of β-oxybutyric and diacetic acids formed from fat existing in the liver, a fatty condition of which organ may be caused by rickets. By way of treatment sodium bicarbonate should be pushed till the urine becomes alkaline.

The Birmingham Medical Review.—In the October issue Dr. T. Stacey Wilson advocates the employment of reverberation—a modified form of auscultatory percussion—for the diagnosis of gastric dilatation and the use of massage for the treatment of atonic states of the stomach. Mr. A. W. Nuthall writes on Acute Pneumococcal Peritonitis, which he regards as due to a general blood-infection, and gives notes of three cases; and Dr. Otto J. Kauffmann records two cases in which a condition was found suggestive of a relationship to status lymphaticus. The characteristic phenomenon of sudden death did not, however, ensue.

New Inventions.

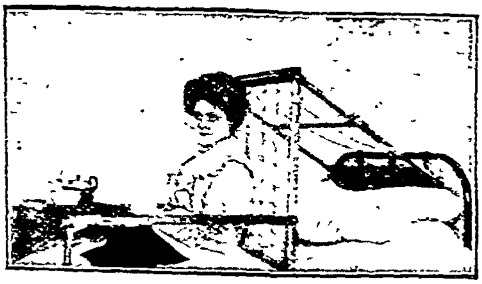
AN "AUTO-GLOVING MACHINE."

WE have recently examined an "Auto-Gloving Machine" manufactured by C. A. Hoefftcke, Limited, 21, Woodstock-street, London, W., after a design suggested by a London surgeon. It is an ingenious contrivance of somewhat formidable appearance, but is made so as to form a quite suitable piece of furniture for an operation-room. Its object is to provide means whereby indiarubber gloves can be put on without being touched on the outer surface by the hands. The apparatus consists essentially of a cylinder which can be partially exhausted by a piston worked by a pedal. At the top of the cylinder is a flanged rim, over which the wrist of the glove is stretched and fixed with the fingers hanging vertically into the cylinder; the glove thus when in this position completely closes the upper aperture, forming, as it were, a dependent diaphragm. When the operator treads on the pedal the air-tight piston is pulled downwards, producing a partial vacuum in the metal tube and the difference in the atmospheric pressure thus produced stretches the gloves to the size of a boxing glove with wide fingers and thus enables the hands to be inserted easily into them. At the same time an automatic catch under the pedal fixes the piston. When the hands are in the gloves, by treading on the pedal air is admitted into the metal tube and the gloves contract upon the hands with a sudden snap. This action also releases the catch and the spring attached to the pedal forces the piston upwards and the air releases the gloves from the upper end of the apparatus. The hands with the gloves applied can then be withdrawn. The appliance, which is made of plated metal, is simple in construction. It can be taken to pieces quite easily and every part sterilised. The gloves are stretched evenly over the whole surface by the minus air pressure, and in consequence there is no danger of the gloves being torn. A pair of gloves can be put on in a few seconds by anyone accustomed to the machine, and the gloves can be either wet or dry. The appliance is made single or double. When using the single-glove machine one glove is put on at a time, and with the double-glove machine both gloves are put on at once.



A COMBINATION BED-REST FOR INVALIDS.

Mr. James Taylor has brought to our notice a new combination bed-rest which he has invented and which has been made for him by Messrs. Braun and Co., 1, Northdown-street, King's Cross. It consists of a light wooden frame, which can be clamped to the back of bedsteads of varying designs. This frame incloses a back-rest made of spring mattress wire which can be inclined at any angle comfortable to the patient. When out of use it rests upright above the back of the bed and it can be swung down into position behind the patient's back without disturbing the pillows. A slight push of the hand suffices to return it to its "off-duty" position, a manœuvre which can be effected by a convalescent patient. A special feature of the device is that the bed-rest is accommodated to the patient and not the patient to the bed-rest. The stability of the back-rest is obtained by a weight consisting of a small water-tank, which is attached to the back of the rest by two cords passing over pulleys fixed to the back of the bed, below which the weight hangs. This device renders the inclination of the back-rest to any desired angle an easy matter. An accessory feature is a tray which folds up over the frame of the back-rest and, as shown in the figure, can be brought down over the patient's head into a convenient position for the service of meals; by the release of a spring it can be tilted to a slight degree to form a sloping desk for reading and writing. The inventor claims for the bed-rest lightness, comfort, and compactness, and after examining it we have formed the opinion that this claim is justified and that it will make a useful accessory for the sick-room.



returned during the week in London and its suburban districts and five in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased in the ten preceding weeks from 2855 to 3861, had declined to 3809 on Saturday, Nov. 21st; the new cases of this disease admitted to these hospitals during the week under notice was 421, against 507, 512, and 500 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the five preceding weeks from 159 to 310, further rose last week to 334, but were 52 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 36, or 0·7 per cent., of the deaths registered during last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 52 other smaller towns; the 36 uncertified causes of death in the 76 towns included, however, 12 in Liverpool, five in Birmingham, three in Sheffield, and two in Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4 and 16·9 per 1000 in the two preceding weeks, further rose to 17·3 in the week ending Nov. 21st. During the first eight weeks of the current quarter the annual death-rate in these eight towns averaged 14·8 per 1000, and exceeded by 0·3 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 10·4 and 14·0 in Paisley and Edinburgh, to 21·0 in Dundee and 22·8 in Leith. The 610 deaths in the eight towns showed a further increase of 13 upon the numbers returned in the two previous weeks, and included 62 which were referred to the principal epidemic diseases, against 55 and 68 in the two preceding weeks; of these 62 deaths, 22 resulted from diarrhœa, 16 from whooping-cough, nine from diphtheria, eight from scarlet fever, five from "fever," and two from measles, but not one small-pox. These 62 deaths were equal to an annual rate of 1·8 per 1000, which exceeded by 0·4 the mean rate from the same diseases in the 76 English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 34, 29, and 24 in the three preceding weeks, further declined to 22 in the week under notice, and included 10 in Glasgow, four in Aberdeen, and two each in Edinburgh, Dundee, Leith, and Greenock. The 16 fatal cases of whooping-cough were within one of the number in the previous week; 12 occurred in Glasgow, and two both in Edinburgh and in Aberdeen. The nine deaths from diphtheria, of which six were returned in Glasgow, showed a slight decline from the numbers in recent weeks. The eight fatal cases of scarlet fever corresponded with the number in the previous week, including five in Glasgow and one each in Edinburgh, Dundee, and Leith. The five deaths referred to "fever," of which four were certified as enteric, were all recorded in Glasgow. Two deaths from measles were returned, including one in Glasgow and one in Aberdeen, no death from this disease having been recorded during the three preceding weeks. The deaths referred to diseases of the respiratory organs in the eight towns, which had increased from 56 to 126 in the four preceding weeks, further rose to 136 in the week under notice, and exceeded by 29 the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·1 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·7 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 20·4, 23·8, and 19·3 per 1000 in the three preceding weeks, rose to 24·2 in the week ending Nov. 21st. During the first eight weeks of the current quarter the death-rate in the city averaged 19·4 per 1000, whereas the mean rate during the same period did not exceed 14·5 in London and 13·3 in Edinburgh. The 183 deaths of Dublin residents during the week under notice exceeded the number returned in any week since the middle of May last, and included 21 which were referred to the principal epidemic diseases, against 15 and eight in the two preceding weeks. These 21 deaths were equal to an annual rate of 2·8 per 1000; the rate from these diseases in the same week did not exceed 1·1 in London and 0·7 in Edinburgh. Of the 21 deaths from these epidemic diseases in Dublin last week, eight resulted from measles, four from "fever," four from whooping-cough, four from diarrhœa, and one from diphtheria, but not one either from scarlet fever or small-pox. The eight fatal cases of measles showed a marked increase upon the numbers returned in recent weeks; and those referred to "fever" and whooping-cough also showed some increase. The 183 deaths from all causes during the week included 32 of infants under one year of age and 46 of persons aged upwards of 60 years; both these numbers showed an increase upon those returned in the previous week. Four inquest cases and two deaths from violence were registered, and 59, or 32·3 per cent., of the deaths occurred in public institutions. The causes of three, or 1·6 per cent., of the deaths in Dublin last week were not certified; the proportion of uncertified causes of death in Edinburgh last week was equal to 3·3 per cent., while in London the cause of each of the 1357 deaths was duly certified.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 9·2 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 6·5, 6·3, and 8·6 per 1000 respectively. The lowest rates last month were recorded in Hammersmith, Chelsea, Hampstead, Holborn, and the City of London; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Deptford. Scarlet fever was rather less prevalent than in other recent months; among the several metropolitan boroughs the greatest proportional prevalence of this disease occurred in Paddington, Shoreditch, Bethnal Green, Stepney, Poplar, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 2693, 2807, and 3431 at the end of the three preceding months, had further risen to 3776 at the end of October; the weekly admissions averaged 493, against 372, 365, and 506 in the three preceding months. The prevalence of diphtheria showed a marked increase last month; this disease was proportionally most prevalent in Fulham, Chelsea, Bethnal Green, Bermondsey, Battersea, Greenwich, and Lewisham. The Metropolitan Asylums Hospitals contained 1118 diphtheria patients at the end of last month, against 738, 843, and 953 at the end of the three preceding months; the weekly admissions averaged 158, against 100, 110, and 128 in the three preceding months. Enteric fever also was much more prevalent than in other recent months; the greatest proportional prevalence of this disease was recorded in the City of London, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. There were 145 enteric fever patients under treatment at the end of last month, against 54, 69, and 95 at the end of the three preceding months; the weekly admissions averaged 24, against nine, 12, and 18 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Shoreditch, Bethnal Green, Stepney, Bermondsey, Deptford, and Greenwich. The 25 cases of puerperal fever notified during the month included four belonging to Bermondsey, three to Hackney, three to Poplar, two to Paddington, and two to Kensington. Of the eight cases notified as cerebro-spinal meningitis two belonged to Islington, and one each to Westminster, St. Marylebone, and Wandsworth.

table relate to the deaths of
various boroughs, the deaths
occurring in institutions having been distributed among the

however, were enormous—namely, from 40 to 70 grains. Of the other worthies commemorated by Professor OSLER we have no space to speak here but the biographies show that in all ages the earnest student will come to the front, that with all their imperfections and their limitations of knowledge the men of olden days made valuable contributions to medical science, and to one who reads their writings it will be apparent that they cherished high ideals.

BASSETT in one of his papers has left a striking passage upon the study of medicine. He compares it to the study of a foreign language, which he says no one can be said really to know until he can talk with and understand all classes. He proceeds: "Let him then sit down and calculate the cost in time, labour, and talent; then square the amount and go boldly into the study of physiology; and when he has exhausted his programme, he will find himself humbly knocking at the door of the temple and it will be opened; for diligence, like the vinegar of HANNIBAL, will make a way through frozen Alps; it is the open sesame of our profession. When he is satisfied with the beautiful proportions of the interior, its vast and varied dimensions, the intricate and astounding action of its machinery, obeying laws of a singular stability, whose very conflict produces harmony under the government of secondary laws—if there be anything secondary in nature!—when he is satisfied (and such are not satisfied until informed), he will be led to his ultimate object, to take his last lessons from the poor and suffering, the fevered and the phrenzied, from the JOBS and LAZARUSES—into the poorest houses and prisons, and here in these magazines of misery and contagion, these Babels of disease and sin, he must not only take up his abode, but following the example of his Divine Master, he must love to dwell *there*;—*this is Pathology*. When such an one re-enters the world he is a physician; his vast labours have not only taught him how little he knows, but that he knows this little well. Conscious of this virtue, he feels no necessity of trumpeting his professional acquirements abroad, but with becoming modesty and true dignity, which constitute genuine professional pride, he leaves this to the good sense of his fellow citizens to discover." In this fiftieth year of the General Medical Council it is well that we members of the medical profession should be reminded of these modest and high-souled words spoken by one of our kin across the seas. The stress of modern life, of competition, and the struggle for daily bread are only too prone to beget a spirit of "pushfulness" and of each man for himself, which spirit may lead to anarchy and a lowering of ideals. If, then, we have more knowledge than our fathers, let us use it no less well than they did—such as they had.

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Weather Forecasts.

ALTHOUGH the uncertainty of the weather is a matter of daily experience there are meteorologists who devote their energies to the task of predicting it and in a fair proportion of cases their anticipations are justified by the event. Some of these forecasts are made for short periods of only a few days in advance by the comparison of numerous barometric observations telegraphed to a central station, whilst others extending over long periods of many months are based on inferences drawn from arbitrary cycles which are presumed to present certain features of recurrence. Medical men might well be interested in both forecasts alike, but as a matter of fact it is generally the short prophecy which has the greater significance for them, as possibly influencing their daily work, and it is the short prophecy dealing with very local conditions which is so frequently misleading.

A number of questions bearing on this subject were discussed at the Royal United Service Institution in Whitehall on Nov. 18th, when Colonel H. E. RAWSON, C.B., R.E., read a paper entitled "A New Principle in Weather Forecasting and its Importance in Naval and Military Operations." Commencing with an allusion to the lack of interest in forecasting shown by the higher authorities of the services, he proceeded to explain the seven principal weather types—namely, anticyclone, wedge, cyclone, V-depression, secondary cyclone, col, and straight isobars. All these terms, it may be here remarked, have reference to the curvature and distribution of the isobars or lines of equal barometric pressure as plotted on a weather chart. He then showed lantern pictures of the earth's surface on Mercator's projection exhibiting areas of high pressure and low pressure during the months of January and July. In the former map (i.e., during winter in the northern hemisphere) there was round the globe in the northern hemisphere a belt of high pressure or so-called permanent anticyclones, which might be subdivided into the Siberian, the Atlantic, the North American, and the Pacific systems; whereas in the southern hemisphere the belt was not continuous but there were three systems of permanent anticyclones lying over the Pacific, the Atlantic, and the Indian oceans. In the map for July (i.e., during winter in the southern hemisphere) there was a very different pressure-distribution. The Siberian and North American systems of high pressure in January were now replaced by areas of low pressure, whereas in the southern hemisphere the anticyclonic belt was now continuous and action-centres (centres of maximum pressure) were found over the land in South America, South Africa, and Australia, as well as over the oceans. The action-centre which lay off the coast of Australia in January had now disappeared.

In 1898 it was pointed out by Colonel RAWSON that when the main or permanent systems ceased to be found in their January or July positions they did not dissipate or become "reversed" as was commonly supposed, but they moved away to reappear over another locality at no great distance from the previous one. Such movements were not continuous but could be described as progressive in character, and, generally speaking, they were in one direction in the early months of the year and in the opposite direction in the later months. In setting forth his views as to the seasonal movements of the belts of high pressure Colonel RAWSON took his illustrations chiefly from the anticyclonic belt of the southern hemisphere, the phenomena of which have been recorded in a large number of isobaric charts from the year 1855 onwards. Not only was each system found further south in summer than in winter, which was the natural consequence of the migration of the belt as a whole, but several boroughs in which the deceased persons had previously resided. During the five weeks ending Oct. 31st the deaths of 5659 persons belonging to London were registered, equal to an annual rate of 12·3 per 1000; in the three preceding months the rates had been 10·3, 12·9, and 12·8 per 1000. The rates of mortality in the several boroughs ranged last month from 8·8 in Hampstead, 9·2 in Lewisham, 9·4 in the City of Westminster, 9·6 in Woolwich, 9·8 in Paddington, and 10·3 in Wandsworth, to 14·8 in Southwark, 15·8 in Bethnal Green and in Stepney, 16·2 in Shoreditch, 18·8 in Finsbury, and 19·6 in Bermondsey. The 5659 deaths from all causes included 586 which were referred to the principal infectious diseases; of these, 63 resulted from measles, 46 from scarlet fever, 53 from diphtheria, 34 from whooping-cough, 37 from enteric fever, and 353 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Westminster, Hampstead, St. Pancras, Holborn, and Camberwell; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Bermondsey, and Lewisham. The 63 fatal cases of measles showed a decline of 18 from the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Chelsea, St. Marylebone, Finsbury, Bethnal Green, Stepney, and Bermondsey. The 46 deaths from scarlet fever were 20 fewer than the corrected average; the greatest proportional mortality from this disease was recorded in Kensington, Hammersmith, Bethnal Green, Stepney, Poplar, and Lewisham. The 53 fatal cases of diphtheria were 15 below the average for the corresponding period of the five preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, Chelsea, Islington, Finsbury, Hackney, Shoreditch, and Bethnal Green. The 34 deaths from whooping-cough were equal to only one-half of the corrected average number; the highest death-rates last month from this disease were recorded in Kensington, Chelsea, Finsbury, Shoreditch, and Deptford. The 37 fatal cases of enteric fever were 11 below the corrected average number; of these 37 deaths, five belonged to Bermondsey, four to Islington, and three each to Finsbury, Shoreditch, and Camberwell. The 353 deaths from diarrhœa were eight above the average number in the corresponding period of the five preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Bermondsey, Deptford, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 10 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 124 per 1000. No death at this age occurred in the City of London; among the boroughs the lowest rates of infant mortality were recorded in Westminster, St. Marylebone, Hampstead, Stoke Newington, Lambeth, and Woolwich; and the highest rates in Paddington, Kensington, Hammersmith, Shoreditch, Bermondsey, and Greenwich.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet, viz.:—Percival Marshall May, Christopher Louis White Bunton, Frederick Davidson Lumley, Edward Thomas Meagher, Henry Edward Tomlinson, Arthur Sydney Gordon Bell (dated Nov. 15th, 1908).

The following appointments are notified:—*Fleet-Surgeons*: E. A. Shaw to the *Queen*, on recommissioning; P. V. Jackson to the *Lord Nelson*, on recommissioning; and G. T. Broatch for R.N. Hospital, Yarmouth. *Staff-Surgeons*: S. H. Facey to the *Actæon*, temporarily; G. Gibson to the *Sapphire*; P. K. Nix to the *Cornwall*; and J. Mowab to the *Triumph*, on recommissioning. Surgeons: S. Bradbury to the *Queen*, on recommissioning; E. L. Atkinson lent to Haslar Hospital for special duties, temporarily; A. T. Rivers to the *Lord Nelson*, on recommissioning; H. Cooper to the *Vivid*, additional for Pembroke Dockyard; P. B. Egan to the *Pembroke*, additional, for disposal; H. G. T. Major to the *Spanker*, on recommissioning; P. M. Rivaz to the *Vivid*, additional, for disposal, and to the *Triumph*; and F. M. V. Smith to the *Vivid*. Fleet Paymaster: C. F. Petch to the *Triumph*, on recommissioning.

RESERVE OF OFFICERS.

The undermentioned officers, from the late Royal Army Medical Corps (Militia), having assented to be transferred, are appointed officers of the Reserve of Officers, with effect from Sept. 20th, 1908, retaining the rank and seniority which they held in the Militia:—Captains: Herbert E. Dalby, Samuel T. Beggs, Lieutenant Daniel V. M. Adams.

Militia.—The undermentioned officers, having assented to be transferred, are appointed officers of the Special Reserve of Officers from the dates stated, retaining the rank and seniority which they held while in the Militia:—From the late Royal Army Medical Corps (Militia) (dated Sept. 20th, 1908):—Majors: Harold E. Mortis and William K. Steele. Captains: Jonathan Clerke, John H. P. Graham, Ernest U. Bartholomew, Honorary Major William V. Sinclair, Stuart G. McAllum, James C. Furness, Samuel M. Sloan, and Frederick E. Bissell. Lieutenants: James C. McCarroll, Denis Murphy, Robert A. O'Donovan, Robert J. Stirling, and Wilson Ranson.

The undermentioned officers resign their commissions (dated Sept. 20th, 1908): Captain Hewett J. L. Bullen, Lieutenant Herbert H. B. Cunningham, and Lieutenant Patrick J. Carroll.

TERRITORIAL FORCE.

Yeomanry.

North Somerset: Surgeon-Lieutenant John Empson, from the North Somerset Imperial Yeomanry, to be Surgeon-Lieutenant, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Honourable Artillery Company.

Infantry: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Walter Culver James, from the Honourable Artillery Company of London, to be Surgeon-Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Honourable Artillery Company of London (dated April 1st, 1908).

Royal Field Artillery.

2nd East Anglian Brigade: Surgeon-Captain George Alexander Troup, from the 1st Essex Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 3rd East Anglian (Howitzer) Brigade: Surgeon-Lieutenant Richard Wilson Mullock. from the 1st Norfolk Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Bedfordshire: Surgeon-Captain Henry Skelding, from the Bedfordshire Imperial Yeomanry, to be Surgeon-Captain, with precedence as in the Imperial Yeomanry (dated April 1st, 1908). Essex: Surgeon-Lieutenant Charles Gordon Roberts, from the Essex Imperial Yeomanry, to be Surgeon-Lieutenant, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Garrison Artillery.

Essex and Suffolk: Surgeon-Captain Charles Forsyth, from the 1st Essex Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Infantry.

5th Battalion, The Devonshire Regiment: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel William Henry Webb, from the 5th (The Hay Tor) Volunteer Battalion, to be Surgeon-Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Major Ernest Paul Alphonse Mariette, from the 2nd (Prince of Wales's) Volunteer Battalion, to be Surgeon-Major, with precedence as in the Volunteer Force (to be supernumerary) (dated April 1st, 1908). Surgeon-Lieutenant Walter Chapman, from the 5th (The Hay Tor) Volunteer Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). The Hertfordshire Battalion, The Bedfordshire Regiment: Surgeon-Lieutenant John Alfred Kite, from the 1st (Hertfordshire) Volunteer of the subject but on a knowledge of a part of its nomenclature. It may be urged that the nomenclature is a part of the subject; that is true, but it is surely the least important part. Examiners should always discriminate between a knowledge of names and a knowledge of things. The two are very commonly confused in the teaching of elementary science. A third fault to be found in examination papers is the insertion of questions which need for their answer a knowledge of very recent researches. It is not very difficult for an examiner to keep *au courant* with the most recent advances, but it is too much to expect that a candidate should know all about some recent investigations or methods which have not yet appeared in any English text-book. Some examiners are specially prone to err in this direction.

It is, however, in the *vivâ voce* examination that the difference between good and bad examiners shows itself most clearly. Some men are born good examiners; they have a natural aptitude for the work but training also counts for much. We may parody BEN JONSON'S line and say "a good examiner is made as well as born." A good examiner improves as the years go by, and even a bad examiner may not be so bad at the end of his term of office as he was at the beginning. As a rule, an examiner gets his first work in examining while he is acting as a demonstrator and his knowledge of the work steadily increases with practice. The faults usually manifested by the examiner in a *vivâ voce* examination are these. An unskilled examiner is inclined to have an exaggerated idea of the knowledge which a candidate should possess but time usually cures that. But he should always bear in mind that what appears simple and obvious to him may be obscure and difficult to a candidate. He must also remember that the average candidate is more or less nervous. There are a few candidates who are unaffected by the severest examinational ordeal but the average candidate is in an uncomfortable frame of mind. It may be said that it is lack of knowledge that makes a candidate nervous; but it is not so necessarily, though doubtless the knowledge of the existence of numerous holes in his armour may tend to daunt the candidate, but even apart from this the mere fact of being examined has a very disturbing effect. This nervousness tends to drive all his knowledge from the candidate's mind. A good examiner will endeavour by simple and easy questions to set a candidate at ease. It is said that the late Sir GEORGE HUMPHRY, when he was examining in anatomy and he saw that the candidate was nervous, would always ask the candidate the structures passing behind the internal malleolus. There is probably no medical student who could not answer this question by the time that his anatomy examination arrives, especially as a well-known mnemonic exists to assist the memory. When the candidate finds that he has answered correctly he regains confidence and his memory returns to him. In this way a good examiner is enabled to estimate fairly rapidly whether the candidate has a good knowledge of his subject or not. It has been well said that examiners are divisible into those who try to find out what a candidate knows and those who try to find out what a candidate does not know. The distinction is very real. A good examiner endeavours to find a part of the subject which the candidate knows; if his first questions do not meet with accurate replies he changes the subject and ultimately he finds some portion with which the student is familiar. The bad examiner acts in an exactly opposite way. If the candidate appears to know the subject first started he leaves it immediately and tries another until he finds one about which the candidate knows little and at that subject he remains fixed until the appalling ignorance of the candidate is manifest. With the former examiner the candidate will give of his best, poor though that best may be; with an examiner of the latter kind the candidate never does himself justice. He does not receive credit for the knowledge which he really does possess. A man may fail at a *vivâ voce* examination with one examiner but pass with another, and yet the standard of the second may be as high as that of the first. Even the tone of voice used by the examiner or the mode of asking the questions may make a great difference to the candidate. Many have pleasant recollections of long-past *vivâ voce* examinations where a sympathetic and careful examiner drew their knowledge from them. Some examiners endeavour to hide from the student any expression of approval or disapproval and some even endeavour to lead a candidate along a wrong path. This is hardly justifiable, and, indeed, we think a candidate has a certain amount of right to know that he has answered correctly. It is useless to attempt to disguise the fact that there are bad examiners. Everyone will agree that there are lecturers who are quite unsuited to be lecturers, though they may be learned physicians or skilful surgeons. In the same way even eminent members of the profession may be quite unsuited to be examiners. Examinations are by no means perfect and though as a whole the results are reasonable, yet lecturers and "coaches" know well the uncertainty of examinations and that the race is not always to the swift.

Can anything be done to do away with the evils to which we have referred? First, as to papers. There should undoubtedly be supervision. In some examining bodies the examiners in different subjects criticise each other's papers and in others a special board is appointed the duty of which it is to see that only suitable questions are set. Some method of supervision is essential and the supervisors, whoever they may be, should veto not only questions which they are sure are unsuitable but also any which are in the very least doubtful. As to the *vivâ voce* examination, every candidate should have two examiners at the same time, so that there may be an opportunity for a candidate to retrieve his position if his unfortunate answers have not been due merely to want of knowledge. There is much to be said for the open examination where at the *vivâ voce* examination any member of the University may be present to listen to the questions and answers. It might, it is true, in some cases tend to increase the nervousness of the candidate but it would at least tend to check the faults of some examiners. But we can imagine some irate examiner exclaiming, "Have candidates no faults?" Indeed, they have many and great but these do not form our subject to-day. Candidates are often very trying to an examiner who is endeavouring to do his best by them, and their ignorance is sometimes wonderful, but it is of examiners that we have written to-day. We have endeavoured to show that some of the

Correspondence.

"Audi alteram partem."

VEGETARIANISM AND PHYSIQUE.

To the Editor of THE LANCET.

SIR,—I have read with great interest your annotation on the above subject.[1] I am in complete agreement with its main contention that "vegetarianism is a fallacy," and I would add, often a dangerous fallacy. In upwards of a quarter of a century of dietetic experience I have seen many whose well-intentioned but ignorant endeavours after the impossible have ended in their own destruction. I also agree that the amount of proteid recommended by Chittenden will not be found sufficient if watched over a longer period and with wider experience. I believe, however, that part of the difficulty of the natives of Bengal is poverty; they could take more proteid and would be stronger if they could get it. With the natives of Western Europe the difficulty is of another kind. They have become accustomed to the use of proteid in very concentrated forms—e.g., meat, fish, game, eggs—and are now unable to take enough when it is presented in the more diffused forms.

There are several ways out of this difficulty, but the vegetarians, who in my experience have seriously injured themselves, have for one reason or another not made use of any of them. If they are to remain true vegetarians they practically must take nuts, yet, though numbers in various countries live to a large extent on nuts, those who have been 30 or 40 years on flesh foods have so modified their digestion and injured their digestive organs that nut digestion may be practically impossible. Healthy children and young adults, on the other hand, can digest most nuts, so that for them true vegetarianism is possible. The other way out of their difficulty is to add animal foods, such as milk or cheese (the most concentrated proteid food we have), to make up the necessary albumins. This is done in other parts to a much larger extent than in Western Europe, possibly because the meat-eating habit has here to some extent driven out other albuminous foods.

It is the purin-free dietists who have added these more concentrated foods in sufficient quantity who have furnished the remarkable records of strength and endurance discussed by Professor Irving Fisher,[2] Professor P. Fauvel,[3] and others, records which may be said to have established the practical superiority of a fleshless diet when sufficient proteid is taken. Vegetarianism has been a great thorn in my side in advocating, as I do, a physiological and purin-free diet (vegetarianism is neither of these), because those who have seen the unfortunate results of vegetarian ignorance have not kept in mind the important physiological points in regard to which I differ so completely from them; for "the mixture of those things by speech which by nature are divided is the mother of all error."

I am, Sir, yours faithfully,
ALEXANDER HAIG.
Brook-street, W., Nov. 21st, 1908.

A SERUM TREATMENT OF CARCINOMA IN MICE.

To the Editor of THE LANCET.

SIR,—Dr. Blair Bell says in his letter, published in THE LANCET of Nov. 21st:—"Mainly my complaint was, then, that no reference at all was made by Mr. Walker to the work of others on similar lines ...... and I carefully mentioned in my remarks that there *was* a difference in technique in some of the work, but that there was no *essential* difference." At the meeting of the Liverpool Medical Institution on Oct. 22nd, in reply to Dr. Blair Bell's criticisms, I stated that though familiar with the work of Dr. Borrel, I was unaware of his having done anything similar to my experiments. I dealt chiefly with Dr. Borrel because Dr. Bell represented his work as being most like to my own. As Dr. Bell has thus on two occasions declined to accept my well-considered statement, I took the only step that, under the conditions chosen b him, would make an absolutely conclusive answer possible. I wrote to Dr. Borrel, inclosing a copy of my paper, a asking him whether he had ever done any experiments simil to those I described. Obviously I cannot write to everyo who has worked with mouse cancer. In Dr. Borrel's rep to me, dated from the Pasteur Institute, Nov. 12th, 1908, says: "I have never treated mice by inoculating them wi a serum obtained with the testicles of mice. ...... I tried produce immunity in mice by injecting them with crushe testes; the results were published by Bridré, (they wer negative. But (I have done) nothing resembling the exper ments you describe." I may point out that, as well as th experiments with testis serum, those with tumour seru were described in detail in the paper I sent to Dr. Borrel.

In the *résumé* of his remarks upon my paper, furnished b himself to the secretary of the institution, Dr. Bell empha sised the words "testis serum." He also quoted Dr. Borr as having done experiments similar to the rest of my exper ments. Dr. Bell also quoted Dr. Borrel and others as havin produced immunisation in mice by injecting the cells various tissues, "and hand-in-hand, of course, with this i producing curative effects on these animal growths." Beside the contradiction of this assertion, made by Dr. Borre himself, I may say that the statement contained in m former letter that the sera that had been found to produc immunisation "possessed no curative effect whatever upo already existing tumours," was taken from a general *résum* of all the work done upon this point, written by Dr. Borr late in 1907.

I have nothing further to say than that there is no mo foundation in fact for the other statements made by D Bell than there is in the case of his statement that Dr. Borr had worked with "testis serum." (The inverted commas a Dr. Bell's.) I inclose Dr. Borrel's letter of Nov. 12th i order that you may see that my statements are correct.

I am, Sir, yours faithfully,
CHARLES WALKER.
Cancer Research Laboratory, University of Liverpool,
Nov. 23rd, 1908.

⁂ We have received Dr. Borrel's letter to Mr. Walk containing the sentences quoted.—ED. L.

EARLY RECOGNITION OF MALIGNANT DISEASE.

To the Editor of THE LANCET.

SIR,—A great deal has been written in recent year regarding the importance of thorough removal of malignan disease when at all possible. The adoption of this has le to greatly improved results and less frequent recurrence Can our profession not do a little more in order to encourag patients to consult their medical advisers at an earlier dat than they do? It is a delicate matter to speak of suc things to patients, but some general information might b given so that instead of women consulting their medica men when a cancer of the breast is far advanced and giving pain they would do so whenever they noticed anything abnormal. The cancer would be operated on when i was entirely local and the results would be very muc better. Until the cause of cancer is discovered I am satisfied that some decided effort must be made in the direction of earlier recognition. A great deal is being done with regard to tuberculosis and a large amount of instruction has been given to the public on the subject. Similar efforts ought to be made in connexion with malignant disease.

I am, Sir, yours faithfully,
J. CRAWFORD RENTON.
Glasgow, Nov. 21st, 1908.

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—Will you kindly extend to me the courtesy of your columns so that I may draw attention to the fact that Mr. F. Coleman's criticism is not only justified but that it has been anticipated, inasmuch as a reviewer in the *Dental Surgeon* drew attention to the point he raises in his letter in THE LANCET of Nov. 21st so long ago as 1905. The notice in question, which was otherwise entirely favourable, to be responsible for the admission of patients, and no advertisements of the institute were to be issued without his knowledge. In spite of this, during the plaintiff's absence on a holiday a pamphlet was issued advertising the treatment with testimonials as to its effects printed in it. Evidence was given by Dr. A. G. Bateman, general secretary of the Medical Defence Union, to the effect that the document was such that had it been proved to be issued with the plaintiff's knowledge it would have led to his appearance before the General Medical Council with the probability of the removal of his name from the Register. Responsibility for it was afterwards acknowledged by Mr. Barton-Wright, the managing director of the defendant company, who admitted in the witness-box that his remuneration as such was dependent on the dividends earned and that finding the receipts falling off he had issued the pamphlet complained of at his own expense. The same witness alleged complaints by patients with regard to their treatment by the plaintiff. The jury found as stated above, and the plaintiff is entitled to congratulation upon the result of the trial. That the advertisements should have been issued in defiance of such an agreement as his will serve as a warning to medical men entering upon contracts with commercial companies providing treatment of a medical character. The result of the action shows that clauses can be introduced of sufficient stringency to protect the reputation of the medical man and that a court of law will recognise and enforce them. But we feel that Dr. Neale ran some risk in associating himself with the Bartitsu Light Cure Institute, Limited.

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[1] THE LANCET, Nov. 21st, 1908, p. 1537.
[2] Yale Medical Journal, March, 1907.
[3] Monographies Cliniques, No. 49, Paris, 1907, p. 42.

ASCITES IN ENTERIC FEVER.

IT might be thought that the long list of complications of a disease which is so common and has been so much studied as enteric fever was exhaustive. But in the *American Journal of the Medical Sciences* for November Professor McPhedran of Toronto has called attention to a complication which, so far, appears to have escaped observation—ascites. During the past three years no fewer than six cases in which this complication was present have come under his observation. In all the effusion occurred during the illness and persisted for from 10 to 14 days. It disappeared in all but one during convalescence. In all the cases the illness was severe, but in only one were there hæmorrhages or symptoms of peritonitis. In the most marked case the patient was a married woman, aged 33 years, who had two children. She was admitted to hospital very ill, with a temperature of 104° F. After a few days rose spots, enlarged spleen, leucopenia, and the Widal reaction showed that the disease was enteric fever. The abdomen was never distended but remained relaxed throughout. The attack proved severe and protracted. In the third week both flanks were full in the dorsal position and the note on light percussion was dull to the nipple line, but on deeper percussion was amphoric. Fluctuation was easily demonstrated. When the patient was turned on her side the upper flank became concave and tympanitic, and the dependent one full and rounded with fluctuation and well-marked dulness to the parasternal line. That these signs were not due to fluid in the colon was shown by the fact that a copious enema had no effect on them. A purgative was then given; it acted freely without affecting the signs. The quantity of fluid diminished twice and then increased again. Finally, it gradually disappeared, leaving the flanks retracted when the temperature became normal. In a second case a labourer, aged 22 years, was admitted into hospital on Sept. 22nd, 1905. He had enteric fever in the preceding year, but the symptoms of the disease were now marked—the usual temperature, diarrhœa, moderate abdominal distension, rash on chest and abdomen, enlarged spleen, leucopenia, and the Widal reaction. The illness was protracted, there being apparently a series of relapses. Signs of ascites were apparent on Oct. 23rd and were marked until Dec. 6th, when they gradually diminished and disappeared in 10 days. The abdomen was flaccid throughout the illness and was not tender on deep palpation. In one case the ocular tuberculin reaction was negative and in another it was positive and the effusion appeared to be due to tuberculous peritonitis. In at least four of the six cases the ascites appeared to be due to the enteric fever, but its immediate cause cannot be stated. Professor McPhedran suggests that mesenteric glands may have been greatly enlarged, causing slight irritation of the peritoneum and effusion. Another hypothesis is that the effusion was due to toxæmia. It may be remembered that even in cirrhosis of the liver the ascites, which was supposed to be due to obstruction of the portal system, is by modern pathologists, attributed, in part at least, to irritation of the peritoneum by alcohol or other toxic substance. We may point out that peritonitis without perforation is a rare but recognised complication of enteric fever. An interesting example was recorded in our columns by Mr. C. G. Watson.[1] Dieulafoy has explained this condition as due to infection of the peritoneum by the typhoid bacillus in the same manner as the pleura (in typhoid pleurisy) or bones (in typhoid periostitis) may become infected. Possibly the cases of ascites reported by Professor McPhedran are of a similar nature, differing only in the fact that the peritonitis is of such mild form as not to give rise to the usual symptoms of pain and so forth. Perhaps also the prostrated condition of the patient, which Professor McPhedran says was present in all his cases, rendered the patient somewhat insensitive to pain. But whatever the explanation his observations are remarkable and will probably lead to records of other cases of this previously undescribed complication of enteric fever.

ANCESTRAL BEER-DRINKING.

"WOE unto him that giveth his neighbour drink, that puttest thy bottle to him, and makest him drunken also." The passage, a denunciation of cynical conviviality, is part of "the burden which Habakkuk the prophet did see." Our Bible-reading ancestors seem to have paid no attention to this and similar passages, for, as lately as the beginning of the nineteenth century, hosts were not supposed to have treated their male guests properly till they had made them drunk. In ordinary life, when not entertaining guests, the men of the seventeenth and eighteenth centuries seem to have been prodigious drinkers. Working men, now so denounced for an ancestral tendency towards the consumption of beer, seem positively to have gloried in their cups. Benjamin Franklin, between 1757 and 1775, describes the daily beer-drinking of the London printers. These skilled workmen, who required to keep a clear head at all times in the performance of their excellent work, took each man a pint of beer before breakfast, a pint with that meal, a pint during the morning, a pint at early dinner, a pint at 6, and a pint when work ended. "This makes three quarts," as the late Sir Walter Besant remarked in his delightful "London," "without counting any beer that might be taken in the evening." This beer was, of course, mostly "small beer," of which the modern representative is apparently "four-half." Sir Walter Besant also describes a notable family of the time of Charles II., whose accounts he had studied. They lived some 15 miles from London in a seven-roomed house, and the household consisted of a young married couple, a brother, "Mr. Arthur," four maids and a baby, and a gardener out of doors. They seem to have been persons of which the certificate could in case of necessity be produced without there being any general violation of secrecy as to prove how a person has voted at an election, which I believe can always be done in this country though the voting is by ballot.

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[1] THE LANCET, May 6th, 1905, p. 1197.

I am, Sir, yours faithfully,
G. P.

QUESTIONS IN EXAMINATIONS.

To the Editor of THE LANCET.

SIR,—In the recent examination in midwifery at the University of London for the degrees of M.B. and B.S. the second question was, "What is meant by the term 'middle pain'? Discuss the various theories as to its causation." The term "middle pain" is not employed in the vast majority of the text-books on gynæcology. It is not given in the large 24-volume encyclopædia medica, and therefore it is evidently not an expression in common use. I think I am correct in saying that seven-eighths of the candidates had never heard it before. It is obvious that examiners should exercise more care in setting questions; they should avoid any peculiar and local terms which are not included in the ordinary text-books. If questions such as these be set it must be entirely a matter of chance whether any individual candidate can answer. The University of London has often been blamed for setting foolish questions, and certainly it appears to me that more supervision should be exercised as to the questions set.

I am, Sir, yours faithfully,
Nov. 24th, 1908. M.D., F.R.C.S.

⁂ It should certainly not have been assumed by any examiner or group of examiners that the students were familiar with the term. The question was to our mind an unjustifiable one. We deal with some aspects of the matter in a leading article this week.—ED. L.

THE CHOLERA EPIDEMIC IN RUSSIA AND PERSIA.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

DURING the last two months, as all the world knows, cholera has spread very widely throughout Russia. Your columns have already contained some account, from other sources, of the course of the outbreak; but the following summary of the statistics of the epidemic (as officially communicated to the Constantinople Board of Health) may be useful. I may note that the early records of the outbreak were given at length in my letter which appeared in THE LANCET of Sept. 5th (p. 765); but it would be impossible, if for reasons of space alone, to continue the record with the same degree of detail. It will be recalled that the disease was first recognised in Astrakhan on July 8th (21st). The subsequent returns were as follows:—

		Cases.	Deaths.
From July 8th (21st)	to July 19th (Aug. 1st)	98	... 47
" " 20th (Aug. 2nd)	" " 26th (" 8th)	262	... 125
" " 25th (" 7th)	" Aug. 1st (14th)	538	... 270
" Aug. 1st (14th)	" " 8th (21st)	1145	... 517
" " 8th (21st)	" " 15th (28th)	1199	... 573
" " 16th (29th)	" " 23rd (Sept. 5th)	1241	... 568
" " 23rd (Sept. 5th)	" " 30th (" 12th)	2296	... 1026
" " 30th (" 12th)	" Sept. 4th (17th)	3392	... 1377
" Sept. 5th (18th)	" " 12th (25th)	4393	... 2034
" " 13th (26th)	" " 20th (Oct. 3rd)	3251	... 1571
" " 20th (Oct. 3rd)	" " 27th (" 10th)	2210	... 1082
" " 28th (" 11th)	" Oct. 4th (17th)	1571	... 819
" Oct. 5th (18th)	" " 12th (25th)	1048	... 552

The above dates and figures are quoted from the official returns. It will be noted that the periods are not always exactly of a week's duration and that in one instance (the third in the table) the dates overlap. Nevertheless, the above statistics may be looked upon as approximately correct; they furnish a total of 22,644 cases and 10,561 deaths since the beginning of the epidemic down to Oct. 25th (New Style). These cases and deaths have been distributed over the following governments or provinces: In the valley of the Volga, the governments of Astrakhan, Saratof, Samara, Simbirsk, Kazan, Nijni Novgorod, Kostroma, Yaroslavl, and Tver; in the south the Don Cossack Territory, the governments of Ekaterinoslav, Kherson, the Taurida, Kharkof, Poltava, and Kief; in the centre, the governments of Voronezh, Tambof, Riazan, Tula, Orel, Vladimir, Smolensk, Moscow, Penza, Tchernigof, Kaluga, Kursk, and Minsk; in the north-east, in the governments of Viatka, Perm, Ufa, and Orenburg; in the northerly governments of Vologda, Olonetz, and Archangel; in the north-west, in those of St. Petersburg, Novgorod, Pskof, Vitebsk, Vilna, Livonia, and Esthonia; and, finally, in the Polish governments of Warsaw. All the above are in European Russia. In Asiatic Russia the presence of the disease has been recorded in the Transcaspian province, in the territories of Uralsk, Akmolinsk, and Semipalatinsk, and in the Syr-Daria and Ferghana provinces of Russian Turkestan; in the Terek and Kuban territories of the Caucascus, and in the governments of Tiflis, Baku, Elizavetpol, and Kutais in Transcaucasia. Finally, in Siberia, the governments of Tomsk, Yeniseisk, and Irkutsk were all invaded by the infection.

The epidemic is now declining in all parts of the Russian empire and in the south it has almost disappeared. Its degree of severity has varied greatly in different parts of the country. It has been most intense in the governments along the valley of the Volga, in the Don Cossack Territory, and in St. Petersburg, in European Russia. The returns from Asiatic Russia have been less complete, but there is already evidence that the disease has been fairly active in the northern Caucasus, in the Uralsk Territory, and perhaps elsewhere. This year's epidemic has been more severe than last year's. It may be recalled that in 1907 the disease broke out on the Volga in July and spread to a great part of both European and Asiatic Russia; but from the beginning of that outbreak to Dec. 10th (New Style), when the epidemic was practically extinct, the total cases recorded numbered only 11,934 and the deaths 5706[1]; whereas, as just shown, in the present year these figures have already been nearly doubled and the epidemic is still far from complete extinction. The area covered by the two outbreaks has been very much the same; in each year the Volga Valley has suffered most and in each year the infection has travelled to most parts of European Russia and to some of the principal provinces of Central Asia and Siberia. Last year, however, St. Petersburg escaped, whereas this year it has suffered severely; in the present year also the disease has spread to the extreme north in Europe, invading the Olonetz, Vologda, and Archangel governments. This was not the case last year. The epidemic in St. Petersburg has, from all accounts, been a decidedly severe one. No official figures for the total numbers of cases and deaths there are as yet available, but there is reason to believe that they will prove to be as high as in the great epidemic of 1892. In that year there were 4391 cases with 1357 deaths in St. Petersburg.

Last week news was received that cholera had appeared in Tabriz and its neighbourhood. The extent of the outbreak there is not known. In the present disturbed state of that city and of the province of Azerbaijan the appearance of cholera is a most unfortunate occurrence and one that may well lead to disastrous consequences.

The subsidence of cholera in southern Russia just at the beginning of this year's Moslem pilgrimage is, on the other hand, a matter for congratulation. During the past week the first steamer carrying pilgrims from Russian ports has passed down the Bosphorus. It may be recalled that last year the Constantinople Board of Health formulated a unanimous "vœu" that Russia would apply to the pilgrims before departure the measures of medical inspection, disinfection, and, if possible, a preliminary quarantine, such as have been for years past applied by the Indian authorities to their pilgrims. This year the Russian Government has acceeded to this wish; a large lazaret has been put up at Odessa; the pilgrims all start from that port; and they are subjected to a medical inspection, the disinfection of their clothes and effects, and a preliminary observation in the lazaret of five days' duration. Pilgrim ships that have undergone these measures are now allowed to pass the Bosphorus and Dardanelles *en contumace* and proceed directly to the Abu-Saad lazaret, near Jeddah, where they undergo a final disinfection. Any pilgrim ship, on the other hand, that has not undergone the measures before departure is sent to the lazaret of Sinope on the Black Sea, where the same

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[1] THE LANCET, Jan. 18th, 1908, p. 189.

April 7th (Salford).—Paraffin lamp burst.
an incubator which was in a box in the ce
to box, incubator, and chickens about £5.
side tube. Flash-point, 85° F.

April 20th (Manchester).—Lamp exploded whilst standing on the
was burning a
tainable.
paraffin lamp.
It is suggested that a cat knocked the lamp off the table. Queen Anne burner without side tube. No oil obtainable.

EXTRAORDINARY FRAUDS IN RUSSIAN PHARMACY.

AN extraordinary series of frauds which have been perpetrated over a great part of Russia has been brought to light. According to the *Torg. Prom. Gazeta* certain German firms, manufacturers of proprietary articles, observed a marked decline in the demand for their goods from Russia, although their agents observed an increasing quantity of goods bearing their principals' labels in the pharmacies. A police inquiry was set on foot and certain suspected individuals were traced to Odessa where a large manufactory with offices and distributing organisation was discovered. The guilty parties were arrested. A long series of "pseudo-German" preparations made up of the most inexpensive substitutes were packed in irreproachable bottles labelled in perfect imitation of the original firms' articles. The business done was enormous, amounting, it is said, to £200,000 for the Odessa organisation alone. Some of the firms whose goods have been supplanted by the imitations are household names in Germany. The German Union for the Protection of German Patents is claiming damages on behalf of the sufferers to the extent of £50,000. That this is only part of a widespread system is evident from the statement of the *Yuzhny Pharmatzeft* ("The Southern Pharmacist") to the effect that an inquiry has revealed that over 58 per cent. of pharmacies and pharmaceutical stores sell "falsified" products, though not in the same gross form as was discovered in Odessa where the disinfectant xeroform was "made" from bricks, sirolin from water, sugar, and colour, and thiocol, tannalbin, and somatose from mixtures of soap, lime, and dyes. Various cheap salts, including table salt, were substituted for such well-known products as quinine, phenacetin, and pyramidon.

THE THERAPEUTIC APPLICATIONS OF SODIUM PERSULPHATE AND OTHER OXIDISING SUBSTANCES.

WITHIN the last few years considerable use has been made of various highly oxygenated products, particularly the perborates, peroxides, and persulphates. Their value depends upon the liberation of nascent oxygen or hydrogen peroxide when brought into contact with moisture. Sodium perborate liberates about 10 per cent. of active oxygen, sodium persulphate about 13 per cent., and calcium peroxide about 11 per cent. Of these substances, all of which are non-proprietary, sodium persulphate is probably the least known. It is of interest, therefore, to make reference to *Merck's Report* for November where its properties and therapeutic uses are described. In the presence of water sodium persulphate decomposes into sodium sulphate, sulphuric acid, and active oxygen, the reaction being facilitated by elevated temperatures and the presence of oxidisable matter. If it be desired to avoid the production of free sulphuric acid the persulphate may first be mixed with one-and-a-quarter times its weight of sodium carbonate. In the form of an aqueous solution it is useful in strengths ranging from 3 to 10 per cent. as a gargle and as a dressing. At first only superficial wounds and lacerations were treated, with the result that the wounds all healed within a day. It was then applied to ulcers, infected wounds, incised furuncles, and, finally, to all wounds requiring a moist dressing. It has also been employed for disinfecting the skin prior to operations and on the wounds during operations; for example, in the extirpation of small cysts and the excision of foreign bodies. In such cases the wounds healed rapidly, small, non-infected ones generally in one or two days, while purulent ones soon granulated and closed. In the treatment of small ulcers sodium persulphate is mixed with an equal weight of powdered talc and used in the form of a fine dusting powder. It has generally been found that a 5 per cent. solution is sufficiently strong to give good results in purulent wounds and a 3 per cent. solution in simple wounds. Sodium persulphate has been tried in gonorrhœa without producing any other effect than a lessening of the discharge. The only side effects that have been noticed were a slight reddening and inflammation of the skin in children with a very sensitive skin. It cannot be used to disinfect metallic instruments as it rapidly attacks them. Sodium persulphate possesses advantages over most other antiseptic substances when used in the form of bandages or other dressings from the fact that it is readily soluble, odourless, does not stain the skin, and is non-toxic in the quantities that are usually employed.

THE SOCIETY OF APOTHECARIES.

THE Master and Wardens of the Society of Apothecaries entertained a large company at dinner at the hall of the Society on Tuesday, Nov. 24th, the occasion being known as the Lord Mayor's Day dinner. The chair was occupied by the Master, Mr. F. Gordon Brown, who was supported by the Senior Warden, Mr. R. Bligh Wall, and the Junior Warden, Mr. A. T. Norton. The guests included, amongst others, the Lord Mayor, Sir Richard Douglas Powell, Sir James Reid, Sir John Tweedy, and Sir Francis Laking. The loyal toasts finished, the Senior Warden rose to propose that of "The Lord Mayor, Sheriffs, and Corporation of the City of London." In acknowledging this toast, the Lord Mayor referred to the public health work of the Corporation and to the activities of the port sanitary officials in fighting disease and death. He welcomed the presence there of so many distinguished members of the medical profession and particularly the representatives of the great governing bodies. The Junior Warden in proposing the toast of "The Colleges of Physicians and Surgeons" referred to the question of a combination of the examining corporations of London which could grant the joint qualifications of physician and surgeon. Sir R. Douglas Powell, replying for the Royal College of Physicians of London, said that it had taken a great number of years to organise the medical profession but the question of an equalised qualification was still a difficulty. Referring to the dinner, he congratulated the society on its compatibles. Sir John Tweedy, who in the absence of Mr. Henry Morris, the President, replied for the Royal College of Surgeons of England, apologised for dealing with the question of qualification, but he was prompted to do so by the remarks which fell from the Junior Warden. He referred to the rapidly increasing number of universities growing up like mushrooms all over the country, a growth which made it more difficult to bring the medical degree to a universal standard. He thought it desirable that the educational centres should combine in the matter of conferring a degree which should be the evidence of a uniform test. During the evening the honorary freedom of the Society of Apothecaries was presented by the Master to Sir Francis Laking who, in acknowledging the honour done to him, compared the work of the general practitioner of many years ago with that of to-day. He thought that students, in addition to their clinical practice at the hospital, should spend some time with a general practitioner so that they might get an insight into the common of the Congress so as to proclaim these opinions to the world.

Sunlight and Ventilation.

If laws are necessary to secure good sanitation in factories and workshops these are no less required in regard to the construction of private dwellings and especially of tenement dwellings. Dr. CHARLES DENISON (Denver, Colorado) qualified tuberculosis as being practically a "house disease due to deficient air renewal and sunlight," and then asked what law of ventilation could be devised and enforced to secure its prevention. He proposed a compromise between Parkes's rule of 3000 cubic feet per person within a room and De Chaumont's renewal rule of two-thirds of a square foot space inlet and outlet per person. This compromise is 2000 cubic feet of space per person with entire renewal of the air once every hour, but Dr. Denison was careful to add that this would be insufficient if not aided by sunlight. He urged that "we must take into consideration the influence of the sun, the source of atmospheric electricity, in fitting the air for respiration."

Dr. SAMUEL BERNHEIM (Paris) defined tuberculosis as "a disease of darkness," and explained that in France, where families lived in apartments, though the occupants of the lower flats were wealthier and paid higher rents they were more susceptible to tuberculosis than the dwellers in the upper and cheaper flats, because the latter apartments, though similar in every other respect, received more light and sunshine. Even cleanliness could not compensate for the lack of light, and very clean and tidy people living in dark tenements were the ready victims of the disease.

The newest pronouncement on this subject was by M. AUGUSTIN REY (Paris), who pointed out that in the planning of towns the angle formed by the direction of the street with the meridian had hitherto been overlooked. With houses of equal height the width of the streets should vary with each change of frontage. A street running due east to west must be 50 per cent. wider than a street running due north to south. The other streets should vary in width according to their distance from these two extreme limits. But this rule again would be modified according to the degree of latitude of the town to be built, the object in all cases being that the lowest inhabited floor should be able to receive the direct rays of sunshine for one and a half hours on the shortest day of the year. At Baltimore M. Rey subsequently gave a lecture with numerous lantern slide illustrations explaining his theories. He demonstrated how unhealthy houses were built and how they might be reconstructed so as to respond to the laws of health.

Tuberculosis and the Hours of Labour.

The Hon. DAVID J. BREWER, of the Supreme Court of the United States, delivered an address in Section V. on what the law in America might, and might not, do in regard to the prevention of disease. He said that an employer can be compelled by the State to protect those whom he employs. He must provide them with fire-escapes, with ventilation, and whatever else is necessary so as to prevent their health being unfavourably affected. The employer must see that the employee does not continue to work if the work causes him injury. On the other hand, if the employment is not at all unhealthy then the American Declaration of Independence gives the inalienable right to liberty in the pursuit of happiness. Therefore, continued Judge Brewer, a man may work 12 hours a days if it does not injure his health. There is not a judge in our courts, he added, who does not work ten or more hours a day.

Dr. WELCH (Baltimore) replied that these were beautiful theories which were not put into practice. Obviously if this theory was applied the hours of labour could be restricted in a very large number of occupations, and this not merely in regard to the work of women and children but also of adult males.

Dr. H. P. FAVILL (Chicago) argued that what labour demands and what capital refuses have nothing to do with the thing. The intervention of the law depended on the national necessity of such intervention. It was only necessary to realise the power of health as a means of production to make health the first consideration. Of course, crowding produced conditions favouring the spread of tuberculosis, and they had to create a new moral conception as to the necessity of air-supply. The State should declare what are the standard conditions of healthy labour. Fresh air during working hours was the first requirement in fighting tuberculosis.

Dr. LEONARD (Ohio) entered an earnest protest against Judge Brewer's conception that a man might work as long as he liked if it did not injure his health. Man had other duties to perform than earning a livelihood. He had his duties towards his family and his duties of citizenship. The speaker then described the case of a railway servant, a model workman, who accepted all the overtime work he could get so as to add to the income and comfort of his family. The consequence was that he had no time to exercise any moral control over his children, and one of his sons was sentenced to a term of confinement in the reformatory to which Dr. Leonard is attached. This boy had lost his birthright; his father was a stranger to him, otherwise he might have become a good citizen. Most of the reformatory and refuge boys had no father. From the moral as much as from the health point of view such excessive work as divorced parents from their children might well be prohibited.

Here, then, a great question was put forward. To what extent and in what circumstances would the limitation of the hours of labour tend to reduce the prevalence of tuberculosis? Again we have to lament that there is no record of a vote indicating what was the opinion of the Section that had discussed at some length this important and practical question.

Tuberculosis and Milk and Meat.

Undoubtedly the most striking feature of the Washington Congress was the extraordinary prominence given to the question of bovine tuberculosis. There is in America such an enormous business in the rearing of cattle that a special Government department has been created to deal with it, the Department of Animal Industry. At the Congress a special section, Section VII., was devoted to the question of Tuberculosis in Animals and its Relations to Man. The great joint meeting of this section with Section I. (Pathology and Bacteriology), at which the majority of the members of the other sections also assisted, has already been fully described.

In Section VII. Dr. J. G. RUTHERFORD, who holds a high post under the Dominion Government of Canada, introduced a useful discussion as to what could be done to protect cattle. Formerly it used to be urged that the rich would best protect themselves from the spread of disease by promoting good sanitation among the poor. We have now got far beyond this, for the whole of the work of Section VII. was devoted to protecting mankind from disease by promoting good sanitation and better health among cattle. But Dr. Rutherford explained how great were the difficulties. To kill all cattle that showed a reaction to the tuberculin test was not practical. Killing and disinfecting did not suffice and no compensation the State could give would meet the case where choice cattle were concerned. Also cattle that have been tested several times fail to react to further tests, though they may have become tuberculous in the interval. Then a great outlay and much labour might be rendered futile by the dishonesty of a farmer and a veterinary surgeon. Antipyrine could be mixed with sugar and meal and is licked up by the animal without anything occurring to create suspicion. So the thermometer readings do not prove much and there are lunches and other diversions to keep the veterinary surgeon away when the temperature rises. Even with very close and constant examinations mistakes are made. It would be more practical to kill young animals and to devise methods of segregation and of treatment for the older animals. Some sort of legal control was absolutely necessary and all milk from cows that reacted to the tuberculin test should be pasteurised. Dr. Rutherford thought that one or more *clinical cases occurring* in a herd should suffice to justify Government interference together with the compulsory preparation of a report and he quoted THE LANCET as endorsing this opinion. He did not think that any encouraging results had been obtained by prophylactic inoculation, but while he was a pessimist in regard to the new methods he was absolutely sure and confident in regard to the beneficent effects resulting from the careful ventilation of stables. Stockmen are breeding bacilli faster by want of ventilation than could be stamped out with tuberculin. Open-air treatment for cattle was the most promising preventive. Nature provided the necessary protection; the remedy was to get closer to nature.

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MOTORING NOTES.

THE OLYMPIA MOTOR EXHIBITION.—II.

BY O. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

THE Olympia show during the time of the "press" view and subsequently I discovered to be quite two different places; on my second visit I found more cars but less room or opportunity to see them in, the "public" had arrived and, judging from the vast crowds, it was everybody who wanted to see and to find out about the motor-car. I truly felt quite sorry for the really kind young gentlemen in charge of the exhibits but I likewise rather admired them, they replied to the queries of their possible clients with much patience and some of the questions were really enough to annoy a saint. While listening to some of these amusing conversations I managed to get a look at a few cars I neglected on my earlier inspection and among a good many the following should certainly receive the attention of the medical man in search of an automobile.

Messrs. S. F. Edge have always been known as most successful makers of racing and large touring cars; this year they have added to their manufacture a two-cylinder, 10-h.p. car which they seem fairly certain about, as it is sold with a guarantee extending over three years from the date of delivery. I do not know of any other firm that gives such an undertaking with their machines. The engine is the water-cooled two-cylinder (cast together) Napier, with inlet and exhaust valves operated off one cam shaft and interchangeable. The carburettor is provided with an arrangement so as to flood without raising the bonnet; those who have had the bother of taking lamps off to open the bonnet to get at the carburettor on starting will, I know, appreciate this little improvement. Ignition is by high-tension magneto and arranged so that the magneto can be rapidly detached and replaced. Transmission is by cardan shaft to a live axle; three speeds forward and a reverse are provided, the drive on the top speed being direct. The propeller shaft has universal joints at each end. The change-gear is on the gate-change system. The clutch is of the metal to metal type and runs in oil and gives a smooth and gentle engagement. The water circulation is by a gear-driven pump; another gear-driven pump also forces oil to the engine and clutch. Semi-elliptical springs insure easy riding and the tyres are of a good size, 810 × 90. A similar car with a four-cylinder 15-h.p. engine is also shown.

The 12-h.p. four-cylinder Talbot is also likely to be a popular car. The engines, 80 × 90, are cast in pairs. Ignition is by high-tension magneto, driven by a transverse spindle in front of the motor, which spindle also drives the water-pump. Alternative battery ignition is also fitted. A leather-faced cone clutch transmits the power to the four-speed forward and reverse gear-box, and so on by cardan shaft to the live axle. A tube surrounds the cardan shaft and acts as a torque rod.

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The Wiltshire County Council and the Medical Inspection of School Children.

At a meeting of the Wilts county council held on Nov. 18th under the presidency of Lord Bath, considerable discussion took place in reference to the medical inspection of school children. Hitherto the work has been done by the district medical officers under the supervision of the medical officer of health of the county, but at this meeting a scheme was submitted by the finance committee recommending the appointment of two whole-time medical officers at salaries of £250 each with travelling expenses of £125 each. Other recommendations were made and the total estimated cost of the scheme was £1055. Much opposition was manifested to these suggestions and an amendment was moved that the matter should be sent back to the general education committee, with an expression of opinion that the present system of inspection should be continued. This amendment was eventually carried by 22 votes to 14.

Exeter "Carnival."

As a result of the recent "carnival" which was held at Exeter the sum of £165 has been handed over to local charities. £80 were awarded to the Royal Devon and Exeter Hospital, the remainder being divided amongst the smaller institutions.

Nov. 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medico-Psychological Association.

THE half-yearly meeting of the Scottish division of this association was held in the hall of the Royal College of Physicians, Edinburgh, on Nov. 20th. There was a large attendance of members and Dr. T. S. Clouston occupied the chair. After the chairman had referred in fitting terms to the death of Dr. J. Cameron of Lochgilphead, and the loss thereby to the association, the superannuation allowances committee reported that Sir John Jardine had stated his intention of bringing in next session the Bill drafted by the division, and the intention was expressed to approach all Scottish Members of Parliament that they may assist in the promotion of the measure. Mr. Hugh F. Watson, senior assistant medical officer, Ayr District Asylum; Dr. W. Tuach-Mackenzie, medical superintendent, Dundee Royal Asylum; Dr. W. McWalter, medical officer, H.M. Convict Prison, Peterhead; and Mr. George Dunlop Robertson, medical officer, Smithston Asylum, Greenock, were unanimously admitted members of the association. Dr. W. Ford Robertson and Dr. R. Dods Brown communicated a paper on the Bacteriology of the Cerebro-spinal Fluid in General Paralysis of the Insane and gave a microscopical demonstration. An animated and lengthy discussion followed the reading of the paper, which was taken part in by Dr. Lewis C. Bruce, Dr. H. C. Marr, Dr. G. M. Robertson, Dr. G. D. McRae, Dr. J. H. Macdonald, Mr. W. Muirhead, and the chairman. The speakers were in general agreement with Dr. Ford Robertson, except Dr. Marr who said that during the course of three years' research in the cerebro-spinal fluid he had examined 53 cases of general paralysis and had come to the conclusion that in ordinary general paralysis there was no microbic organism present and that the disease was probably not of microbic origin.

Royal Medical Society of Edinburgh.

At a meeting of this society held on Nov. 20th Dr. T. B. Johnston read a paper on Jaundice. He especially discussed the two theories of jaundice: (1) the obstructive; and (2) the toxæmic, and reviewed at length the arguments which have been brought forward in support of each. Dr. A. E. Turnbull read the interesting case of a boy, aged 14 years, who suffered from Carcinoma of the Large Intestine, and who subsequently developed symptoms which led to the diagnosis of meningism. Dr. Turnbull discussed the differential diagnosis between this and true meningitis. Mr. Buist showed a large number of metallic and other articles which had been swallowed by a man in a fit of despondency. Mr. Gunson showed an interesting case of Klumpke's paralysis.

The Causes of Crime.

At a meeting last week of the Royal Philosophical Society of Glasgow Mr. James Devon, the medical officer of Duke-street Prison, lectured on the causes of crime. Mr. Devon has come to be recognised as one of the most capable criminologists in the country and his views were received with much interest. At the commencement attention was drawn to the statement usually present in official reports to the effect that the great majority of those in prison were there through drink. He protested against the practice of singling out one from among our vices and attaching to it the blame of all our social evils. The most troublesome and dangerous criminal was the professional, and no more than other professional persons did he go to business the worse for drink. He thought the facts showed that drink puts a man into a condition in which he was more liable to commit a crime or police offence than when sober; that while drinking was common to all in all parts of the country police offences and crimes occurred mainly in closely populated districts; that the amount of crime and police offences in Scotland was not dependent on the amount of drinking alone, but was mainly dependent on indulgence in drink under certain conditions of urban life; and that the major portion and the most serious kind of crimes against property were not due to drink. Nor could it be said that the amount of crime in Scotland was in relation to poverty alone. In some parts of the Western Highlands and Islands the poverty was appalling and yet there was an entire absence of crime. All experience showed that crime occurred not in proportion to the number of the population but to its density. In particular, overcrowding not only bred disease but it tended to destroy decency, and if they were to consider the circumstances that make some kinds of vice and crime so easy and even natural to many attention would have to be given to this aspect of city life.

Prevention of Consumption in Glasgow.

The annual meeting of the Glasgow branch of the National Association for the Prevention of Consumption took place last week. At Bellefield Sanatorium, which is under the auspices of the society, 98 patients were admitted and 95 were discharged during the year, making a total of 368 patients treated since the opening four years ago. Of the 95 discharged 27 had the disease arrested, 38 were much improved, 20 were improved, nine were not improved, while one had died. During the year a new pavilion has been erected to accommodate 22 additional patients. A special appeal was made for funds, as the ordinary income last year was less than the expenditure by £480.

Nov 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin University Biological Association: Opening Address on History of Irish Medicine.

THE most interesting in many of its features of the public professional events of the past week was the opening meeting of the thirty-fourth session of the Dublin University Biological Association, which was held on Nov. 19th in the debating hall of the Graduates' Memorial Building, Trinity College. There was a large and highly representative audience, many of the most prominent senior members of the medical and other professions being present as well as a crowded congregation of students. After the distribution of medals to the various successful competitors by the outgoing President (Dr. R. J. Rowlette), Dr. T. Gillman Moorhead delivered the opening address which dealt with the subject of the "History of Medicine in Ireland." The lecturer began, very literally indeed, with the beginning—i.e., in prehistoric antiquity—and the best testimony to his skill and success was furnished by the fact that an unusually long paper was listened to throughout with attention by all his audience. The Irish medicine man of the pre-Christian centuries, the introduction of Christianity by St. Patrick of trick, real bullets not being used. In this instance the assistant, a man named Lee, who is said to have performed with "Madame Clementine" for some time, stood with the ball balanced on a little wire stand above his head. Two shots were fired at him, both of which, by pre-arrangement, were misses; at the third discharge, which was intended to hit the mark, Lee fell to the ground. The audience thought this was a part of the performance but a stage hand seeing something was wrong lowered the curtain. It was then found that Lee had been hit fairly between the eyes with a bullet, and he was at once conveyed to a hospital where he died. It is difficult to understand why the regulations do not prevent entirely this class of performance. A shooting exhibition, which may be undoubtedly an attractive and skilful performance, can surely be arranged without endangering a human life. In any case, if the management desired to provide its patrons with a sensational show having the appearance of being dangerous it should have insisted on the use of wax bullets or some similar device. We are quite unable to understand the attitude of the manager of the music-hall if he said, as was reported in the *Daily News*, "I never imagined that this was what we call a 'straight turn.' That is to say, I thought there was some trick about it and that real bullets were not used." If the performer had been firing real bullets night after night surely the management ought to have been aware of the fact, so that warning might have been given to scene-shifters and others who might be standing behind the scenes to beware of stray shots. It is high time that it should be made illegal for such performances to be given. For many years now acrobats and wire-walkers have been forbidden to perform in public high up in the air unless a broad net be stretched beneath them and regulations should be framed to protect other people from risking their lives to gratify the more savage elements of the popular craving for amusement. There are many feats of strength and grace and dexterity performed by tumblers and jugglers which have a certain risk attached to them but to which no exception can be taken, for although a slip might lead to a nasty accident, yet they are on a different plane altogether from the performances which are advertised justly as "sensational," and which depend upon that quality for their popularity. The kind of laxity which connives at possible manslaughter as an incident in public entertainments deserves the unmeasured condemnation of all thoughtful persons.

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Member of the Academy of Medicine in the room of Professor Terrier, deceased. At the meeting held on the 24th the President announced the death of M. Hamy, professor at the museum and a member of the Academy. He also announced the death of Professor Joffroy who had died that morning.

Nov. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Medical Society.

THE winter session of the Berlin Medical Society opened on Oct. 28th, Professor Senator being in the chair. Professor Meyer reported the case of a man, 57 years of age, in whom a set of artificial teeth had slipped into the trachea as low down as the bifurcation without producing any immediate symptoms, so that the dentist in whose practice the accident had happened believed that the teeth had entered the stomach. A febrile bronchitis occurring after 24 hours was ascribed to a chill, and as the state did not improve the patient was sent to the seaside. The bronchitis became much worse there and the patient suffered from dyspnœa. He was seen five weeks after the accident by Professor Meyer who by bronchoscopy found the foreign body in the bifurcation of the trachea. He removed it by a forceps. Professor Oppenheim reported the case of a woman, 37 years of age, who for more than a year suffered from headaches, difficulty in articulation, giddiness, vomiting, and bradycardia. On examination he found sensory and amnestic aphasia and agraphia, bilateral optic neuritis, paresis of the right facial nerve, and tenderness on percussion of the left frontal region. He diagnosed a growth of the left temporal lobe and recommended an operation which was performed by Professor Krause. A growth of the size of an apple proved to be present in the very place indicated, issuing from the arachnoidal membrane and growing into the cerebral substance. The growth was enucleated and the patient felt better when a fortnight afterwards a paresis of the right arm and of the face supervened. The paresis disappeared sooner than usual, but eight months later, with severe general symptoms, vomiting and unconsciousness, a total right paresis occurred. Professor Krause trephined over the place of the first operation and again found a growth of almost the same size, which had evidently grown from a small piece of the first tumour left behind. After enucleation the patient made a quick recovery. She was shown to the society; there was no paresis but the articulation was still impaired. Professor Krause gave a detailed account of the operation which he performed in two sittings. Dr. Zuelzer read a paper on the "Hormone" of the Peristaltic Movement. He said that it had been discovered by recent biological research that certain organs produced substances which were conveyed by the circulation to other remote organs and produced in them certain alterations. He alluded to the researches of Professor E. H. Starling who found that the embryo produced a substance which stimulated the development of the mamma during pregnancy. This substance, termed by him a "hormone," when injected into virgin rabbits produced a swelling of the mammæ. The same was the case with secretin, another "hormone," a substance found by Dr. F. Bayliss and Professor Starling in the mucous membrane of the duodenum and the intravenous injection of which produced a secretion of the pancreas. Dr. Zuelzer had found by recent researches that the peristaltic movement of the intestines was also caused by a "hormone" which he termed the "peristaltic hormone" and which he separated from the mucous membrane of the stomach. It was essential for the production of the substance that the stomach of the animal should be in an active state of digestion, as it is not found in empty stomachs. When peristaltic hormone was injected into the vein of a rabbit a strong peristaltic movement from the duodenum to the rectum was visible within a few seconds and the excrement in the gut passed through to the anus. As to the method of obtaining the peristaltic hormone he explained that it must be extracted from the mucous membrance of the stomach by a solution of kitchen salt or diluted muriatic acid and the albumin then removed by alcohol. The stomach of rabbits, pigs, and horses and the rennet-bag in cattle contained the hormone. It might also be obtained from the upper parts of the duodenum, but in less quantity and of milder action. Dr. Zuelzer said that Professor Starling had compared the action of hormones with that of alkaloids and that the peristaltic hormone acted like physostigmin on peristaltic movements.

Nov. 24th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Health of the Pope.

"IL Papa sta molto bene" was the reassuring, if guarded, announcement issued yesterday evening by his body-physician, Dr. Petacci, in answer to many inquiries. All the same, the physical state of His Holiness, particularly on Nov. 19th, more than justified the solicitude with which the "archiatro" was approached for authoritative information In the forenoon of that day he was giving audience to one of the many companies of pilgrims who had come to congratulate him on his sacerdotal jubilee—this one being the "Pellegrinaggio Ligure-Piemontese" (the pilgrimage from Liguria and Piedmont). In reply to their spokesman's address, he had not uttered many words when suddenly his voice failed and he had to request the Archbishop of Vercelli to convey his acknowledgments as briefly as possible. In anticipation of such a breakdown Dr. Petacci had urged the Pope to suspend all the receptions already arranged, but the august patient could not be persuaded to deny himself to the Italian pilgrims whose turn was still to come. Now, however, he has seen the wisdom of his physician's advice; he has not ventured outside his apartment; and one of the most important of the pilgrimages, that from Spain, will have to be received later. The outside world hardly realises the immense strain imposed these many days past on the Pope's energies or the adverse conditions under which it has been kept up. Pilgrimage after pilgrimage had to be received in audience and their special circumstances—often highly controversial, as in the case of the "Pellegrinaggio Francese"—duly considered and commented on in the pontifical reply. Add to this that in the transit from his private rooms to the reception hall he had to pass through draughty corridors of various temperatures, and after exerting his voice in a hall in which the air was charged, not to say vitiated, by the respiration of successive crowds, he had to return mentally fatigued and physically relaxed through the same corridors to the same apartments—in itself a considerable journey. What wonder if, in the humid atmosphere of these last days of torrential downpour, His Holiness has contracted a "raffreddore" (chill), accompanied with aphonia and even a recrudescence of the arthritic pains from which, after any excessive call on his energies, he is prone to suffer? Nor has he been the only one in the Vatican itself to fall a victim to the malaise seemingly inseparable from high mental and physical tension prolonged through a series of days among pilgrims thronging the Apostolic palace. The major-duomo, Monsignor Bisleti, is now on the sick list from causes similar to those affecting the Pope, and his duties have for the nonce to be discharged by Monsignor Sanz de Samper. Before him, the Austrian ambassador to the Holy See, Count Szeczen, was attacked with measles, and now the Envoy of the Emperor Francis Joseph, charged with a special mandate on occasion of the Pope's jubilee, is "down" with scarlet fever In truth, pilgrimages in all countries, especially those organised with a religious object, are often the importers of infective or contagious disease in the places to which they are destined. Not only measles and scarlet fever have often been contracted in the crowds consisting of all classes which, on days of special ceremonial, fill St. Peter's, but, as many an English-speaking consultant practising in Rome can testify, variola itself, and that of the grave type known to Italian physicians as "nera" (black), has often been contracted by compatriots with disastrous, if not fatal, consequences. Personal cleanliness, in Latin countries especially, is not a universal characteristic; nay, the Englishman's devotion to the morning bath has but recently been adopted, and only by slow gradations, on the continent, even among the higher orders. Let one typical illustration suffice, put on record by the *Times* Roman correspondent, just which is not as subject to fatigue as the usual type employed. Personally, I have had three cranks break and the makers have always explained the accident as the result of fatigue and so I welcome a steel which does not get "tired." The rough forged and finished crankshafts shown certainly look as if they would last a lifetime.

From what I gather this show has been a great success not only as regards the number of visitors but also in the direction of "business." Many practitioners seem to have grasped this opportunity to inspect and, what is more, to order a car. The majority have—wisely, I think—stuck to cars built on accepted lines and have left the certainly interesting new developments, such as the two-cycle and slide-valve types, to the man of pleasure. Probably, if he finds them reliable, next year they will more seriously compete with the Otto-cycle engine with mushroom valves. Two-seaters rightly seem to be the favourites with the medical profession, especially when fitted with a Cape-cart hood and a front wind screen. Personally I prefer the mica shield, but apparently glass front screens are the favourite. Small side doors to the body also are popular; they certainly keep the cold from the legs and feet, but a shaped rug answers as well and is less trouble to get into than the bother of opening and shutting a door every time a stop is made to see a patient. As to engines, the single cylinder still appears to hold its own, though the small four-cylinder attracts a good many; the cardan shaft and live axle look as if they are more beloved than the chain drive, still I rather think that the fashion will revert to the latter. Thermo-syphon cooling is undoubtedly increasing, and any way the friction-driven pump has gone. May it never come back! The gear drive answers well, but volumes could be written about the iniquities and worries of the "friction" drive. As to clutches, the leather-faced cone type still holds the field and if springs are inserted under the leather it always engages gently, and in addition anyone can adjust or replace the leather. With the multiple disc it usually means a mechanic or even the makers if aught goes wrong. Still, if clutches are seen to they rarely give trouble. In lubrication the tendency seems to be a reversion to the pump lubricator, driven direct or by a band off the crank or two-to-one shaft, and this is certainly more satisfactory than the one worked by pressure off the exhaust; the pressure pipe is so apt to become choked with carbon deposit, and it is a bother to get the pipe off for cleaning purposes. A great many cars are now fitted with shields underneath, which are an advantage, provided a trap-door is supplied, so that the crank case oil cock can be got at without contortions amid clothes-spoiling surroundings. This is a point I strongly advise seeing to when ordering a car. Carburettors have now reached, I suppose, a stage of perfection, but on some cars they are placed in a rather inaccessible position, and that is another point I should insist on when buying a new machine—namely, that a petrol filter is fitted, and fitted where it can be got at and cleaned, and also that the jet can be quickly removed for cleansing purposes. I came across a man held up on the road recently with a choked jet, and he had to get the exhaust pipes down before he could remove the carburettor and so take out the jet. I prefer jets that can be removed without even taking the carburettor down. The Allen-Liversidge brake, which was described in THE LANCET of Nov. 14th, p. 1463, seems so excellent that when I get my new car I think I shall specify for it to be substituted for the ordinary differential drum brake. The increase in the number as well as in the size of the ball bearings was another improvement noticed at the show.

PLAGUE IN LIVERPOOL: REPORT OF THE MEDICAL OFFICER OF HEALTH.

THE medical officer of health of Liverpool reported to the health committee that on Oct. 23rd the mate of the coal barge *Wesley*, lying in the Trafalgar Dock, who had been ailing for a couple of days, was told by a medical man who saw him to go to hospital. Late in the evening his wife, who lived with him on board, conveyed him to the hospital, which was reached about half-past eight. The man on arrival was found to be dead. The body was removed from the out-patient department to which it had been taken to the mortuary. On Monday, Oct. 26th, a post-mortem examination was made and an inquest held, the house surgeon of the hospital giving evidence to the effect that death was due to natural causes consequent upon acute blood-poisoning. As the house surgeon suspected the case might have been one of typhus fever he communicated at this stage with the medical officer of health who requested Dr. W. Hanna, the medical officer of the port (whose large experience of plague has on former occasions proved so valuable), to see the body and to obtain specimens for cultivation.

Dr. Hanna found indications of the presence of an axillary bubo and he obtained a portion of the tissues for bacteriological examination at the laboratories and a portion was also forwarded to the bacteriologist of the Local Government Board. The coffin in which the body was placed was well filled with carbolic powder and the remains were interred on the next day, the coffin being taken directly from the mortuary to the grave. Meantime, on Oct. 27th, the barge in question was thoroughly disinfected and a rat-catcher was immediately placed on board, but no rats could be found. Furthermore, a survey and a careful inquiry were made along the line of docks in the area which the barge traversed, but no dead rats could be seen or had been observed. Meanwhile, considerably over 100 live rats from the vessels with which the barge had dealings and from the sheds in the neighbourhood were sent to Professor Sir Rubert Boyce for examination and all were found to be healthy The usual proceedings were taken to keep under observation all persons who could be ascertained to have been in contact with the patient or to have had dealings with the barge, some of the probable "contacts" being in Widnes. A cat which had belonged to the patient could not be found and it may be mentioned that the cabin was found to be swarming with fleas. The articles of clothing of the deceased were either destroyed or disinfected, and some of them which had been pawned were recovered from the pawnshop and dealt with in a similar way. The bacterial investigations were pursued with great care both in Liverpool and in London, but no positive results could be obtained by either investigator, owing probably to the delay in taking the material and to the presence of large numbers of other disease-producing organisms, until the afternoon of Nov. 3rd, when positive results were arrived at.

It may be stated here that immediately the mate fell ill a man was taken on board the barge to assist in its navigation, and on Oct. 26th, before the disinfection of the quarters, his wife also went on board. The master of the barge lived at Walton and only went on board during the day. On Nov. 4th, under the terms of the Paris Convention relating to plague, the case was reported by the Local Government Board to the Foreign Office, and at the same time the medical officer informed the Consular body in the city. On the evening of Nov. 5th an announcement was made to the daily press by the Local Government Board. On the morning of Nov. 6th the wife of the man who went on board when the mate fell ill, in conformity with instructions to report herself if any sickness arose, went to the Port Office and stated that her husband had been unwell through the night and that she had been unable to get any medical assistance for him, owing to the barge being remotely placed in the dock. Dr. Hanna at once revisited the barge and the man and his wife were removed forthwith to the hospital at New Ferry, and the barge was again submitted to a further disinfection and the hatchways were closed. The barge remains in this condition now. The usual notifications were given in conformity with the terms of the Paris Convention, and Dr. R. A. Farrar of the Local Government Board visited Liverpool on Nov. 8th and has given very material assistance in investigating the origin of the first case.

With regard to the two patients, the man and his wife, in each case the illness was of a most critical nature, and although the man succumbed to the disease the woman fortunately survived and will in all likelihood recover. The patients were under the care of Dr. Hanna, and he also applied a prophylactic vaccination to the staff. The necessary delay in confirming the nature of the cases, together with Sunday supervening, gave rise to a day's delay in notification to the Consuls. The barge now is in the position in which she was left by the disinfecting staff. Fortunately the men refused to go on board her to discharge her coal, and the owners are perfectly satisfied with the course adopted.

pelvis, had lacerated the pyramids, and weighed 3 ounces; the size was 4 inches by 1½ inches. The third case was that of a man, aged 55 years, who suffered from a swelling in the left lumbar region without any discomfort. A cystic tumour of the kidney was diagnosed and an operation was performed. A large cyst was found replacing the lower half of the kidney and was removed. The upper pole of the organ, together with the ureter, was left behind. The examination of the cyst wall showed it to be one of the very rare instances of cystadenoma of the kidney, whilst the fact that the patient is doing very well now, two years after operation, is also noteworthy, for although there are many people alive and well with only one kidney, there can be very few with one kidney and a half.

Nov. 23rd.

Obituary.

SALVATOR ALOYSIUS PISANI, C.M.G., M.D. MALTA & EDIN., L.R.C.S. EDIN.,

LATE CHIEF GOVERNMENT MEDICAL OFFICER IN MALTA.

Dr. Salvator Pisani, whose death on Oct. 27th has been announced, was an old and prominent inhabitant of the island of Malta, where he was born in 1828 and where, like his father before him, he was for many years the leading medical practitioner. He studied in Malta, where he took the degree of M.D. in 1850, after which he proceeded to Edinburgh, becoming an M.D. of that University three years later. He also took the Licentiateship of the Royal College of Surgeons of Edinburgh. He studied during the next year in Berlin, London, and Paris, and in 1854 he returned to Malta to join his father in practice there. During the Crimean war he proceeded to Scutari to join the hospital of the British troops in which Miss Florence Nightingale was nursing. On returning to Malta he was appointed professor successively of anatomy, midwifery, surgery, and clinical surgery at the University and also surgeon and accoucheur of the Central Civil Hospital. These appointments naturally led to an extensive private practice which he gave up on being appointed chief Government medical officer in Malta, an appointment which gained him the C.M.G. in 1895. He spent the last years of his life in retirement at his residence in Valetta.

THE PROPOSED BRISTOL UNIVERSITY.—A draft of the proposed charter of incorporation of the Bristol University has been deposited in Parliament and now awaits confirmation.

RUSSIAN VIEWS ON INOCULATION AGAINST CHOLERA.—According to the *Novoe Vremya* a council of medical sanitarians has held a meeting at which many authorities were present to discuss the question as to whether it is advisable to inoculate the mass of the population as a prophylactic against cholera. Privat-docent Oleinik held that inoculation could be useful only to the uneducated classes, for the intelligent classes can protect themselves by ordering their lives in a more hygienic manner. The action of serum on the human organism has not yet been determined fully, whilst a great deal depends upon the nature of the serum itself. Private institutions prepare it without any supervision and some medical men declare that even after three inoculations no effect has been observed. Again, sterilised serum is sometimes used, which cannot fail to produce bad results. In future the serum must be carefully inspected. It was decided that each medical man should visit all those whom he had inoculated
…ir homes and report upon their subsequent condition.
digestion, …formation so acquired will form the basis of a dis-
staltic hormone …ly, it was decided to request the Government
peristaltic movement … …ration of serum in private establish-
visible within a few seconds anu… …the cholera will break out
passed through to the anus. As to the …he above journal says
the peristaltic hormone he explained … disappointment that
extracted from the mucous membrance of … cold weather), "if
solution of kitchen salt or diluted muriati… …h of the capital is
albumin then removed by alcohol. The stom… …t wh… the…
pigs, and horses and the rennet-bag in cattle …
hormone. It might also be obtained from …

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE half-yearly session of the General Council of Medical Education and Registration opened at the offices of the Council, 299, Oxford-street, London, W., on Tuesday, Nov. 24th. Sir DONALD MACALISTER, the President, was in the chair.

New Member.

Sir T. CLIFFORD ALLBUTT, K.C.B., introduced to the Council by Dr. NORMAN MOORE, took his seat as representative for the University of Cambridge.

The President's Address.

The PRESIDENT then delivered his address. He said: The Council to-day enters on its second half-century. Fifty years ago, in pursuance of the Medical Act of 1858, it was summoned by the Secretary of State for the Home Department, and meeting in the hall of the Royal College of Physicians, with Dr. Thomas Watson as temporary chairman, elected Sir Benjamin Brodie to be its first President. The Act charged the Council with the duty of creating and maintaining the Medical Register for the information of "persons requiring medical aid." The Register was the instrument devised by the legislature to enable such persons "to distinguish qualified from unqualified practitioners." Thus, by the law of its foundation, the Council's primary purpose was the promotion of a specific public interest of great importance. In constitution and in function it differed from the existing medical faculties and corporations. By its constitution, nine only of its 24 members need be qualified practitioners themselves. The President, the University members, and the Crown members might be laymen. Its function was to safeguard the public by insuring that the Register should be trustworthy. To this end the Council was intrusted with two-fold powers. It had authority to supervise the admission-tests whereby the "qualification" of practitioners was ascertained; it had authority, also, to remove those who, after "qualification," had proved themselves unworthy. From these two powers the manifold activities of the Council, as they are exercised to-day, have slowly but inevitably been developed. Subsequent Acts of Parliament have modified in detail the composition of the Council, or defined more clearly the scope and mode of its action, or imposed upon it additional public duties of various kinds. The decisions of the courts have declared the nature and extent of its jurisdiction and laid down the principles which govern its disciplinary procedure. The enlightened coöperation and criticism of the licensing bodies have enabled it to formulate a standard of "qualification" which is generally accepted not only within the United Kingdom but in many parts of the British dominions beyond the seas. But the root, from which all the rest is but a natural outgrowth, is contained in the brief preamble of the Act of 1858, whose jubilee we commemorate at this meeting. Retrospect is tempting on such an occasion; but in the interest of the Council's time, which in more than one sense is valuable, I propose to resist the temptation to indulge in retrospect from this chair. I had recently the opportunity to trace at some length what appeared to me to be the main lines of the Council's development. My paper has been published in the medical journals and separately, and it is unnecessary that I should now trouble you by repeating its narrative or its comments. But I may be allowed to reiterate my conclusions; they express, as well as I can express it, the outcome of the long and chequered story.

The Medical Council began its life with powers and duties that were indicated rather than defined. It had at first to contend with grave difficulties, internal and external. Like other British institutions, it had to make its way through a tangle of ancient traditions, vested rights, and sacred privileges. It had to "find itself" before it began to be effective. But that it has grown and borne many
useful fru… …n question who studies its history.
It ha… …has kept before it its original
…rding of the public health
…eans to that end it has
… the improvement of the

at the…
All the in… Lastly,
cussion. … the prepara…
to supervise … that
ments. It is quite expected that
fresh in the capital in the spring.
…ticipation of this (after expressing
…ase has not disappeared with the
does not cease when all the filth
…now, what may we not expec…
…it again?"

A **MEMBER** complained that he had never received a oting card.

When the amendment was put to the meeting it was lost.

Mr. R. **HILLS** moved an amendment that the whole of the rst paragraph should be omitted. It was wrong for the Council to act in opposition to the expressed wish of the Members. The amendment was not seconded and when the original motion was put to the meeting it was carried with ew dissentients.

Dr. W. G. **DICKINSON** introduced the second motion, namely:—

That this meeting is of opinion that women when admitted to the diplomas of the College should have equal rights with men.

He quoted the opinion of counsel taken by the Council as to the admission of women, and he claimed that the Council was relying too much on this opinion. The Members had also taken counsel's opinion, and this had been to the effect that women were admissible under the Charter of the College, for the Charter spoke only of "persons." If this were so, women were not admissible under the enabling Act of 1876. He was under the impression that no other medical body had attempted to make use of the Act of 1876. If women were admissible under the Charter they were not admissible under the Act of 1876, and therefore the Council would find itself in a dilemma, for if women were admissible under the Charter they would have all the rights of the other Fellows and Members.

Dr. A. S. **MORTON**, in seconding the motion, said that if women were admitted they should have equal rights with men. If women accepted the conditions imposed by the Council they would be in a worse position even than the Members.

Mr. **COLLINGWOOD** expressed the opinion that the conferring of diplomas such as suggested would be in opposition to the spirit of the times.

The motion was put to the meeting and was carried by a large majority.

Mr. **COLLINGWOOD** then moved—

That the President and Council of the Royal College of Surgeons be respectfully asked to use their moral influence to obtain some more sufficient title for those who have passed the examinations for the Conjoint Diploma, remembering the importance attached to degrees to the detriment of holders of the said diplomas granted by this ancient corporation in conjunction with the Royal College of Physicians of London.

He claimed that the holders of the Conjoint diploma deserved a degree in medicine. Professor W. Osler and others had said definitely that the examinations of the Conjoint Board were quite as difficult as those of many degree-conferring bodies. It made a great deal of difference in practice. Statistics had shown that the average time taken to obtain the London Conjoint diploma was six and three-quarter years, while only five and a half years were required for Scottish graduates. The two Royal Colleges were in effect a university.

Mr. J. **BRINDLEY JAMES** seconded the motion and pointed out that the College of Physicians refused to allow its Licentiates to use the title of doctor.

Dr. J. B. **FITZGERALD** mentioned that he had passed the examination for the Membership in 1876; it was a decidedly stiff ordeal and fully equal to most other examinations, even in medicine, for the College of Surgeons at that time examined in medicine. He urged that the Members of the College who had passed in medicine should be admitted to a medical degree.

Dr. **RICHARD PARAMORE** was of opinion that the grievance was more imaginary than real. He did not think that the absence of a degree interfered with the power of making a good practice.

A **MEMBER** pointed out that there was a real grievance in the fact that at many hospitals the rules required a degree in the candidates for the staff appointments and would not be satisfied with the Conjoint diploma.

The motion was carried by a great majority.

Mr. H. **ELLIOT-BLAKE** then moved:—

That this meeting is of opinion that the Council of the Royal College of Surgeons, if possible in arrangement with the Royal College of Physicians, should adopt a hood and cap to complete the Conjoint or Fellows' and Members' academicals.

He pointed out that the Royal College of Preceptors and the Royal College of Music each gave a hood to its diplomates and therefore there had been a misapprehension in the decision of the Council not to grant a hood on the plea that "hoods do not appear to be in general use among Colleges of similar standing to the Royal College of Surgeons in England."

The **PRESIDENT** stated that the Council could only reply in the same terms as last year to a resolution which was to the same effect as a resolution of last year. The Council had come to a careful decision in the matter and had stated the grounds on which its decision had been based.

The motion was not seconded and so it was not put.

Dr. **LAWRENCE** then asked permission not to move his motion on the agenda expressing an entire want of confidence in the management of the College affairs and finances by the Council, this action being taken at the request of the Society of Members.

Mr. **HILLS** then asked if the Council would be willing that the Members should be represented on the Council by four Fellows in general practice.

The **PRESIDENT** replied that necessarily he could not reply for the Council but he pointed out that at the last election of members of Council a Fellow of the College in general practice was a candidate and received a large measure of support.

ROYAL SOCIETY OF MEDICINE.

DEBATE ON HEREDITY, WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.—*(Continued from p. 1546.)*

Professor **KARL PEARSON** said that on the present occasion he occupied a third position, which was scarcely recognised by the medical profession on the one hand, nor by the biologist on the other. He was a mathematician or statistician. Most of the cases which had been discussed, and illustrations which had been thrown on the screen required some aid from the mathematician if the results were to be interpreted. Still, the mathematician was liable to make blunders unless he acted with the medical man and the biologist. He sympathised very largely with what Dr. Mercier said about the need for obtaining statistics with regard to normals as well as to abnormals. He (Professor Pearson) had himself compiled in his own way records of 400 families but he did not think that inferences could be drawn until about a thousand cases had been collected. The majority of those were put together by medical men, not necessarily from simple inquiry of patients at hospitals but from knowing the families over a long time. It was very difficult to obtain accurate results from inquiries in a London hospital. His own opinion was that the population in London was decidedly inferior to that met with in the north of England and in Scotland. And the statistics of Dr. Rivers, which were based upon sympathetic acquaintance with the patients, were not subject to the criticism which Dr. Latham passed upon them. All would agree about Dr. Mercier's remarks concerning mutations. His own view was that there was no truth in Mendelism at all. At the last meeting he saw on the screen one or two pedigrees which were supposed to illustrate Mendelism. There was Viall's pedigree which was familiar to most of those present, and recently Dr. Viall's son had carried that down one or two generations further. Diabetes insipidus or polyuria was traced through a non-affected member. Such cases were rare but they very probably existed. Pedigrees of albinism were also shown. He was much interested in that, because he had been busy, in conjunction with Mr. Nettleship, in collecting pedigrees of albinism from all parts of the world. They had now 600 pedigrees covering 5000 albinos. Most people would say that albinism was a mutation, but the difficulty arose, How was it to be classified at all? No simple category of albinotic or non-albinotic would cover it. There was every grade of albinism in both man and animals. When a necropsy was made on a man who had passed all his life as an albino pigment was found in all directions in his body. Was he really an albino or not? The classification of such people into albinotic and non-albinotic could not be carried far. He could give other illustrations of things or conditions which were said to be present or to be absent. The difficulty was to know whether they were really present or absent. There were many grades of albinos which could not be distinguished sufficiently ophthalmoscopically. About 100 specimens of hair albinos had now been examined and there was diffuse pigment in nearly all of them. The same could "specially qualified to practise dentistry," although he avoided the assumption of any specific professional title. The scope of this judgment is far-reaching and its effect may be to check certain flagrant abuses against which the dental profession have long and earnestly protested. The position, often maintained in the Council and elsewhere, that the Dentists Act is more effective than the Medical Acts in the restrictions it imposes on the false assumption of professional status and skill, is vindicated. The efforts of the British Dental Association in this and other cases to elicit by judicial pronouncements the full bearing of the Dentists Act as regards unqualified practice, whether by companies or by individuals, have been unremitting and are amply justified by their success. In its desire for the improvement of professional methods and standards of conduct the Dental Association has addressed to the Council a request that it should forthwith legislate against the practice of advertising by registered dentists. The end in view is good, and merits the Council's serious consideration, but it may be questioned whether the means suggested are within the Council's present powers. Our legal advisers will probably have some counsel to offer on the subject during the session. A small number of penal cases will require your careful attention. They are not without gravity, but none of them are likely to occupy so much of your time as one into which you inquired in May last. The appeal against your decision in that case, of which some mention was made at the time, has not taken place. The duration of the last session, protracted by causes beyond our control, involved a serious strain upon the Council. There is every reason to expect that we may be able in some measure to redress matters by confining the labours of the present session within the limits of this week.

In conclusion, I have pleasure in reporting that the improved system of keeping in the office the documents relating to the registers, which has been in preparation for several years, has now been completed both for the Medical and for the Dentists' Register. For each registered practitioner a separate file is provided, in which every paper referring to his career, with his successive changes of address, &c., is preserved. These files are so arranged that immediate reference can be made to every document relating to his registration, and thus any question respecting him can be rapidly and conveniently answered. Already the system has proved itself to be of great utility as regards the ascertaining and maintaining of the accuracy of the registers. The skill and labour bestowed on this important work by the registrar and his assistants have been great and deserve the grateful acknowledgments of the Council. It is proposed in the beginning of next year to issue a circular of inquiry to every registered practitioner, with a view to eliminate as far as possible all remaining errors from the Register.

The President having been formally thanked for his address, the tables showing the results of the last competitions for medical commissions in the Navy, Army, and Indian Army were received and entered on the minutes. A debate, adjourned from last session, followed on the duties of the assistant examiners at the Apothecaries' Hall, Dublin.

Wednesday, Nov. 25th.

The time of the meeting was occupied by the consideration of one penal case.

Medical News.

Society of Apothecaries of London.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—H. R. Coombes (Section II.), Cambridge and Westminster Hospital.

Medicine.—H. R. Coombes (Sections I. and II.), Cambridge and Westminster Hospital; G. F. C. Harvey (Section II.), London Hospital; and F. H. P. Wills (Sections I. and II.), St. Mary's Hospital.

Forensic Medicine.—N. B. Benjafield, University College Hospital; and R. B. Dawson, Guy's Hospital.

Midwifery.—H. R. Ibbotson, Leeds; J. J. S. Rowe, Charing Cross Hospital; and G. F. Wilson, London [illegible]

The diploma of the Society was granted [illegible] entitling them to practise medicine, sur[illegible] Coombes, R. B. Dawson, and G. F. C. Harvey.

Royal College of Surgeons in Ireland: Fellowship Examination.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

R. Bury, J. Craig, P. F. Foran, A. F. Penny, J. Rankin, and P. Sheridan.

The following candidates have passed the primary part of the Fellowship Examination:—

H. A. Driver, J. Gormley, T. M. Thomson, and F. W. Warren

Trinity College, Dublin.—At the Final Medical Examination, Part II., held recently, the following candidates were successful:—

Medicine.—Desmond Drew, Richard J. Attridge, David J. Miller, Henry H. Ormsby, Norman P. Jewell, Wellesley R Allen, Alexander S. M. Winder, James P. S. Dunn, Harold S. Sugars, Frank N. Smartt, Howard S. Millar, Richard FitzGerald, and Joseph B N. Ryan.

Surgery.—Gerald G. Mecredy, Henry R. Kenny, Harold S. Sugars, James F. Clarke, Richard J. Attridge, George Halpin, Norman P Jewell, William A. Nicholson, Gordon A. Jackson, Herbert V Stanley, Alexander S. M. Winder, John C. Baker, Frank N. Smartt, and Thomas Ryan.

Foreign University Intelligence.—*Berlin:* Dr. Felix Hirschfeld, *privat-docent* of Medicine: Dr. Georg Abelsdorff, *privat-docent* of Ophthalmology; and Dr. Alfred Blaschko, the well-known dermatologist, have been granted the title of Professor.—*Berne:* Dr. Emil Bürgi, Extraordinary Professor of Medical Chemistry and Pharmacology, has been promoted to the Ordinary Professorship.—*Cologne (Academy of Practical Medicine):* Dr. Rudolf Graessner, Senior Staff-Surgeon in the Prussian Army, has been granted the title of Professor.—*Ghent and Liége:* A new diploma of *Medecin-hygiéniste* has been instituted by Royal Warrant. Candidates must possess the degree of Doctor of Medicine, Surgery, and Midwifery and must spend a year in special studies. The examination comprises subjects similar to those required for public health diplomas in English universities.—*Harvard:* Dr. A. Christian has been appointed to the chair of Medicine.—*Leyden:* Dr. E. Gorter has been recognised as *privat-docent* of Children's Diseases.—*Nantes:* Dr. Monnier, Professor of Pathology, has been transferred at his own request to the Chair of Clinical Medicine, in succession to the late Dr. Hervouet.—*Philadelphia (Woman's Medical College of Pennsylvania):* Mrs. Harriet L. Hartley, M.D., has been appointed Professor of Surgery.—*Rouen:* Dr. Brunon, Professor of Internal Pathology, has been transferred at his own request to the Chair of Clinical Medicine, in succession to the late Dr. Olivier.—*Wurzburg:* Dr. Ackermann has been recognised as *privat-docent* of Physiology.

The Royal Dental Hospital of London.—The annual dinner of the staff and past and present students of this hospital was held at the Whitehall Rooms. Hôtel Métropole, on Saturday, Nov. 21st, when Mr. W. B. Paterson occupied the chair. He was supported on his right by the President of the Royal College of Physicians of London and on his left by the President of the Royal College of Surgeons of England. After the usual loyal toasts the chairman proposed that of "The Past and Present Students of the Royal Dental Hospital and the Dental School" and in an attractive speech recounted some interesting reminiscences of his student days at the hospital and referred to the happy relationships that existed between the staff and students. Mr. J. S. Amoore and Mr. F. G. H. Armin, the former representing the past and the latter the present students, responded. The dean, Mr. J. F. Colyer, replying for the school, referred to the progressive policy of its staff and mentioned that amongst other things which had proved useful in the equipment of the school was the comparatively recent inauguration of a bacteriological department and an x ray department. He attached considerable educational importance to the hospital *Gazette*, by means of which students who had left the hospital for practice could become acquainted with the advances that dental surgery was making. He preached the cult of the clean mouth and reminded his hearers that those who gave close attention to the subject were after all studying part of the great subject of medicine. The toast of "The Visitors" was proposed by Mr. D. P. Gabell, to which Sir Richard Douglas Powell replied. He said that the physician was in keen sympathy with the work of the dental surgeon, which contributed their offspring was as much as 43·15, but the risk of infection in these cases was doubled. His present opinion until more conclusive evidence was brought forward was that which he arrived at 15 years ago—namely, that susceptibility to suffer from tuberculous infection was a racial characteristic of human beings and that there was not sufficient evidence to prove that any special specific predisposition to that disease was transmitted by heredity by some individuals more than by others.

The debate was adjourned to Nov. 26th.

SANITATION IN INDIA.

The Annual Report of the Sanitary Commissioner with the Government in India for 1906.

THE annual report of the Sanitary Commissioner with the Government in India for the year 1906 was issued a few weeks ago. It would seem that these annual reports which are so full of interesting details concerning the state of the sanitation as exhibited in our great dependency regularly appear some two years after the year with which they deal has passed. *This is probably accounted for by* the large bulk of work that has to be collected from many provinces and embodied in a comprehensive survey. An immense amount of information is contained in these reports, for they deal with the health of both the European and native armies of India, with the jails of India, the vital statistics of the general population, the history of the chief diseases of the population, and with the general history of vaccination, as well as with the sanitary works that have been, or are being, undertaken, and conclude with valuable general remarks on special subjects. In the report under review these last embrace the Red Sea pilgrim traffic, the work of the research laboratories in India, and special inquiries into diseases such as enteric fever, dysentery, malaria, blackwater fever, and kala-azar. Investigations regarding piroplasma, rats, and biting flies are described also. This short summary is sufficient indication of the range of the report; without describing it further we may notice briefly some of the special work which has been performed.

Enteric fever is receiving now very careful attention, and considering the ravages which this disease has caused amongst our troops, we are glad to note that at length some fruitful results seem likely to reward the labours of the medical officers concerned. Notable advances in our knowledge of important problems connected with the disease have been recorded. These advances have resulted in great part from the new impulse which has been given to its investigation by the work of Koch and his followers, and are of so striking a character as to give good reason to hope that before very long most of these vexed problems will be solved finally. The lead given by the Germans has been followed enthusiastically in India and the committee of investigation at the Central Research Institute at Kasauli has obtained results of engrossing interest and far-reaching importance. Captain Greig, I.M.S., the officer who has been temporarily in charge of the bacteriological inquiry, has written a most interesting interim report. Thus the subject of paratyphoid fever has been fully entered into and its special signs portrayed. The importance of the rôle of convalescents and the so-called "bacillus carriers" has claimed attention, and the effect of contaminated drinking water has been found to be the *cause* of infection in a decreased degree. The Government of India has arranged as the result of a representation from the Duars Planters' Association that an inquiry into the prevalance of blackwater fever in these districts should be instituted. A careful preliminary survey of the *conditions existing* in the tea gardens was made by Dr. C. A. Bentley and as a result of his important observations material available for the study of the disease has been gathered sufficient to *render* a successful investigation possible.

An important fact respecting *kala-azar* has been determined by Captain W. S. Patton, I.M.S., at the King Institute at Guindy. He has found that the parasite undergoes development in the body of a species of bed-bug. Much work has also been undertaken in order to determine the correct zoological position of the Leishman-Donovan parasite, which seems to show that it is not a piroplasma.

A comprehensive study of the identification of the rats of India has been begun and an inquiry is being prosecuted respecting the biting flies of India, and one of the most important researches in the department has been to determine whether the tsetse fly occurs in India, in view of the possibility that cases of sleeping sickness may be imported there. No evidence of the presence of this fly has so far been obtained.

A considerable number of admissions for Malta fever are noted, especially in the Punjab, in a full account of the disease by Major C. N. C. Wimberley, I.M.S., who has shown that 100 days or more were a common duration of the fever, relapses being frequent, whilst pain and effusion into joints were present in most cases. The blood agglutinated the micrococcus Melitensis in dilutions as high as 1 in 1280 and in one case as high as 1 in 5120. Such are a few of the facts that have been found out since the last report, which fully bears out our opinion of the large amount of sanitary work that has still to be done in India.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7571 births and 4651 deaths were registered during the week ending Nov. 21st. The annual rate of mortality in these towns, which had been equal to 15·0 and 15·9 per 1000 in the two preceding weeks, declined again to 15·6 in the week under notice. During the first eight weeks of the current quarter the annual death-rate in these towns averaged 14·5 per 1000, and in London the mean rate in the same period did not exceed 13·8. The lowest annual death-rates in these towns last week were 6·1 in Handsworth, 7·3 in Hornsey, 8·3 in Reading, and 8·8 in East Ham; the rates in the other towns ranged upwards, however, to 26·0 in Stockport, 26·8 in Wigan, 27·0 in Rotherham, 31·4 in Stockton-on-Tees, and 33·8 in Middlesbrough. In London the death-rate during the week did not exceed 14·8 per 1000. The 4651 deaths from all causes in the 76 towns showed a decline of 113 from the number returned in the previous week, and included 422 which were referred to the principal epidemic diseases, against 567, 470, and 434 in the three preceding weeks; of these 422 deaths, 139 resulted from diarrhœa, 126 from measles, 56 from diphtheria, 40 from "fever" *(principally* enteric), 35 from whooping-cough, and 26 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·4 per 1000, corresponding with the rate that prevailed in the previous week; in London the death-rate from these diseases last week did not exceed 1·1 per 1000. No death from any of these epidemic diseases was registered last week in Birkenhead, Leyton, Southampton, Hornsey, York, or in six other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·9 in St. Helens and in Huddersfield, 9·0 in Rotherham, and 9·6 in Middlesbrough. The 139 deaths attributed during the week to diarrhœa in the 76 towns showed a further decline of 13 from the numbers in recent weeks, and were fewer than in any week since the middle of July; the highest annual death-rates from this cause during the week were, 1·6 in Walsall, 1·9 in Blackburn, and 2·9 in Grimsby. The fatal cases of measles, which had steadily increased in the eight preceding weeks from 31 to 104, further rose to 126 during the week under notice; they caused death-rates equal to 3·0 in Leicester, 3·3 in Huddersfield, 5·5 in Middlesbrough, and 7·4 in Rotherham. The 56 deaths from diphtheria showed a further decline of four from the high numbers returned in the two preceding weeks; this disease, however, caused death-rates exceeding 1 per 1000 in Wolverhampton, Middlesbrough, St. Helens, and Devonport. The deaths referred to "fever" during the week were 40, against 41 and 45 in the two preceding weeks; two deaths from "fever" were recorded in St. Helens, equal to an annual rate of 1·1 per 1000. The 35 deaths from whooping-cough showed a further slight increase upon recent weekly numbers, whereas the 26 fatal cases of scarlet fever were fewer by 13 than those returned in the previous week; 13 deaths from scarlet fever were "specially qualified to practise dentistry," although he avoided the assumption of any specific professional title. The scope of this judgment is far-reaching and its effect may be to check certain flagrant abuses against which the dental profession have long and earnestly protested. The position, often maintained in the Council and elsewhere, that the Dentists Act is more effective than the Medical Acts in the restrictions it imposes on the false assumption of professional status and skill, is vindicated. The efforts of the British Dental Association in this and other cases to elicit by judicial pronouncements the full bearing of the Dentists Act as regards unqualified practice, whether by companies or by individuals, have been unremitting and are amply justified by their success. In its desire for the improvement of professional methods and standards of conduct the Dental Association has addressed to the Council a request that it should forthwith legislate against the practice of advertising by registered dentists. The end in view is good, and merits the Council's serious consideration, but it may be questioned whether the means suggested are within the Council's present powers. Our legal advisers will probably have some counsel to offer on the subject during the session. A small number of penal cases will require your careful attention. They are not without gravity, but none of them are likely to occupy so much of your time as one into which you inquired in May last. The appeal against your decision in that case, of which some mention was made at the time, has not taken place. The duration of the last session, protracted by causes beyond our control, involved a serious strain upon the Council. There is every reason to expect that we may be able in some measure to redress matters by confining the labours of the present session within the limits of this week.

In conclusion, I have pleasure in reporting that the improved system of keeping in the office the documents relating to the registers, which has been in preparation for several years, has now been completed both for the Medical and for the Dentists' Register. For each registered practitioner a separate file is provided, in which every paper referring to his career, with his successive changes of address, &c., is preserved. These files are so arranged that immediate reference can be made to every document relating to his registration, and thus any question respecting him can be rapidly and conveniently answered. Already the system has proved itself to be of great utility as regards the ascertaining and maintaining of the accuracy of the registers. The skill and labour bestowed on this important work by the registrar and his assistants have been great and deserve the grateful acknowledgments of the Council. It is proposed in the beginning of next year to issue a circular of inquiry to every registered practitioner, with a view to eliminate as far as possible all remaining errors from the Register.

The President having been formally thanked for his address, the tables showing the results of the last competitions for medical commissions in the Navy, Army, and Indian Army were received and entered on the minutes. A debate, adjourned from last session, followed on the duties of the assistant examiners at the Apothecaries' Hall, Dublin.

WEDNESDAY, NOV. 25TH.

The time of the meeting was occupied by the consideration of one penal case.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—H. R. Coombes (Section II.), Cambridge and Westminster Hospital.

Medicine.—H. R. Coombes (Sections I. and II.), Cambridge and Westminster Hospital; G. F. C. Harvey (Section II.), London Hospital; and F. H. P. Wills (Sections I. and II.), St. Mary's Hospital.

Forensic Medicine.—N. B. Benjafield, University College Hospital; and R. B. Dawson, Guy's Hospital.

Midwifery.—H. R. Ibbotson, Leeds; J. J. S. Rowe, Charing Cross Hospital; and G. F. Wilson, London Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: H. R. Coombes, R. B. Dawson, and G. F. C. Harvey.

ROYAL COLLEGE OF SURGEONS IN IREL

FELLOWSHIP EXAMINATION.—The following cand having passed the necessary examination have been adm Fellows of the College:—

R. Bury, J. Craig, P. F. Foran, A. F. Penny, J. Rankin, a Sheridan.

The following candidates have passed the primary part o Fellowship Examination:—

H. A. Driver, J. Gormley, T. M. Thomson, and F. W. Warren.

TRINITY COLLEGE, DUBLIN.—At the Fi Medical Examination, Part II., held recently, the follow candidates were successful:—

Medicine.—Desmond Drew, Richard J. Attridge, David J. Mil Henry H. Ormsby, Norman P. Jewell, Wellesley R. Allen, Alexan S. M. Winder, James P. S. Dunn, Harold S. Sugars, Frank Smartt, Howard S. Millar, Richard FitzGerald, and Joseph B Ryan.

Surgery.—Gerald G. Mecredy, Henry R. Kenny, Harold S. Suga James F. Clarke, Richard J. Attridge, George Halpin, Norman Jewell, William A. Nicholson, Gordon A. Jackson, Herbert Stanley, Alexander S. M. Winder, John C. Baker, Frank N. Smart and Thomas Ryan.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Felix Hirschfeld, *privat-docent* of Medicine Dr. Georg Abelsdorff, *privat-docent* of Ophthalmology; and Dr. Alfred Blaschko, the well-known dermatologist, have been granted the title of Professor.—*Berne:* Dr. Emil Bürgi, Extraordinary Professor of Medical Chemistry and Pharmacology, has been promoted to the Ordinary Professorship—*Cologne* (*Academy of Practical Medicine*): Dr. Rudolf Graessner, Senior Staff-Surgeon in the Prussian Army, has been granted the title of Professor.—*Ghent and Liége:* A new diploma of *Medecin-hygiéniste* has been instituted by Royal Warrant. Candidates must possess the degree of Doctor of Medicine, Surgery, and Midwifery and must spend a year in special studies. The examination comprises subjects similar to those required for public health diplomas in English universities.—*Harvard:* Dr. A. Christian has been appointed to the chair of Medicine.—*Leyden:* Dr. E. Gorter has been recognised as *privat-docent* of Children's Diseases.—*Nantes:* Dr. Monnier, Professor of Pathology, has been transferred at his own request to the Chair of Clinical Medicine, in succession to the late Dr. Hervouet.—*Philadelphia* (*Woman's Medical College of Pennsylvania*): Mrs. Harriet L. Hartley, M.D., has been appointed Professor of Surgery.—*Rouen:* Dr. Brunon, Professor of Internal Pathology, has been transferred at his own request to the Chair of Clinical Medicine, in succession to the late Dr. Olivier.—*Wurzburg:* Dr. Ackermann has been recognised as *privat-docent* of Physiology.

THE ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students of this hospital was held at the Whitehall Rooms. Hôtel Métropole, on Saturday, Nov. 21st, when Mr. W. B. Paterson occupied the chair. He was supported on his right by the President of the Royal College of Physicians of London and on his left by the President of the Royal College of Surgeons of England. After the usual loyal toasts the chairman proposed that of "The Past and Present Students of the Royal Dental Hospital and the Dental School" and in an attractive speech recounted some interesting reminiscences of his student days at the hospital and referred to the happy relationships that existed between the staff and students. Mr. J. S. Amoore and Mr. F. G. H. Armin, the former representing the past and the latter the present students, responded. The dean, Mr. J. F. Colyer, replying for the school, referred to the progressive policy of its staff and mentioned that amongst other things which had proved useful in the equipment of the school was the comparatively recent inauguration of a bacteriological department and an x ray department. He attached considerable educational importance to the hospital *Gazette*, by means of which students who had left the hospital for practice could become acquainted with the advances that dental surgery was making. He preached the cult of the clean mouth and reminded his hearers that those who gave close attention to the subject were after all studying part of the great subject of medicine. The toast of "The Visitors" was proposed by Mr. D. P. Gabell, to which Sir Richard Douglas Powell replied. He said that the physician was in keen sympathy with the work of the dental surgeon, which contributed

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1908.

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1908.	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,795,757	—	2605	902	—	221	4	25	480	8	4245	9·2	—	63	46	53	34	—	37	—	303	586	1·8	5650	12·3	124
West Districts.																										
Paddington	150,923	—	116	29	—	2	—	2	16	—	165	11·4	—	1	2	1	1	—	—	—	8	13	0·9	142	9·8	156
Kensington	182,752	—	65	20	—	5	—	2	15	—	107	6·1	—	—	3	1	2	—	—	—	11	17	1·0	211	12·0	156
Hammersmith	124,012	—	35	16	—	3	—	—	8	—	62	5·2	—	1	2	—	1	—	—	—	11	15	1·3	151	12·7	151
Fulham	171,662	—	67	40	—	5	—	1	10	—	129	7·8	—	2	2	6	1	—	—	—	14	25	1·5	181	11·0	147
Chelsea	75,049	—	8	18	—	2	—	1	3	—	32	4·4	—	—	—	2	3	—	—	—	2	7	1·0	85	11·8	108
City of Westminster	170,545	—	98	23	—	4	—	1	12	1	139	8·5	—	1	—	1	—	—	1	—	2	5	0·3	164	9·4	91
North Districts.																										
St. Marylebone	126,867	—	60	10	—	2	—	—	17	1	80	6·6	—	5	1	1	1	—	—	—	7	15	1·2	149	12·2	87
Hampstead	92,654	—	39	6	—	3	1	1	3	—	53	6·0	—	—	—	—	—	—	2	—	3	5	0·6	78	8·8	65
St. Pancras	237,075	—	98	34	—	6	—	—	17	—	165	6·8	—	—	—	2	1	—	1	—	13	17	0·7	277	12·2	104
Islington	349,091	—	176	90	—	15	—	1	16	2	300	9·0	—	3	2	9	3	—	4	—	13	34	1·0	403	12·0	122
Stoke Newington	54,015	—	24	5	—	3	—	—	—	—	32	6·2	—	—	1	—	1	—	2	—	4	8	1·6	64	12·4	87
Hackney	235,253	—	135	43	—	12	—	3	26	—	219	9·7	—	1	1	4	2	—	—	—	10	27	1·2	272	12·1	126
Central Districts.																										
Holborn	54,466	—	16	2	—	3	—	1	3	—	25	4·8	—	—	—	—	1	—	—	—	2	3	0·6	62	11·9	93
Finsbury	96,007	—	62	31	—	10	—	—	11	—	114	12·4	—	3	1	2	2	—	3	—	15	26	2·8	173	18·8	141
City of London	19,252	—	5	1	—	3	—	—	—	—	9	4·9	—	—	—	—	—	—	—	—	—	—	—	21	11·4	—
East Districts.																										
Shoreditch	115,227	—	76	24	—	17	—	—	15	1	132	11·9	—	—	—	2	4	—	3	—	14	23	2·1	170	16·2	184
Bethnal Green	131,066	—	111	33	—	24	—	1	26	—	195	15·5	—	11	3	3	1	—	1	—	14	33	2·6	169	15·8	138
Stepney	310,706	—	268	57	—	21	—	—	50	1	397	13·3	—	14	6	3	1	—	1	—	38	63	2·1	470	15·8	143
Poplar	171,516	—	182	26	—	17	—	3	16	—	244	14·8	—	—	7	1	1	—	2	—	18	29	1·8	215	13·1	127
South Districts.																										
Southwark	210,442	—	93	37	—	6	—	1	26	—	163	8·1	—	2	1	3	1	—	1	—	22	30	1·5	238	14·8	146
Bermondsey	127,910	—	59	38	—	14	—	4	26	—	141	11·5	—	11	2	—	1	—	5	—	14	33	2·7	240	19·6	152
Lambeth	321,344	—	147	36	—	12	—	—	30	1	226	7·3	—	2	4	3	—	—	1	—	16	26	0·8	334	10·8	83
Battersea	183,873	—	135	48	—	—	—	1	14	—	198	11·2	—	1	—	1	—	—	1	—	13	16	0·9	200	11·3	126
Wandsworth	289,506	—	165	52	—	4	—	1	18	1	241	8·7	—	—	3	2	2	—	2	—	13	22	0·8	286	10·3	96
Camberwell	280,022	—	91	51	—	10	—	—	27	—	179	6·7	—	1	1	2	1	—	3	—	12	20	0·7	285	10·6	114
Deptford	117,639	—	97	19	—	6	—	—	28	—	150	13·3	—	—	—	1	2	—	—	—	15	18	1·6	139	12·3	140
Greenwich	109,110	—	60	30	—	4	—	—	17	—	111	10·6	—	2	1	1	—	—	2	—	10	16	1·5	132	12·6	158
Lewisham	166,627	—	73	46	—	5	3	1	16	—	144	9·6	—	2	3	2	—	—	2	—	21	30	2·0	138	9·2	109
Woolwich...	131,346	—	54	31	—	1	—	—	13	—	99	7·9	—	—	—	—	1	—	—	—	9	10	0·8	122	9·7	90
Port of London	—	—	1	—	—	2	—	—	1	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

AN ALTERNATIVE CHEST-PIECE FOR SKINNER'S STETHOSCOPE.

Mr. H. J. Phillips, medical superintendent of the London Open-air Sanatorium, has sent us a little accessory for Skinner's stethoscope which he has devised, and which is made by the Holborn Surgical Instrument Company, Limited. It consists of a vulcanite chest-piece of the same circumference as the lower metal end of the stethoscope, which can be used in children and other patients whose costal inter spaces are too narrow for the accurate apposition of the full-sized chest-piece. Mr. Phillips's idea is not new; we remember that a physician to a general hospital employed a similar chest-piece 20 years ago, but we mention it as it may be useful to practitioners who do not care to apply the bare metal of a stethoscope's Y-piece directly to the chest.

OUTSIDE BALCONIES TO HOSPITALS.

THE Secretary of a provincial general hospital of 75 beds finds himself in the fortunate position of having some money to spend. This money has been provided for the construction of outside balconies communicating with certain of the wards. But he and his committee would like to see a few hospitals where these balconies either form part of the original building or have been added in a satisfactory way. Perhaps some of our readers can give the desired information,

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Phthisis.—Our correspondent, being a medical man. could probably obtain the information he desires direct from the author. We have no further information than that sent us by our correspondents, and think it quite likely that the paper was not read *in extenso*. We could possibly forward a letter.

Anonymous.—We should like to receive for our own satisfaction a communication from the pharmaceutical chemist who has inclosed to us a communication from Dr. Kilmer and Co., manufacturing chemists.

A. L. F.—In our view the bond is meant to exclude such posts as our correspondent mentions.

J. C.—Will our correspondent kindly repeat his question?

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—J. Gray Duncanson, H. Charles Cameron): at 4.30 P.M.

Papers:

Prof. Ralph Stockman: The Action of Salicylates in Rheumatic Affections.

Dr. David B. Lees: The Effective Treatment of Acute and Subacute Rheumatism.

THURSDAY.

NEUROLOGICAL SECTION (Hon. Secretaries—Leonard G. Guthrie, E. Farquhar Buzzard): at 4.30 P.M.

Clinical Meeting:

Cases will be shown by Dr. Turney, Dr. Batten, Dr, Collier, Dr. Gibb, Dr. Buzzard, and others.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—George C. Cathcart, Atwood Thorne): at 5 P.M.

Cases and Specimens:

Dr. Dundas Grant: (1) Immobility of Left Vocal Cord; (2) Epithelioma of Uvula and Soft Palate.

Mr. T. Jefferson Faulder: (1) Stenosis of Larynx in a Child; (2) Cervical Fistula in a Boy.

Dr. J. W. Bond: (1) Epithelioma of Palate in a Boy aged 16; (2) Fibroma of Naso-pharynx.

Dr. Pegler: Tuberculous Granuloma of Triangular Cartilage of, Septum.

Mr. A. L. Whitehead: Skiagram of Empyema of Frontal Sinus.

Dr. Jobson Horne: Lupus of the Epiglottis.

Dr. Andrew Wylie: Osteo-fibroma of the Maxilla.

Mr. G. Seccombe Hett: Abnormalities of Septum in Animals.

SATURDAY.

OTOLOGICAL SECTION (Hon. Secretaries—W. H. Kelson, Hunter F. Todd): at 10 A.M.

Cases, &c.:

Mr. A. L. Whitehead: A Case of Thrombosis of the Right Lateral Sinus, in which the Clot extended beyond the Torcular Herophili into the Lateral Sinus of the Opposite Side; Operation; Recovery.

Mr. Sydney Scott: A Case of Cerebellar Abscess Secondary to Infective Labyrinthitis associated with Acute Inflammatory Œdema of the Brain; Recovery; Details of Operative Procedures.

Mr. C. E. West and Mr. Sydney Scott: A Case of Infective Meningitis Secondary to Infection of the Labyrinth successfully treated by Trans labyrinthine and Lumbar Drainage.

Mr. C. E. West: A Case of Purulent Encephalitis treated by Drainage and Removal of Infected Brain Tissue.

Mr. MacLeod Yearsley: Microscopic Slide of a Tumour of the Auditory Nerve (shown at the last meeting).

Mr. Urban Pritchard: Syringe for Use after the Radical Post-aural Operation, &c.

Mr. A. Cheatle: Specimens illustrating the Surgical Anatomy of the Temporal Bone.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. F. H. Hayward: Education and Recent Studies in Heredity.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Proposed Dinner. Clinical Cases.

RÖNTGEN SOCIETY, 20, Hanover-square, W.

THURSDAY.—8.15 P.M., Dr. H. Manders: Phenomena observed in Electrical Currents of Continuous Oscillation.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8.30 P.M., Dr. S. D. Clippingdale: *West London Rivers, Extant and Extinct, and their Influence upon the Fertility and Salubrity of the Districts through which they Pass or Passed.*

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn-Fields, W.C.

MONDAY.—12 (noon), Prof. Shattock: *Lipoma.* (Museum Demonstration.)

FRIDAY.—5 P.M., Sir W. Watson Cheyne, Bart.: The Treatment of Wounds. (Bradshaw Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. S. R. Wells: Some Points in the Diagnosis and Treatment of Diseases of the Aortic Valve.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Dr. H. Campbel' [illegible] Disease.

WEDNESDAY.—4 P.M., Mr. M. [illegible] 5.15 P.M., Lecture:—Dr. C. R. Box: [illegible] Epiphyses in Infants and Young Children.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. A. Carless: *Some Points in the Surgery of the Biliary Passages.*

FRIDAY.—4 P.M., Mr. W. Dodd: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Mr. Etherington-Smith: Demonstration on Surgical Cases. 12 noon, Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture —Dr. Saunders: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Hood: Some Clinical Observations on Heart Disease.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Pritchard: On the Diagnosis and Treatment of Diphtheria.

THURSDAY.—10 A.M., Mr. Etherington Smith: Demonstration on Surgical Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., *Operations.* 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear, 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Ethrington-Smith: Fistula.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Su [illegible] Diseases of the Skin. Out-p [illegible] Surgical and Medical. 12 [illegible] Lecture:—Prof. Hewlett: The [illegible]

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations.—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations —10 A.M., Surgical and Medical. 12 noon, Ear and Throat. Special Lecture:—Dr. Rankin: Aphasia.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations.—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics —10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. A. J. Whiting).

Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). 5th Battalion, The Prince of Wales's Own (West Yorkshire Regiment): The undermentioned officers, from the 1st Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant-Colonel Frederick Shann, Surgeon-Major Alexander Reid Stoddart, and Surgeon-Captain Ernest Solly. 5th Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment): Surgeon-Lieutenant Ralph R. Brunskill to be Surgeon-Captain (dated August 19th, 1908). 5th Battalion, The Welsh Regiment: Surgeon-Lieutenant Evan J. T. Jones to be Surgeon-Captain (dated April 1st, 1908). 4th Battalion, The King's Own (Yorkshire Light Infantry): The undermentioned officers, from the 1st Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant-Colonel Edwin Lee and Surgeon-Captain George Symers Mill. 5th Battalion, The King's Own (Yorkshire Light Infantry): Surgeon-Captain Vyner Graham, from the 2nd Volunteer Battalion, The York and Lancaster Regiment, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 4th (Hallamshire) Battalion, The York and Lancaster Regiment: The undermentioned officers, from the 1st Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Duncan Gray Newton, Surgeon-Captain Sidney Frederick Barber, Surgeon-Captain William Smith Kerr (to be supernumerary), and Surgeon-Lieutenant Christopher Addison (to be supernumerary). 5th Battalion, The York and Lancaster Regiment: The undermentioned officers, from the 2nd Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Alfred Robinson and Surgeon-Lieutenant Harold Forster Horne.

Royal Army Medical Corps.

Sir John Williams, Bart., K.C.V.O., is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the Welsh Territorial Division (dated Sept. 21st, 1908). John Edwin Eddison is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the West Riding Territorial Division (dated Oct. 1st, 1908).

For attachment to units other than medical units.—John Charles Reynolds Robinson, late Captain 1st Norfolk Royal Garrison Artillery (Volunteers), to be Captain (dated April 1st, 1908). James Malpas (late Captain, 3rd (Duke of Connaught's Own) Volunteer Battalion, The Hampshire Regiment), to be Captain (dated April 1st, 1908). Surgeon-Captain Oliver Eaton, from the 1st Devonshire Royal Garrison Artillery (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Captain John L. London to be Major (dated June 9th, 1908). Captain James A. Wilson to be Major (dated June 19th, 1908). Captain James Cameron to be Major (dated Sept. 1st, 1908). Lieutenant Neish P. Watt to be Captain (dated June 12th, 1908). Andrew Robertson to be Lieutenant (dated June 9th, 1908). David James Graham to be Lieutenant (dated July 3rd, 1908). Captain Alexander E. Watson resigns his commission (dated June 25th, 1908). Lieutenant John L. Rankine resigns his commission (dated August 18th, 1908). Herbert Ernest Corbin to be Lieutenant (dated Sept. 24th, 1908). Robert William Mayston to be Lieutenant (dated Oct. 27th, 1908).

Notts and Derby Mounted Brigade Field Ambulance: Captain Lewis Walter Pockett, from the Royal Army Medical Corps, Territorial Force, to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Lieutenant Alexander Robert Tweedie, from the 3rd Kent Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Arthur Briggs Dunne to be Lieutenant (dated August 17th, 1908). Oswald Kentish Wright to be Lieutenant (dated August 17th, 1908). William Henry Rowell to be Lieutenant (dated Oct. 1st, 1908). Walter Harington Fisher, to be Lieutenant (dated Oct. 1st, 1908).

2nd South-Western Mounted Brigade Field Ambulance: Arthur Cary (late Major, 1st Devonshire and Somersetshire Royal Engineers (Volunteers)), to be Major (dated April 1st, 1908).

Yorkshire Mounted Brigade Field Ambulance: Captain George Herbert Leonard Hammerton, from the South Yorkshire Brigade Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd East Lancashire Field Ambulance: Wilson Harold Percy Hey to be Lieutenant (dated August 24th, 1908).

3rd Lowland Field Ambulance: Henry John Dunbar to be Lieutenant (dated Oct. 22nd, 1908).

1st London General Hospital: Captain Herbert Murray Ramsay, Reserve of Officers, late Scots Guards, to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Lieutenant Henry Neville Burroughes from the 14th Middlesex (Inns of Court) Volunteer Rifle Corps, to be Captain (dated April 1st, 1908).

1st Southern General Hospital: George Jordan Lloyd (*formerly* Surgeon-Lieutenant, 1st Volunteer Battalion, The Royal Warwickshire Regiment), to be Lieutenant-Colonel (dated June 3rd, 1908); James Edward Hill Sawyer to be Major (dated June 3rd, 1908).

4th Southern General Hospital: Charles Edmund Russel Rendle (formerly Captain, 4th Volunteer Battalion, The Devonshire Regiment), to be Lieutenant-Colonel (dated Sept. 30th, 1908). Henry Woolmington Webber (formerly Captain, Devon Bearer Company, Royal Army Medical Corps (Volunteers)), to be Major (dated Sept. 30th, 1908).

Captain Leonard Wood, Royal Army Medical Corps, to be Adjutant of a School of Instruction (dated Oct. 30th, 1908); Captain Francis M. Parry, Royal Army Medical Corps, to be Adjutant of a School of Instruction, vice Captain Langford N. Lloyd, D.S.O., whose *tenure of that appointment* has expired (dated Nov. 1st, 1908); Captain Langford N. Lloyd, D.S.O., Royal Army Medical Corps, to be Adjutant of a School of Instruction, vice Captain Edgar T. Inkson, V.C., whose tenure of that appointment has expired (dated Nov. 1st, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 1st Devonshire: Surgeon-Lieutenant Harold C. Adams resigns his commission (dated April 1st, 1908). 7th Lancashire: Surgeon-Lieutenant (Honorary Captain in the Army) Charles J. J. Harris resigns his commission (dated March 31st, 1908).

THE RESULTS OF SANITATION IN THE EFFICIENCY OF ARMIES IN PEACE AND WAR.

Under this title Surgeon-General Sir Alfred Keogh, K.C.B., Director-General of the Army Medical Service, delivered a lecture at a meeting of the Royal Sanitary Institute held on Nov. 18th under the presidency of Colonel J. Lane Notter, R.A.M.C. The lecturer pointed out that in times of peace measures of sanitation were limited only by their cost. In time of war sanitation must be subordinated to the leading principle of strategy—to get the greatest number of men to the decisive point in the shortest time. As showing what could be done by carefully thought-out sanitary schemes he contrasted the failure of the Ashantee campaign of 1854 with the success of that in 1873. As evidence of what careful sanitation did in the eighteenth century, he described the work of the 7th Dragoon Guards (Black Horse) in the Flanders campaign, when only six men died from illness in five years.

The King has been graciously pleased to accept from Staff-Surgeon Henry Hunt, R.N., a copy of his book, entitled "Naval Sketches."

LITERARY INTELLIGENCE.—Three books connected with the tropics are shortly to be published by Messrs. J. and A. Churchill: "Report on the Prevention of Malaria in Mauritius," by Professor Ronald Ross, C.B., F.R.S. (the book includes many illustrations and charts and is issued by the authority of the Crown Agents for the Colonies); a new volume of studies from the Institute of Medical Research, issued by the authority of the Government of the Federated Malay States; and "Lessons on Elementary Hygiene, for Especial Use in Tropical Climates," by Dr. W. T. Prout, C.M.G.—Simultaneously with the publication of the cheap and revised edition, "Alcohol and the Human Body," by Sir Victor Horsley and Dr. Mary Sturge, the issue of a complete set of slides illustrating the same is announced by the National Temperance League, 34, Paternoster-row, London, E.C., which has obtained the right of reproduction from the original figures, tables, and plates.

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Aberdeen City Fever Hospital, Medical Superintendent of; Mr. F. Alcan, Paris; Messrs. E. J. Arnold and Sons, Leeds; Aberdeen Medico-Chirurgical Society, Hon. Secretary of. Aberdeen, Medical Officer of Health of; Apollinaris Co., Lond.; Ashton-under-Lyne Union, Clerk to the.

B.—Mr. J. V. Bassett, Leyton; Mr. J. H. E. Brock, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Bristol Royal Infirmary Secretary of; Bristol Eye Hospital, Hon. Secretary of; Mr. C. W. Beissel, Scarborough; British Medical Benevolent Fund, Lond., Hon. Secretary of; Dr. H. Timbrell Bulstrode, Lond.; Booth Steamship Co., Lond., Manager of; Brighton, Hove, and Preston Dispensary, Assistant Secretary of; *Bury Times*, Manager of; Messrs. Blundell and Rigby, Lond.; Mr. W. G. Burcombe, Lincoln; Miss S. Bulau, Lond.; Dr. L. W. Bathurst, Lond.; Dr. Charles Button, Lond.

C.—Dr. S. W. Carruthers, Lond.; Continental Tyre and Rubber Co., Lond.; Cardiff City Mental Hospital, Whitchurch, Clerk to the; Mr. E. Carnall, Lond.; Messrs. J. and A. Churchill, Lond.; Messrs. T. Colman and Co., Lond.; C. H. B.; Messrs. Cassell and Co., Lond.; Mr. J. J. Clayton, Richmond; Mr. E. Scott Carmichael, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; Coventry and Warwickshire Hospital, Secretary of.

D.—Messrs. Down Bros., Lond.; Mr. Leonard S. Dudgeon, Lond.; Mr. D. W. Daniels, Lond.; Mr. Henry J. Dean, Willenhall; Messrs. Durand, Bennett, and Co., Lond.

E.—East Suffolk and Ipswich Hospital, Secretary of; Messrs. Evans, Sons, Lescher, and Webb, Liverpool; Mr. J. Elston, Hyeres.

F.—Mr. J. Flach, Lond.; Fellows Co., New York, Assistant Secretary of; Mrs. Furneaux, Lond.; Dr. W. E. Fitch, New York.

G.—Mr. Karl Grossman, Liverpool; Mr. H. B. Graham, Lond.; Mr. C. Gardner, Lond.; Messrs. C. T. Getting and Sons, Lond.; Sir W. R. Gowers, Lond.; Miss A. M. Gooch, Lond.; Galen Manufacturing Co., Lond.; Gloucester County Asylum, Medical Superintendent of; Grape Nuts Co., Lond., Managing Director of; Guest Hospital, Dudley, Secretary of; Dr. A. H. Gerrard, Addiscombe.

H.—Mr. E. J. Hinvest, Devonport; Mr. R. E. Humphry, Reading, Dr. A. Haig, Lond.; Dr. F. Harwood Hardman, St. Martins; Dr. A. W. Harrington, Glasgow; Messrs. C. J. Hewlett and Son, Lond.; Hygienic Co., Lond.; Messrs. J. Haddon and Co., Lond.; Mr. A. J. Harmer, Lond.; Dr. J. R. Hawley, Chicago; Messrs. F. Hoffman, La Roche, and Co., Basle; Hillside Chemical Co., Newburgh, New York; Dr. F. W. Hewitt, Lond.; Hertford County Hospital, Assistant Secretary of; Hampstead General Hospital, Secretary of; Herefordshire County Council, Hereford, Clerk of.

I.—Hon. Mrs. Ives, Davos-Platz; Ignoramus.

J.—Mr. G. H. Jones, Deddington; Jessop Hospital for Women, Sheffield, Secretary of.

L.—Mr. T. Lord, Addlestone; Messrs. Lee and Nightingale, Liverpool; Mr. R. T. Lang, Lond.; Leeds Corporation, Clerk to the; Mr. J. B. Lamb, Lond.; Loughborough General Hospital, Secretary of; Leeds General Infirmary. General Manager of; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of; Dr. Jerome M. Lynch, New York; Local Government Board, Lond., Medical Officer of; Mr. A. Norman Leeming, Lond.; Mr. Sidney C. Lawrence, Lond.; Dr. R. Winnington Leftwich, Lond.; Mr. R. Harry Lucas, Bury St. Edmund's.

M.—Dr. Charles Mercier, Lond.; Dr. A. S. MacNalty, Lond.; Messrs. Mackie and Co., Glasgow; Dr. Charles J. Macalister, Liverpool; Mr. Henley H. Moyle, Lond.; Manchester Royal Infirmary, Secretary of; Messrs. McKesson and Robbins, New York; Miol Manufacturing Co., Lond.; Messrs. Maple and Co., Lond.; Monkwearmouth and Southwick Hospital, Sunderland, Secretary of; Dr. R. J. Midgley, Omaha; Medical Mission Hospital, Canning Town, Hon. Secretary of; Messrs. C. Mitchell and Co., Lond.; Mr. Thos. F. McDonnell, Strydenburg; M. D.; Dr. G. Pugin Meldon, Dublin; Professor E. J. McWeeney, Dublin; Mr. J. F. Mackenzie, Edinburgh; Messrs. Menley and James, Lond.; Medico-Legal Society, Lond., Hon. Secretary of; Middlesex Hospital, Secretary-Superintendent of; M. F. T.

N.—Messrs. Newton, Chambers, and Co., Lond., Managing Director of; National Temperance League, Lond., Secretary of; North Devon Infirmary, Barnstaple, Secretary of; Nottingham General Dispensary, Secretary of; Dr. David Newman, Glasgow; Dr. L. Naish, Sheffield; Mr. Cyril A. R. Nitch, Lond.; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Messrs. Osborne-Peacock Co., Manchester.

P.—Mr Henry Power, Whitby; Dr. T. Wilson Parry, Lond.; Mr. A. C. Parsons, Earlswood; *Penny Pictorial*, Lond., Editor of; Phthisis; Dr. H. Cooper Pattin, Norwich; Dr. Pynappel, Zwolle; Preston Royal Infirmary, Secretary of; Mr. H. E. Powell, Bolton; Messrs. Peacock and Hadley, Lond.

R.—Mr. J. A. Rivière, Lond.; Dr. William Russell, Edinburgh; Registered Nurses' Society, [illegible] Messrs. [illegible] Leeds; [illegible] Lond., [illegible] Sanitary [illegible] Secretary of; Royston Cottage Hospital, Secretary of; Mr. H. P. Rees, Lond.; Professor R. W. Reid, Aberdeen; Dr. J. Crawford Renton, Glasgow; Royal College of Surgeons in Ireland, Dublin, Registrar of.

S.—Mr. A. Stuber, Wurzburg; Smith's Advertising Agency, Lond.; Salford Royal Hospital, Secretary of; Messrs. Selig, Sonnenthal and Co., Lond.; [illegible] Messrs. G. Street and Co., Lond.; Professor W. Stirling, Manchester; Messrs. Sharpe, Green, and Sons, Liverpool; Messrs. Smith, Elder, and Co., Lond.; St. Mary's Hospitals, Manchester, Secretary of; Swansea General Hospital, Secretary of [illegible] Secretary of; Dr. H. E. Symes-Thompson, Lond.; Mr. E. Story, York; Messrs. Squire and Sons, Lond.; Scholastic, Clerical, &c., Association, Lond.; Mr. H. G. Sadgrove, Birmingham; Star Engineering Co., Wolverhampton.

T.—Mr. H. Bell Tawse, Nottingham; Mr. John C. Thresh, Chelm [illegible] Towns [illegible] True [illegible] Lond., [illegible] Robert W. Traill, Las Limpias; Tasmanian Post and Telegraph Association, Hobart, Hon. Secretary of; Temple Press, Lond.; Mr. Percival Turner, Lond.; Mr. W. Pugin Thornton, Broadstone; Dr. G. Thornton, Lond.

U.—University of London, Principal of; University News Agency, Lond., Managing Editor of; Union Reklame, Lucerne; United Legal Indemnity Insurance Society, Lond., Manager of; Rev. R. Ussher, Westbury.

V.—Victoria Hospital for Sick Children, Hull, Secretary of; Staff-Surgeon A. H. H. Vizard, R.N., Devonport.

W.—Mr. H. R. Williams, Llangollen; Wigan, Medical Officer of Health of; Messrs. J. Wright and Sons, Bristol; Willesden Urban District Council, Clerk to the; Dr. H. H. Weekes, Crowborough; Messrs. G. H. Wait and Co., Leicester; [illegible] Messrs. F. Williams and Co., Lond.; West Riding Sanitary Committee, Wakefield, Clerk to the; Mr. Charles Walker, Liverpool; Dr. V. Wanostrocht, Bradford; *West Somerset Free Press*, Williton, Manager of; Mr. H. L. Wethered, Clifton.

Z.—Messrs Charles Zimmermann and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. N. H. Austin, Lingfield; Ardath Tobacco Co., Lond.; A. L.; A. W. M.; A. I.; Aerators, Edmonton, Accountant to the; Mr. E. Arnold, Lond.; A. R. B.; A. C.; Aberystwith Corporation, Accountant to the.

B.—Mr. E. Blatchley, Lond.; B. F.; Dr. E. Cresswell Baber, Lond.; B. L.; Birkenhead, and Wirral Children's Hospital, Hon. Treasurer of; Buxton House, Earls Colne, Medical Superintendent of.

C.—Dr. L. B. Cane, Peterborough; Chelsea Hospital for Women, Lond., Secretary of; Dr. W. Calwell, Belfast; C. H. R.; Messrs. E. Cook and Co., Lond.; C. E. T.; Messrs Callard, Stewart, and Watt, Lond.; Sir Francis R. Cruise, Dublin; C. H. B.; Messrs. Carters, Lond.; C. C. S.; Dr. R. Carswell, Lond.; Dr. F. Carter, Billericay.

D.—Mr. A. Davey, Goodmayes: Lieutenant-Colonel C. M. Douglas, V.C., Dunmow.

E.—Mr. R. Edwards, Hastings; Mr. W. P. Everard, Athlone; Mr. W. Edmunds, Lond.; E. B. L.

F.—Dr. A. Foster, Leicester; Mr. F. Faithorn, Chesham; F. E. F.

G.—Mr. P. L. Giuseppi, Lond.; Messrs. W. Green and Sons, Edinburgh; Dr. P. Green, Lond.; Messrs. Gould and Portman, Lond.; Dr. A. Gamgee, Lond.; Mr. H. J. Godwin, Winchester; Great Western Medical Fund Society, Swindon, Treasurer of; Great Northern Railway Co., Lond., Secretary of; Glasgow University, Factors of; G. N. E.; Messrs. Grindlay and Co., Lond.; Mr. E. Gooch, Lond.; G. N. M.

H.—Mr. J. Heywood, Manchester; Mr. F. H. Haines, Winfrith; Mr. C. Hyde, Birmingham; Mr. R. C. Harrison, Lond.; Dr. F. Hare, Lond.; H. G. D.; Dr. W. N. Heard, Hove; Messrs. Hobson, Lond.

I.—Ilford, Ltd., Ilford, Secretary of.

J.—Jeyes Sanitary Compounds Co., Lond., Secretary of; Dr. O. Jennings, Paris; Jersey General Dispensary, Hon. Treasurer of; J. H. A.; J. W. L.

K.—Messrs. Knoll and Co., Lond.; Messrs. Kutnow and Co., Lond.; Messrs. Knight, Frank, and Rutley, Lond.; Messrs. C. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Liverpool Stanley Hospital, Secretary of; Dr. L.; David Lewis Epileptic Colony, Manchester, Secretary of.

M.—Dr. J. C. Muir, Lond.; "Medicus," Kensington; Manchester Corporation, Accountant to the; Manchester Hospital for Consumption, Secretary of; Mr. W. M. Mitchell, Edinburgh; Marienbad Co., Lond., Secretary of; M. W. W.; Medical Graduates' College and Polyclinic, Lond., Treasurer of.

N.—Mr. W. R. Nicol, Llandudno; Mr. H. A. Nanavutty, Vankaner; Nottingham City Asylum, Clerk to the.

P.—Dr. L. W. Pole, Worcester; [illegible] ford.

R.—Mr. O. F. Rowley, Barnsley; Richmond, &c., Hospital, Dublin, Secretary of; R. M. H. W.; Captain T. C. Rutherfoord, I.M.S., Kohima; Royal Portsmouth Hospital, Secretary of; Messrs. Rayner and Stuart, Camberley; Messrs. Roberts and Co., Lond.; Messrs. Raimes and Co., York; Reuter's Telegram Co., Lond.; Royal Devon and Exeter Hospital, Secretary of; Royal South Hants and Southampton Hospital, Secretary of.

S.—Mr. G. C. Steinicke, Munich; Messrs. Spiers and Pond, Lond.; Dr. J. Searson, Lond.; Dr. R. Sinclair, Dundee; Swiss Bank, [illegible] Co., Lond., Manager of; Dr. C. S. de Segundo, Lond.

T.—Dr. W. Thomson, Wrekenton; Mr. W. B. Tubbs, Lond.; Mrs. Taylor, Lond.; T. S.; T. L.; Mr. E. Taylor, Monaghan.

W.—Mr. W. G. Woodin, Hamburg; Mr. J. L. Whatley, Knowle; Dr. Chalmers Watson, Edinburgh; W. M. R.; W. S.; Worksop Dispensary, Secretary of; Winsley Sanatorium, near Bath, Clerk to the; Warrington Infirmary, Secretary of; Dr. J. D. C. White, Harrow; Messrs. Willows, Francis, Butler, and Thompson, Lond., Mr. A. H. Wade, Milford Haven; West Riding County Council, Wakefield, Treasurer to the; Dr. C. Walker, Liverpool; W. B.; Dr. J. R. Williamson, Poona; Messrs. Willing, Lond.

dealt with Dr. J. S. Wallace's "The Rôle of Modern Dietetics in the Causation of Disease" and from it (p. 458, *D.S.*, June 3rd, 1905) is taken the following passage: "Dr. Wallace has, we must point out, fallen into one error. He seems to think that the value of the use of hard and resistant food and general exercise of the jaw muscles as prophylactics against dental caries is a new discovery. We do not agree with him, and for this reason. '*Coleman's Manual of Dental Surgery and Pathology*,' published as far back as 1881, contains on pp. 103, 104 an exhaustive argument on this very point. It is thereon pointed out what changes, both in character and preparation, the food of man has undergone during the last few centuries. The differences in his bread, meat, cooking, and manner of devouring his food are fully pointed out, special stress being laid upon the fact that since the introduction of the knife and fork the incisors and cuspidati by which in former ages the meat was torn from the bone have had their office converted into almost a sinecure."

In anticipation of your courtesy,

I am, with thanks,

THE EDITOR OF THE "DENTAL SURGEON."

Nov. 23rd, 1903.

THE ELECTROLYTIC ADMINISTRATION OF DRUGS.

To the Editor of THE LANCET.

SIR,—I would like to point out that cataphoric medication is not only not new to medicine but that it has been used also in dental surgery for many years (personally for 21 years). 11 years ago I wrote[1] describing the *modus operandi* for dissipating periodontitis, alveolar abscess, for obtunding *sensitive dentine*, and for bleaching discoloured teeth by cataphoresis. In another journal[2] I described about 30 cases where I had *inter alia* so obtunded the dentine that it could be drilled for the purpose of "filling" without the slightest pain or else anæsthetised the pulp that it could be extracted without the patient suffering any discomfort. I was therefore somewhat amused when the "Diurnal Reflector" heralded forth cataphoresis as another of its great medical discoveries, especially as the process is probably older than most of us living.

I am, Sir, yours faithfully,

H. FIELDEN BRIGGS, M.D. Brux., L.A.H. Dub.,
L.D.S. Glasg., D.D.S. Univ. Mich.

Eastbourne, Nov. 20th, 1903.

EPSOM COLLEGE: LATE ARCHDEACON THORNTON MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—May I be permitted through your columns to thank the very numerous Old Epsomians of the late headmaster's time (1855 to 1870), so large a proportion of whom are in the medical profession; for their generous donations to this fund, and also to inform them that it has been decided to place a very beautiful stained-glass window in the College chapel as the most fitting memorial to so esteemed a man. The window will be unveiled next Founders' Day and all subscribers will in due course receive notice of, and an invitation to, the ceremonial.

I am, Sir, yours faithfully,

PERCIVAL TURNER,
Honorary Secretary.

London, W.C., Nov. 24th, 1903.

UNUSUAL FOREIGN BODY IN THE EAR.

To the Editor of THE LANCET.

SIR,—The following interesting case came to my consulting-room this week. There is nothing particular about it clinically but the circumstances are certainly very unusual. The patient, a prominent volunteer, came to me complaining of deafness. His account of his case was as follows. He had just purchased some artificial ear drums, and on inserting one he became very deaf indeed; on withdrawing the instrument the deafness remained the same. He was the victim of *suppurating* ears and as a consequence somewhat hard of hearing and hence the attempt to use the *artificial drum*. This great increase of deafness after using the artificial drum brought him to me. On examining his ear I found deep in the canal a pultaceous mass of pus and débris and a black-looking body. On removing this with the forceps it proved to be a large earwig. The patient then told me that last August, being at camp, during one night he was awakened by *fearful humming* and buzzing in the ear. Energetically with his little finger he endeavoured to stop it and finally succeeded; he felt sure that the insect had dropped out, and thought no more about it. It seems strange that this large insect could remain in an ear, and that a suppurating one, for three months without causing more disturbance. How long it would have remained without notice had the patient not attempted to use the artificial drum one can only speculate. It is somewhat singular that whilst in the public mind this insect is so closely associated with the ear one should so seldom find any actual cases.

I am, Sir, yours faithfully,

JOHN FOSTER, F.R.C.S. Edin.,
Ophthalmic and Aural Surgeon, Cameron and Hartlepools Hospitals.

West Hartlepool, Nov. 19th, 1903.

PURE SODA-WATER.

To the Editor of THE LANCET.

SIR,—With reference to your extract in THE LANCET of Nov. 14th from the report of Dr. W. Collingridge, medical officer of health of the City of London, concerning impurities *in soda-water*, I should be glad to point out in your columns, with your permission, that the fault is not so much that of the soda-water manufacturers themselves as that of the public who place, or allow to be placed, the empty bottles in any convenient corner, regardless of the fact that these empty bottles will afterwards be collected, sent back to the mineral water manufacturers, and by them refilled, after washing in a manner which is not always effective. The microbes discovered upon analysis by Dr. E. E. Klein, bacteriologist to the City council—viz.: (*a*) "cocci"; (*b*) "sporing bacilli"; and (*c*) "small Gram-positive non-mobile bacilli, which in shape resembled diphtheroid microbes"—prove, although they gave no Neisser staining or caused any change in a guinea-pig's subcutaneous tissue when injected in large doses, that some of the empty bottles collected must have been deposited, somewhere and for some time, amidst garbage such as anyone with the most elementary knowledge of hygienic principles would seriously avoid. I would like to add that personally I prefer to purchase from a chemist liquid carbonic acid gas in small steel bulbs and then to aerate by this means boiled water in a special syphon provided for the purpose which I also obtained from my chemist. As the syphon is my property, remains in my home, and can be cleaned as often as considered necessary, I feel secure from the ravages of diphtheria, at least from this source.

I am, Sir, yours faithfully,

Nov 18th, 1908. CAUTIOUS.

DEATH CERTIFICATION AND MEDICAL SECRECY.

To the Editor of THE LANCET.

SIR,—I understand that the Brussels Medical Practitioners' College having pointed out to the communal council of that city that the form of death certificate supplied for the cause of death to be filled in by the medical attendant having to be handed open to the family of the deceased obliges the medical man to violate his obligation of professional secrecy, a promise has been given by the director of the sanitary service of the city that a new form for a "confidential medical certificate" shall be supplied. This will be handed, sealed, to the family, and after having been utilised for registration and statistical purposes (for which the name of the deceased is not required) it will be burnt. Thus there will be no permanent record of the cause of death. Surely this, though a most desirable change from the open certificate, which is necessarily sometimes so partial a statement of truth that it is practically false, is carrying medical secrecy to a dangerous length. There are many criminal trials where the certificate of the cause of death plays a very important part and it would surely be as easy to devise a system by

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[1] The Medical Annual, 1897, p. 187 et seq.

[2] The Dental Record, April, 1897.

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Aberdeen City Fever Hospital, Medical Superintendent of; Mr. F. Alcan, Paris; Messrs. E. J. Arnold and Sons, Leeds; Aberdeen Medico - Chirurgical Society, Hon. Secretary of. Aberdeen, Medical Officer of Health of; Apollinaris Co., Lond.; Ashton-under-Lyne Union, Clerk to the.

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U.—University of London, Principal of; University News Agency, Lond., Managing Editor of; Union Reklame, Lucerne; United Legal Indemnity Insurance Society, Lond., Manager of; Rev. R. Ussher, Westbury.

V.—Victoria Hospital for Sick Children, Hull, Secretary of; Staff-Surgeon A. H. H. Vizard, R.N., Devonport.

W.—Mr. H. R. Williams, Llangollen; Wigan, Medical Officer of Health of; Messrs. J. Wright and Sons, Bristol; Willesden Urban District Council, Clerk to the; Dr. H. H. Weekes, Crowborough; Messrs. G. H. Wait and Co., Leicester; West Suffolk General Hospital, Bury St. Edmund's, Secretary of; Dr. Sydney Whitaker, Liverpool; Messrs. F. Williams and Co, Lond.; West Riding Sanitary Committee, Wakefield, Clerk to the; Mr. Charles Walker, Liverpool; Dr. V. Wanostrocht, Bradford; *West Somerset Free Press*, Williton, Manager of; Mr. H. L. Wethered, Clifton.

Z.—Messrs Charles Zimmermann and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. N. H. Austin, Lingfield; Ardath Tobacco Co., Lond.; A. L.; A. W. M.; A. I.; Aerators, Edmonton, Accountant to the; Mr. E. Arnold, Lond.; A. R. B.; A. C.; Aberystwith Corporation, Accountant to the.

B.—Mr. E. Blatchley, Lond.; B. F.; Dr. E. Cresswell Baber, Lond.; B. L.; Birkenhead and Wirral Children's Hospital, Hon. Treasurer of; Buxton House, Earls Colne, Medical Superintendent of.

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D.—Mr. A. Davey, Goodmayes: Lieutenant - Colonel C. M. Douglas, V.C., Dunmow.

E.—Mr. R. Edwards, Hastings; Mr. W. P. Everard, Athlone; Mr. W. Edmunds, Lond.; E. B. L.

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N.—Mr. W. R. Nicol, Llandudno; Mr. H. A. Nanavutty, Vankaner; Nottingham City Asylum, Clerk to the.

P.—Dr. L. W. Pole, Worcester; Dr. A. H. Partridge, Sutton; Miss A. Pearson, South Walsham; Mr. T. S. Powell, Bishop's Stortford.

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S.—Mr. G. C. Steinicke, Munich; Messrs. Spiers and Pond, Lond.; Dr. J. Searson, Lond.; Dr. R. Sinclair, Dundee; Swiss Bank, Lond., Manager of; St. John Ambulance Association, Lond., Secretary of, Sanitary Publishing Co., Lond., Manager of; Dr. C. S. de Segundo, Lond.

T.—Dr. W. Thomson, Wrekenton; Mr. W. B. Tubbs, Lond.; Mrs. Taylor, Lond.; T. S.; T. L.; Mr. E. Taylor, Monaghan.

W.—Mr. W. G. Woodin, Hamburg; Mr. J. L. Whatley, Knowle; Dr. Chalmers Watson, Edinburgh; W. M. R.; W. S.; Worksop Dispensary, Secretary of; Winsley Sanatorium, near Bath, Clerk to the; Warrington Infirmary, Secretary of; Dr. J. D. C. White, Harrow; Messrs. Willows, Francis, Butler, [illegible] Lond.; Mr. [illegible] Haven; [illegible] Council, [illegible] to the; [illegible] W. B.; [illegible] Poona; Dr. J. [illegible] Messrs. Willing, Lond.

measures are applied to them. There is thus good reason to hope that this year's Haj may escape the infection, though for the next few weeks there will still be some anxiety on this score. Last year's pilgrimage was, it will be recalled, a badly infected one, and there is no doubt that it derived its infection from the pilgrims coming from the North and traversing cholera-infected country in European or Asiatic Russia. There are signs that this year's Haj will be a very numerously attended one, so that it is all the more to be hoped that it will escape the disease.

Constantinople, Nov. 7th.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(From our Special Sanitary Commissioner.)

WORK OF THE SECTIONS.

A Ministry of Public Health.

New York, Nov. 4th.

It would be difficult to enumerate even in mere catalogue form the great number and variety of questions discussed in the seven sections. Without professing to select the most important I can only in concluding these notices of the discussions mention a few of the topics that happened to have come in my way. Of these also I will only select those that are of practical importance. Among the latter and as in a sense embracing all other questions, is the demand for the creation, in all countries, of a Ministry of Hygiene. The American Association for the Advancement of Science elected a committee of 100 persons to attend especially to public health questions. The president of that committee, Professor Irving Fisher, of Yale University, appeared before the Sixth Section of the Washington Congress and made a speech which clearly proved that he had not realised the fact that he was addressing an international congress. But, nevertheless, he gave very good reasons for "the organisation of all existing national public health agencies into a National Bureau of Public Health, with such power over sanitary conditions connected with factories, mines, tenements, child labour, and other such subjects as are properly within the jurisdiction of the Federal Government and *do not interfere* with the power of the States controlling public health agencies." Of course this motion should have ceased at the words "and other such subjects"; the rest is purely American and therefore does not concern an international congress.

Dr. Henry Ward (Nebraska), and Dr. Luther H. Gulick (New York), while speaking of health measures to protect school children, incidentally supported the proposal to create a health government department. But Dr. F. G. Bushnell (England) imparted an international aspect to the discussion by urging that the chief of the health department should be a member of the Government. In other words, that in all countries there should be a Minister of Public Health. Dr. J. G. B. Bulloch, who is a cousin of President Roosevelt, has joined with many others in advocating the creation of a national department of health, and I am not aware that a single word was said against this proposal. It is therefore very unfortunate that a motion to this effect was not submitted to the final meeting of the entire Congress.

Railway Sanitation.

One of the duties of such a Ministry of Public Health would undoubtedly be to see that uniform measures and regulations were applied to all railway carriages and other public conveyances so as to reduce the risk of contagion or infection while travelling. On this subject some energetic words were uttered at Washington. Dr. H. M. Bracken (St. Paul), who is the executive officer of the Minnesota State Board of Health, led the attack. He said that it was difficult to define the status of a thing which did not exist and there was no such thing as railway sanitation in the United States. There were interstate regulations relative to the transit of hogs, cattle, and commercial products, but any proposal dealing with human beings was rejected on the ground that it might interfere with the autonomous government of the different States. Here was a good opportunity of indicating that what applies to the States of America applied to the different nations of Europe, but, as usual, the international aspect of the problem was missed, yet we have had international agreements in Europe regarding railway passengers and international through trains have to submit to the varying laws of the countries through which they travel. What is now wanted are some uniform regulations in regard to cleaning and disinfecting passenger cars. In America this function is often neglected. A representative of the Pullman Car Company replied to these strictures that their cars were fumigated at regular intervals and each time the carriage is known to have carried a sick person. In answer to questions he confessed that they did not employ detectives to ascertain who was sick, but when informed that there was some danger of infection they fumigated the car, and this at their own expense. The discussion showed how much this question of railway sanitation has been neglected and how necessary it is that in future sanitary experts should help to devise methods for the construction of railway carriages and their sleeping compartments.

Tuberculosis and Factory Legislation.

Of course, the question of ventilation in connexion with tuberculosis came to the front in many discussions. It was studied, as just mentioned, in relation to railway carriages and also as a problem more constantly before us in relation to dwelling-houses, factories, and workshops. But here again the Congress was singularly lacking in precision. Everybody agreed as to the absolute necessity of pure air to prevent tuberculosis, but where is the resolution proving equal unanimity of opinion as to any one special law or measure that all nations might adopt and enforce? A practical proposal was needed indicating how to secure pure air, not under all conditions that might be qualified as Utopian, but at least in one or two industries or in some special categories of dwellings. Dr. G. M. Price (New York) certainly made some comprehensive proposals, and, unlike most of the other American speakers, backed them up by showing how some of his suggestions had already been applied in Europe. He demanded that the State should license all trades and industrial establishments; of course, this is done in many countries and occupations are qualified as salubrious and insalubrious. Then he asked for the preliminary physical examination of candidates for employment, which is already done in regard to certain sorts of work, such as railway servants. This should lead to the study of industrial pathology and has done so in Germany under the direction of the medical staff of the German Krankenkassen-verein. Dr. Price likewise quoted the resolutions of the International Congress of Hygiene held at Berlin in 1907, urging improvement in the medical and sanitary inspection of factories. The statistician of the American Prudential Insurance Company, Mr. F. L. Hoffman, spoke so as to explain that tuberculosis was especially frequent in trades which created a quantity of dust. He classified the dust of 30 different occupations and maintained that if proper measures dealing with the dust and securing efficient ventilation in these trades were enforced some 28,000 lives might be saved annually in the United States alone.

Mr. John Martin (New York) pointed out that of the 46 States only 17 provide by law that factories shall be ventilated so as to remove by means of fans and to render harmless all gases, dust, or other impurities. Only six States insist on the periodical lime-washing or painting of walls and ceilings, and not more than eight States demand a minimum air space for each worker. He urged that every State should by a Federal law be forced to apply the laws of the most progressive State. Professor A. Winslow (Massachusetts) and others showed that where an office or a school was well ventilated there was much less sickness and much more work was done. Nothing is more economical in its effects than to spend money on ventilation. Figures in regard to printers were given setting forth the prevalence of chest diseases where the ventilation was bad and Oldendorff's figures with regard to the terrible percentage of cases of tuberculosis among the iron workers and grinders of Germany were quoted. Altogether there was plenty of evidence forthcoming to prove the inefficiency of factory legislation, especially in the United States, and no one disputed the fact that better and far-reaching laws were urgently needed. In these circumstances it is most unfortunate that no comprehensive resolution was presented to the plenary meeting at the close because they indicate that the usual channel for infection of malignant neoplasms is from bacteria which are normal inhabitants of our tissues—that is to say, auto-infection plays a more important part than infection from without.

In furunculosis the staphylococcus pyogenes aureus, as everyone is aware, is the usual infective organism—that is to say, this condition is an example of auto-infection. I have suggested elsewhere that osteomyelitis, an acute disease due in the very large majority of instances to the staphylococcus aureus, is another illustration of auto-infection.

Mr. S. G. Shattock, in a paper with Mr. W. H. Battle on a case of diffuse osteoma of the femur in reference to the excessive formation of callus which may take place in the repair of a fracture in tabetic patients and others, has suggested that "auto-bacterial infection of the injured parts leading to a chronic inflammation must be kept in mind—i.e., an inflammation arising from the action of micro-organisms already in the tissues, the action of which was held in check until the advent of the injury. And, apart from tabes, there is no doubt that a proper inflammatory process must be invoked to explain the exuberant formation of callus in certain cases."[8] This suggestion, coming from an authority of such vast experience as Mr. Shattock, is a further support of the views which are held throughout this lecture—that the presence of organisms in healthy tissues is of supreme importance, especially with regard to the question of auto-infection.

Besides the few illustrations which have been given of the presence of the staphylococci in normal tissues and their power of exciting for unknown reason acute and chronic infections, we also know that tissues, especially scar tissues, due to the action of these organisms, may at any subsequent period become the seat of a transient inflammation or even of suppuration. I have records of two cases of multiple osteomyelitis of long standing. In each instance although the wounds are now healed occasionally inflammatory or suppurative foci occur in the originally infected tissues or in proximity to the orginal wounds. The staphylococcus aureus can be cultivated when suppuration occurs and both cases readily respond to vaccine treatment. In the intervals the patients are in good health. Both cases certainly serve to illustrate the persistence of cocci in the tissues for indefinite periods without giving rise to ill-effects, except during intervals of reactivation.

Andrewes and Horder[9] have recently published interesting investigations concerning the bacteriology of endocarditis and certain other diseases. In their paper on a "Study of the Streptococci Pathogenic for Man" they refer to a streptococcus so characteristic of saliva, though it is also common in the intestine, that the term "streptococcus salivarius" may justly be applied to it. It is closely allied to the commonest of the intestinal forms, to which they have given the name of streptococcus fæcalis. The streptococcus salivarius, according to these investigators, is of considerable importance in human pathology. They have recorded it as pathogenic in 26 cases. They also refer to a much more pathogenic long chain form of the streptococcus salivarius which seems to have a special connexion with inflammation of the fauces and with scarlet fever. As this particular type of streptococcus occurs in sore throats other than scarlet fever and in the normal alimentary canal they have suggested the term of "streptococcus anginosus." Still further, a group of streptococci has been isolated by them from the human intestine and so characteristic of it that they have labelled it as the "streptococcus fæcalis." They investigated 21 cases of undoubted malignant endocarditis due to streptococci, and to these are added 3 cases published by Mervyn Gordon. Of these 24 cases, 11 were due to the group described by them as the streptococcus salivarius, 6 to the streptococcus anginosus, 4 to the streptococcus fæcalis, 1 to the pneumococcus, and 2 only to the streptococcus pyogenes. They refer to the overwhelming preponderance of the salivary and fæcal types in this condition. Many of the forms are absolutely identical in all their reactions with the commonest saprophytic streptococci of the mouth and gut, and the rest are closely related.

Whether it is correct to classify the streptococci in the manner suggested by Andrewes and Horder is very much open to question, but they have clearly shown that the streptococci met with in many of our common diseases may, as regards cultural and certain other properties, be indistinguishable from the streptococci normally present in the human body. Such results are in full accordance with what occurs in many of the acute and chronic infections due to organisms other than the streptococci.

The Pneumococcus.

This organism was first discovered as the result of the examination of the saliva of a normal person. Dr. Eyre[10] states that he has found it in the saliva in 18 per cent. of normal individuals. It is also commonly found in the normal nose and this organism can often be cultivated from the tonsillar crypts. Dr. Eyre states that the pneumococcus isolated from these sources is of low virulence, sometimes avirulent, at other times it shows a high degree of virulence. It would thus appear that in the vast majority of instances this organism enters the tissues of the body through the respiratory tract and that the cells of the upper air passages form the first line of defence, while the pulmonary tissue constitutes the second. Next to the respiratory system he considers that the alimentary tract is probably the most common channel of entrance.

The Gonococcus.

Recent investigations appear to show that this coccus may remain in the tissues for indefinite periods without apparently producing ill-effects. For various reasons its pathogenicity may be re-established. In one instance the passing of a large urethral sound on a man who had no urethral discharge and had not suffered from gonorrhœa for some considerable period gave rise to urethritis due to the gonococcus. Phagocytes in the urethral pus in this case were packed with gonococci.

The Diphtheria Bacillus.

A. *Experiments on the virulence of diphtheria bacilli found in the mouths of healthy "contacts."*—Dr. Graham-Smith,[11] in an extremely interesting article in the standard work on the "Bacteriology of Diphtheria," points out that the majority of observers consider that diphtheria bacilli recently isolated from clinical cases display considerable differences in their virulence towards guinea-pigs. Further, it has been constantly asserted that the diphtheria bacilli which persist in the tissues gradually lose their virulence, and in course of time become completely non-virulent to laboratory animals. He mentions that in the great majority of cases the bacilli found in the throats of persons who have come in contact with diphtheria patients, but show no signs of the disease, are fully virulent, though some are non-virulent. The virulent bacilli of the patients do not, therefore, seem to suffer a diminution in virulence by transference to healthy individuals.

Aaser, quoted by Dr. Graham-Smith, in an outbreak of diphtheria in a cavalry regiment examined 89 healthy persons. In 17 instances diphtheria bacilli were isolated and all were fully virulent. Bolton in 1896 examined 214 persons who had been more or less exposed to diphtheria and found virulent bacilli in the throats in 41·5 per cent. Dr. Graham-Smith, during an outbreak at Cambridge, isolated and tested the diphtheria bacilli found in the throats of 56 healthy persons who had come into more or less close contact with cases of diphtheria. Out of this number 38 had virulent diphtheria bacilli in their throats and 18 bacilli which failed to show any evidence of pathogenicity.

As Dr. Graham-Smith mentions, these records clearly show that in the majority of healthy persons who have diphtheria bacilli in their throats (which have been derived by contact from clinical cases) the organisms are fully virulent, and do not tend to lose their virulence when persisting in the tissues of a healthy individual without giving rise to any pathogenicity.

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[8] S. G. Shattock and W. H. Battle: A Remarkable Case of Diffuse Cancellous Osteoma of the Femur following a Fracture; in which Similar Growths afterwards Developed in Connexion with other Bones, Proceedings of the Royal Society of Medicine, Pathological Section, Jan. 21st, 1908.

[9] F. W. Andrewes and T. J. Horder: A Study on the Streptococci Pathogenic for Man, THE LANCET, Sept. 15th (p. 708), 22nd (p. 775), and 29th (p. 852), 1906.

[10] J. W. H. Eyre: The Pyogenetic Activities of the Pneumococcus. Erasmus Wilson lecture, Royal College of Surgeons of England, THE LANCET, Feb. 22nd, 1908, p. 539.

[11] G. H. F. Nuttall and G. S. Graham-Smith: The Bacteriology of Diphtheria, Cambridge University Press, 1908.

Dr. BUTTLER and other American veterinary surgeons protested that the outdoor treatment was not effective; that, as a matter of fact, cattle were out of doors for nine months in the year and were tuberculous all the same. Then, again, the use of tuberculin helped to spread the disease, for the cattle thus shown to be tuberculous were sold as soon as possible and thus went to other farms where they contaminated other herds.

Dr. MAYER (Louisiana) said that his State was waiting for the section to decide so as to legislate on the matter, but the section did not decide, so the legislature of Louisiana has been left without guidance.

Dr. A. A. WLADIMIROFF, representing the Superior Medical Council of the Russian Empire, urged that it was necessary to have tuberculin as well as hygiene. The former was the only means of diagnosis. Near St. Petersburg there were milk farms; sometimes as many as 60 per cent. of the cows had been found to be tuberculous. Even when all diseased animals had been eliminated it was necessary to test every year. This gave the veterinary surgeon the right of entry and brought about an annual review of all the cattle.

Professor ARLOING (Lyons) thought that milch cows should be tested twice a year and all doubtful milk pasteurised. Veterinary surgeons should control dairies for other reasons besides the prevention of tuberculosis, and he described epidemics of enteric fever which had been traced to dairies.

Dr. MAYER protested that too much reliance was placed on tuberculin. It was wrong to lose sight of clinical diagnosis and he did not believe that a syringe would prove a full substitute for this hardly acquired knowledge. A clinical report might justify the seizure of cattle but not a tuberculin test.

In replying to the very long discussion that had been held Dr. RUTHERFORD explained that meat inspection in Canada was only a year old. Deaths had been traced to unwholesome food and insanitary dairies. What, however, was the use of tracing tuberculosis to a farm if there was no legal means of action?

Altogether, it will be seen that the whole question is still in need of crystallisation. Some more clearly defined proposals likely to be supported by a majority of experts have yet to be brought forward. Nevertheless, much work has been done.

Dr. A. D. MELVIN, chief of the United States Bureau of Animal Industry, was able to report that in 15 years, 1893 to 1908, Federal and State officials had had tested with tuberculin 400,000 cattle, mostly dairy cattle, and 37,000 reactions had been obtained. This meant 9·25 per cent. They found that on an average 10 per cent. of the milch cows, only 1 per cent. of other cattle, and 2 per cent. of the hogs were infected with tuberculosis. This was equal to 3·5 of all cattle. Of 23,860 reacting cattle that were slaughtered, lesions of tuberculosis were found in 23,585, a percentage of 98·81, showing the very great accuracy of the tuberculin test.

Dr. JOHN R. MOHLER, chief of the Pathological Division at Washington, pointed out that much valuable information was gained by tracing tuberculous animals at the abattoirs back to the farms whence they came.

This is a good idea and might be adopted in England; thus whenever an animal at a slaughter-house is found to be tuberculous the medical officer of health of the district whence the animal came should be informed so that he might institute an inquiry at the farm in question. It is obvious that all these very practical and urgent questions should be more fully discussed and the chief result of the meeting at Washington is to show the necessity of further and closer investigation.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Health Visitors in the Rhondda Valleys.

THE members of the Rhondda urban district council are to be commended for their action in carrying out the advice of their medical officer of health (Dr. J. D. Jenkins) with regard to the appointment of lady health visitors. Two of these officials are to be appointed forthwith at a commencing salary in each case of £80 per annum, rising to £120. The inspecting staff in the Rhondda has long been undermanned. When there was a population of 80,000 persons there were five inspectors and now that the population has increased to over 120,000 there are only six, so that there is quite room for the services of the two health visitors whom it is proposed to appoint. The salaries to be offered are those which are paid to the sanitary officers.

Improvement of Milk-supplies.

At a meeting of the West of England and South Wales Branch of the Society of Medical Officers of Health held at Bristol on Nov. 19th it was decided to arrange a conference with those interested in the production of milk, in order to discuss the best means to be adopted for the improvement of milk-supplies, more especially with respect to improvements at the sources of supply. Mr. L. M. Bowen-Jones, the President of the branch, urged that although dirt in milk was responsible for much infantile mortality, it was probable that even more children died from the want of milk, so that the milk trade was one which it was in the public interest to foster and to protect. He proposed that local associations of dairy farmers should be asked to formulate suggestions and advice to the trade as to the best available means of improving existing conditions at many dairy farms. It would thus be demonstrated to hostile critics that the farmers themselves realised their responsibilities, while those whose business it is to administer existing laws would be assisted very considerably in their work. He further urged that the dairymen should be made to realise that the trade in which they were engaged was unique, for it dealt with a necessary article of food which formed the almost exclusive diet of a large proportion of the most susceptible units of the population—infants and invalids—and that milk was unique among articles of food in its powers of collecting and fostering micro-organisms which were injurious to health and which might even be fatal to the infant consumer. He expressed the opinion that it was most discreditable to our sanitary administration that the legal powers which it was competent for rural sanitary authorities to exercise had either been entirely ignored or so badly administered that in many rural districts there existed practically no supervision of dairy farms at all.

The Provision of Nurses in Monmouthshire.

An association was recently formed in Monmouthshire for the purpose of training or otherwise providing suitable nurses throughout the county. It is proposed to encourage two grades of nurses—one to include highly-trained fully-certificated district nurses in towns with a population of 5000 persons or more, and another to include midwives fully trained and certificated in accordance with the requirements of the Central Midwives Board. The new association as well as coöperating with existing nursing organisations will itself train suitable women as nurses and midwives. It is proposed to establish a training home at Pontypool for the eastern valleys and another for the western valleys at Tredegar. These are to be utilised as homes of rest for occasional nurses and as residences for emergency nurses. There can be no doubt as to the need for such an association among the industrial sections of the population and if the details of the organisation are properly safeguarded against abuse it will render valuable service.

A County Medical Officer of Health for Pembrokeshire.

The Pembrokeshire county council has referred to the sanitary committee the question of appointing a county medical officer of health. The medical inspection of the school children in the county is at present being carried out by local practitioners, but there has not been appointed any official to direct these inspections or to report upon the results. When the question was under discussion at a recent meeting of the county council more than one member expressed the opinion that it was impossible to carry out the detailed examination of the children which was required by the Board of Education in three or four minutes, and that a fee of 1*s.* or 1*s.* 6*d.* was far too little to pay for a thorough examination.

Cardiff Mental Hospital.

There is accommodation in the new Mental Hospital at Cardiff for 750 patients, including 336 men and 414 women, and in the middle of October there were occupying the wards 351 men and 329 women. The weekly cost per patient is 13*s.* 5*d.* At the last visit of the Commissioners in Lunacy they expressed their regret at the decision of the visiting committee to postpone the erection of an isolation hospital. It species of bacteria, any one of which is capable of originating typhoidal disease—that, in fact, the etiology of this condition is as complex as its symptomatology." "Further, we now also know that this group of bacteria, while at one time originating a disease with all the clinical symptoms of typhoid fever, may at another cause pathological conditions utterly unlike it. Typhoid is, in fact, a group disease produced by a group of organisms." Major Statham refers to a table at the end of his paper, giving a list of five sub-groups of bacteria capable of originating disease in man indistinguishable from typhoid fever. First group, bacillus fæcalis alcaligenes; second group, bacillus typhosus; third group, bacillus paratyphosus A; fourth group, bacillus paratyphosus B; and fifth group, bacillus coli.

It is necessary to refer somewhat fully to these data which have been specially emphasised by Major Statham before speaking of the persistence of these various organisms in the tissues in man, the direct infection they may produce in their host, and the way in which they may set up endemic or epidemic areas of infection. Considerable interest has been given to the question of the so-called "typhoid carriers." I shall not limit in this communication the term "typhoid carrier" to the carrier of the typhoid bacillus, but to the group of organisms already referred to by Major Statham. The entire subject of typhoid infection is outside the scope of the present work, but infection due to the persistence of these organisms in the tissues of man for more or less lengthy periods is probably of greater importance than a similar condition occurring with other bacteria. We now know that the fæces of patients who have recovered from typhoid fever may be infective for months or even years, and it is usually regarded that this is due to infection of the gall-bladder.

While referring to the subject of cholelithiasis and its relation to typhoid bacilli, reference may be made to a paper published by Hartmann, quoted by Moynihan,[14] he examined the bile in 46 cases of cholelithiasis treated by operation. In 36 instances bacilli were present, of which by far the most common was the bacillus coli, but in no instance was the typhoid bacillus cultivated from the bile. Petersen, quoted in the same paper, gives the records of 50 operations for gall-stones. Bacteria were cultivated from the bile in 44 instances, but the typhoid bacillus was never found to be present. The bacillus coli was isolated on every occasion. I have examined the bile at the time of operation for cholelithiasis in some 20 instances, but the bacillus typhosus has only been obtained on one occasion, and the bacillus paratyphosus B once.

It has been estimated that typhoid bacilli may be isolated from the fæces of patients suffering from typhoid fever in from 25 to 30 per cent. of the cases in the first three weeks, from 10 to 15 per cent. in the next two months, 4 per cent. or 5 per cent. for the third month, and finally, according to the investigations of Kayser and Brion and others, that some 1·5 per cent. of the cases become regular typhoid carriers, while Lentz obtained such a high percentage as 4. Kayser collected a large number of individuals who had been two years convalescent from an attack of typhoid fever. Out of 101 cases three still showed the presence of the bacillus and were therefore chronic carriers. In fact, it appears justifiable to assert that about from 3 to 4 per cent. of typhoid convalescents become chronic carriers and of those who have been associated with typhoid cases a small proportion may excrete the bacillus temporarily. Still further it has been shown that those who never had any illness which has been regarded as typhoid fever may have bacilli of the typhoid-paratyphoid group in their fæces. Dr. J. C. G. Ledingham[15] in a most valuable paper read at the British Medical Association at Sheffield this year refers to some investigations which have been made by the Strassburg School on healthy persons living in the vicinity of, or in close contact with, typhoid cases. It has been shown that there are a certain number of temporary or acute carriers who excrete the typhoid bacillus in small numbers for a short time only. These temporary carriers do not appear to be really instances of chronic carriers who intermittently discharge the bacilli, nor do they appear to be cases of ambulatory typhoid, because experience seems somewhat opposed to either view. Scheller refers to a case of a female engaged in the milk trade who was excreting typhoid bacilli and appeared to constitute a focus of infection in the epidemic about to be referred to. All persons in any way associated with this milk trade were examined with the result that 17 other carriers were revealed. Some of these were passing the bacilli in the fæces only, others in the urine only, while in a certain proportion both the fæces and the urine were infected. The female originally discovered was removed from her work in the dairy. Instructions were given to the milkers to wash their hands in lysol, and those who were excreting the bacilli in the urine were treated with urotropin. One month from the time these methods were adopted all the carriers were re-examined bacteriologically with negative results, except in the case of the original female who still continued to pass the bacilli in large numbers. It has been stated that typhoid bacilli are present in the urine in some 30 to 40 per cent. of severe cases and in about 15 per cent. of all cases diagnosed as typhoid fever, and it has been shown that the bacilluria may last for some considerable period and be a serious source of infection.

One of the most interesting cases of a typhoid carrier has been recently recorded by Dr. G. Dean,[16] professor of pathology at Aberdeen. It occurred in the case of a medical man who 29 years before he was seen by Dr. Dean had had a severe attack of typhoid fever. This patient had had attacks of biliary colic for some considerable period sometimes associated with jaundice. The fæces were subjected to a bacteriological examination by Dr. Dean who investigated three samples, and in all of them the typhoid bacillus was demonstrated. The patient's serum gave an agglutination reaction in a concentration of 1:25 on a stock laboratory culture of the bacillus typhosus but would not react with greater dilutions. The patient's own bacillus, however, did not react with his serum, although it was agglutinated by immune horse serum. It may be mentioned that as far as it is known there was no case of infection originating from the patient whose case has just been referred to. The chief interest concerns the persistence of the typhoid bacillus in the tissues for so long a period—assuming that this bacillus entered at the time of the original infection—and did not produce any serious effect on the patient's health nor, as far as is known, cause dissemination of the disease. Attention, however, must be directed to an important observation on typhoid immunity recently made by Dr. Ledingham.[17] He has found that the serum of typhoid carriers shows a high opsonic content for the homologous strains of the bacillus typhosus.

Dr. Alexander Ledingham and Dr. J. C. G. Ledingham[18] have also referred to some interesting cases which occurred in a lunatic asylum in Scotland. The fæces of these patients were subjected to a bacteriological examination in 1907. From the main asylum the fæces of 57 female patients were examined. One of these patients was found to be passing typhoid bacilli in enormous numbers in the fæces. This patient had been in the asylum for 12 years and there was no record of her ever having had typhoid fever. Her serum agglutinated the typhoid bacilli up to a dilution of 1:200. As a case of typhoid fever had occurred in the small asylum the fæces of all the female patients, 34 in number, were systematically examined, and as a result a patient of 60 years of age was found to have typhoid bacilli in the fæces in considerable numbers. This patient had had an attack of typhoid fever in 1895. A third case was also discovered in a patient who had had typhoid fever in 1904. In this communication three patients are mentioned who were passing typhoid bacilli in their fæces, two of whom had had typhoid fever some years previously and one without ever having had any clinical evidence of this disease. These observers also draw attention to a point to which most writers on the subject have referred—namely, the much greater frequency of typhoid carriers among women and also that in women biliary calculi are of such common occurrence.

Levy and Kayser[19] have published a case of a typhoid carrier who had been isolated on Oct. 17th, 1905, and who died on Oct. 18th, 1906, after a short febrile attack. At the post-mortem examination the spleen was slightly enlarged with its results, the teachers imported by Alfred the Great to educate his kingdom, and by Charlemagne to re-civilise and re-Christianise the chaotic débris of the Western Empire were all mentioned, necessarily in very few words. The hereditary physician of the Middle Ages as well as the hereditary harper received a passing word of recognition; the cleavage of the *ars medendi* into two sections which necessarily followed the forbidding of the shedding of blood by members of the clerical orders (by the Council of Tours) was duly referred to—with the engrossment of the practice of surgery by "the barbers and periwig makers," and the establishing of the barbers of Dublin as a guild in 1446, the oldest of the medical guilds of the British Islands, and the original precursor of our Royal College of Surgeons. The work of the latter was appreciatively referred to and the premier position of the Dublin School of Medicine in the past century was indicated. If there was anything in Dr. Moorhead's interesting summary which required some verbal revision I would suggest that it was the apologetic tone in which he referred to the fact that the Irish school had not been distinguished by great *original* contributions to medical knowledge. As a mere matter of fact, Ireland has always furnished the germs of ideas which supplied *originality* and fame to others. Sir Astley Cooper, the "greatest of England's surgeons," owed his cosmopolitan reputation in his specialties to dissections made for him by our own Abraham Collis in the days of his junior professional *wanderjahre!* And this case is but one of 2000.

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[14] B. G. A. Moynihan: Gall-stones and their Surgical Treatment, 1905.

[15] J. C. G. Ledingham: The Typhoid Carrier Problem, with Some Experiments on Immunity in Carriers, Brit. Med. Jour., Oct. 17th, 1908.

[16] George Dean: A Typhoid Carrier of 29 Years' Standing, Brit. Med. Jour., March 7th, 1908.

[17] J. C. G. Ledingham: loc. cit.

[18] Alexander Ledingham and J. C. G. Ledingham: *Typhoid Carriers*, Brit. Med. Jour., Jan. 4th, 1908.

[19] Levy and Kayser: Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xxv., p. 254, 1907.

Royal Hospital for Incurables, Dublin.

The annual sale of work produced by patients in this hospital was formally opened on Nov. 19th by Lady Aberdeen. The exhibition consisted of over 1000 articles, chiefly of clothing and varieties of fancy work. The hospital funds derive nothing from the sale, as the entire proceeds are distributed among the patients in the institution without any discount whatever. The sale has always been a popular one, as the institution stands high in the public estimation. Patients are admitted (on election) from all parts of Ireland, without distinction of creed or politics, the only essential qualifications being poverty and incurable disease.

Richmond Lunatic Asylum: Electricity v. Gas.

The monthly meeting of the Richmond Asylum joint committee, which was held on Nov. 19th, was largely occupied with a discussion of the relative merits and demerits of gas and electricity as illuminating agents from the general view-point of the physicist and engineer and the particular one of the financial and medical representatives and officials of their own institution. After the original suggestions of the desirability of lighting the asylum buildings with electricity the lighting committee of the corporation had approached the joint committee (and also the North Dublin union guardians) on this subject. A subcommittee was appointed by each board. These bodies met and discussed the bearings of the subject very thoroughly. One of the special results of this movement was an offer from the gas company to light both institutions on a revised scale. They practically offered, indeed, to reduce the total amount of their bill by (approximately) 45 per cent., to assume the responsibility of the upkeep of the installation, and to relieve the institution of responsibility in connexion with variations of price. The chairman of the joint committee meeting, however, expressed the opinion that electricity should be adopted. Large extensions of their buildings were about to be made. Electricity was, he considered, cheaper than gas and in course of time it would become cheaper still. It was decided to send the report back to the subcommittee with the view of obtaining further explanation on certain points.

The University of Belfast.

The first meeting of the Belfast Commissioners took place on Nov. 18th at Queen's College, Belfast, Judge Shaw, K.C., being in the chair. The Commissioners appointed Mr. A. Jaffé, M.A. Camb., to be their secretary. They framed a number of questions, in answer to which they invite reports from the corporate body of Queen's College, Belfast. They will meet again on Dec. 29th. The new University is to be called the Queen's University of Belfast.

Compliment to Alderman Dr. J. King Kerr, J.P.

On Nov. 18th Alderman Dr. J. King Kerr, chairman of the public health committee, was, at a public meeting in the City Hall, Belfast, presented with an address and with his portrait by his colleagues in the corporation and a number of friends. His portrait is to be hung in the City Hall. His wife was also presented with a replica and with two silver candelabra. The Lord Mayor presided, the ex-Lord Mayor (Lord Shaftesbury) made the presentation, and speeches were also delivered by Dr. King Kerr, the High Sheriff (Councillor McCaughey), Sir Otto Jaffé, and Dr. Peter O'Connell, a former member of the public health committee, now no longer in the city corporation.

Nov. 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Education Grants.

AMONG the numerous clauses of the budget of public education, which was discussed by the Chamber on Oct. 30th, was one asking for the reinsertion of the clause recommending a grant of 15,000 francs. This clause had been inserted by the Government but was refused by the Financial Committee. The object of the grant was the creation of a chair of special and general hygiene at the Collège de France. The President of the League of Education, M. Dessoye, argued in favour of the grant. The chairman of the Financial Committee, however, said that for a certain number of years past a large number of new chairs had been created at the College of France perhaps not always on entirely scientific considerations. Without asking the Minister of Public Instruction to abandon the right of creating chairs at the College of France the chairman went on to say that he proposed, in all cases except those in which a man of exceptional scientific attainments cannot be overlooked, that the Minister should take the opinion of men competent to pronounce upon the proper sequence of the creation of chairs. He demanded, further, that the chairs at the College of France should be reserved for eminent men who, in addition to the possession of all the necessary diplomas, have a paramount claim by reason of their scientific attainments and by having carried out original research. M. Dessoye stuck to his guns and deplored the fact that France did not possess institutes of hygiene similar to those which exist in Germany and the United States, which should formulate the laws of hygiene after experience founded upon experimental research. The proposal was once more vetoed by 401 votes to 116.

Troubles at the Faculty of Medicine.

The disturbances at the Faculty of Medicine of which I spoke in my letter published in THE LANCET of Nov. 21st, p. 1565, continued. At last on Nov. 16th it became known that on Nov. 14th M. Landouzy, the dean of the Faculty, received a delegation of the students who handed in a series of demands in writing. These were: (1) that only five students should dissect on one body; (2) that the school at Clamart should be re-opened; (3) that first and second year men should not be combined in class; and (4) that the arrangements for the teaching of osteology should be restored as they were, with an examination at the end of the course. The committee of the Faculty whose duty it is to look after the teaching of practical anatomy and whose members are M. Nicolas, professor of anatomy, M. Quénu, professor of operative surgery, M. Marie, professor of pathological anatomy, and the Dean as chairman, are of opinion that a certain number of students should be told off to dissect at Clamart, which course would set free a certain number of tables at the École Pratique. The remaining demands should be referred to the professor of anatomy.

On Ionisation.

At a meeting of the Society of Surgery, held on Nov. 11th, M. Tuffier related some researches which he had recently made into the penetration of the body by drugs under the influence of an electric current. His paper mainly dealt with the use of nitrate of silver in ophthalmia. As for salts which had an affinity for the skin (*en rapport avec la peau*), M. Tuffier considers that they penetrate the skin but do not pass very deeply into the tissues. Also he considers that although the use of sodium salicylates by cataphoresis in painful arthritis is accompanied by relief of the pain, this result is due not to the action of the drug but to the action of the electric current.

The Academy of Medicine.

At the meeting of Nov. 17th M. Quénu was elected a by the presence of the bacillus coli; the patients were suffering from bacilluria and pyuria. They had all suffered from so-called "influenza," one two months previously, another one year, and the third case a few years previously, but in no instance were they known to have contracted typhoid fever. In two of the cases definite urinary symptoms had occurred soon after the attack of "influenza," which in each instance had been severe. No precaution had been taken previously to the isolation of the bacilli, and no case of infection had occurred as far as is known. In two instances the patients were treated with a vaccine prepared from their own organisms, with the result that the paratyphoid bacilli soon disappeared from the urine, although the colon bacilli persisted. In the third example the urine, which only gave a growth of the *bacillus paratyphosus A.*, cleared up under the influence of urotropin and other urinary antiseptics. Although there was no absolute proof, it seems to me very probable that the disease which had been diagnosed as "influenza" was due to infection with the paratyphoid bacilli. The fact that urinary symptoms did not immediately follow the acute illness may be disregarded, because, as previously stated in the case of bacillus coli infections of the urinary tract, it is a matter of common knowledge that urinary infection is often present without the patient being aware of it.

The latent persistence of the typhoid-paratyphoid group of organisms in the tissues is of considerable importance from whatever aspect this subject is considered. That organisms which are known to be capable of giving rise to serious epidemics may practically live as saprophytes in our tissues, with or without occasional periods of activity, or be discharged from our bodies and thus be the source of acute infection in a fresh host, must be regarded as a reason for reconsidering our views concerning these infections, and the credit of this is greatly due to the School of Hygiene at Strassburg.

In conclusion, I must apologise for the numerous omissions in this account of the life of certain bacteria in our tissues. The whole subject is surrounded by difficulties which concern almost every detail in pathology and bacteriology. I have endeavoured to point out certain facts relating to bacteria living and multiplying in our tissues in contradistinction to the growth of these organisms outside the body.

FURTHER NOTES ON THE TREATMENT OF SYPHILIS BY ARYLARSONATES.

BY F. J. LAMBKIN, L.R.C.P. & S. IREL.,

COLONEL, R.A.M.C.

IN a paper which I read at the annual meeting of the British Medical Association at Sheffield in August last I recorded 74 cases of syphilis treated by arylarsonates at the Military Hospital, Rochester Row, between August, 1907, and July 1st, 1908, and I have now to chronicle a series of 34 further cases dealt with in a similar manner between July 1st and Oct. 1st, 1908, of which the following are the notes of some of the most interesting.

CASE 1.—Private ——, Irish Guards, was admitted on July 7th with an indurated phagedænic sore on the glans penis, profuse macular eruption on the body, inguinal and cervical glandular enlargements, nocturnal headaches, and anæmia with loss of body weight. Treatment consisted of 10 grains of soamin given intramuscularly on alternate days until he had received a total of 100 grains. He was discharged to duty on the 26th, all active signs of the disease having cleared up and the general health much improved; he had gained 6 pounds in weight whilst in hospital.

CASE 2.—Private ——, Coldstream Guards, was discharged from the Royal Herbert Hospital, Woolwich, on June 1st; he had been then under treatment for a "hard chancre," receiving 36 inunctions of mercury. He was admitted to Rochester Row on July 8th with an indurated sore on the penis, inguinal, cervical, and mastoid deep glandular enlargements, mucous patches on the tongue and mouth, and a roseolar rash on the body. His weight was He had the usual soamin course, grains by intramuscular injection. All active symptoms disappeared by the 28th when he was discharged from hospital. His weight on discharge was 11 stones 1 pound.

CASE 3.—Sergeant ——, R.A.M.C. This was an old case of some months' standing. He had had only an irregular course of treatment, owing to having concealed his disease. He was admitted to Rochester Row on July 8th with severe ulceration of the inside of the cheeks, tongue, and throat, also orchitis of the left testicle. He was put on soamin at once and completed the usual course of 100 grains, at the end of which all ulceration had healed, the size of the testicle was decidedly smaller, and his general health had markedly improved. He had gained 5 pounds in weight whilst in hospital, from which he was discharged on the 25th. This case was remarkable from the fact that although no local applications were made to the ulcerations in the mouth and throat, they healed in a most remarkable manner under the soamin alone.

CASE 4.—Private ——, Scots Guards, was discharged from the Royal Herbert Hospital, Woolwich, on May 21st; he had been there under treatment 52 days for "soft chancre." No mercury was given. He was admitted to Rochester Row on July 7th with an indurated scar on the penis, the deep glands in the groins, back of the neck, and mastoid shotted; and a maculo-papular eruption scattered over the body and extremities; he suffered from nocturnal headaches, anæmia, and debility, and was much run down. He had albuminuria. He went through the usual course of soamin, under which all symptoms cleared up, the albumin disappeared, and his general health improved in a remarkable way. He was discharged to duty on July 29th. The albumin in this case, as was thought, was due to syphilis which was proved to be correct by the way it cleared up under treatment.

CASE 5.—Private ——, Coldstream Guards, was admitted on July 4th with a well-marked "Hunterian chancre on glans penis"; the deep glands in the groin and neck were enlarged. He had the full course of soamin. The induration disappeared and he was discharged on July 25th, and up to date has had no further development of the disease.

CASE 6.—Driver ——, A.S.C., was admitted on July 7th with a typical hard chancre at the root of the penis. There were no glandular swellings. He went through the full course of soamin. The induration disappeared and he was discharged to duty on the 23rd. Up to date he is quite free from any further developments.

CASE 7.—Private ——, 2nd Grenadier Guards, was admitted on July 30th with a hard phagedænic-looking chancre on the corona glans, enlarged and shotty deep inguinal and cervical glands, a roseolar rash on the body, nocturnal headaches, anæmia, and general debility. He had the full course of soamin, under which all active signs of the disease gave way, and he was discharged to duty on Sept. 3rd, having much improved in general health. He had gained 7 pounds whilst under treatment.

CASE 8.—Sergeant ——, South Lancashire Regiment, was transferred to Rochester Row from another hospital where he had been under treatment for "lupus." The trouble first showed itself in India in 1905, and consisted of at first a more or less superficial ulceration on, and in the vicinity of, the nose. In hospital this was diagnosed as "lupus," and it appears at first to have healed up under local treatment; however, he had many recurrences of the ulceration which eventually necessitated his being invalided home. In England the same state of affairs went on and he spent most of his time in hospital. He had no specific history and had had no specific treatment; the latter consisted of arsenic internally, local applications, scraping, and x ray exposures. At two different hospitals the tubercle bacillus was detected in smears from the nasal ulceration. On admission at Rochester Row on August 5th he was much run down in general condition, cachectic, and anæmic. The alæ of the nose had been destroyed by ulceration which was still proceeding and spreading to the upper lip. There was a deep serpiginous-looking ulcer at the top of the pharynx, and the soft palate had been almost entirely destroyed by previous ulceration. Smears from the ulceration were negative. The case looked decidedly suspicious of syphilis and it was decided to deal with it as such. Accordingly the patient was put on soamin injections, and on August 12th the following note was entered: "Has had four injections of soamin (40 grs.) and the ulceration both of the throat and nose has practically healed." This patient was discharged to his duty on August 30th, having had the usual full course of soamin, 30 years ago, on the occasion of the meeting of the Sacred College to appoint a successor to Pius IX. In the February of 1878 some 60 and more cardinals proceeded to the Vatican, each bound for his special "cella" (room), to take part in the election of a new pontiff. The business involved in the election often extends over days, nay weeks or even months, before the required majority can be got to agree upon the cardinal to be appointed, and so each member of the Sacred College has to take with him the furniture necessary for such a prolonged seclusion from the outer world. Mr. Shakspere Wood, the correspondent above referred to, made it his business to watch each cardinal as he filed into the Vatican with the special appurtenances of his toilet, and, by no means to his surprise, he found that out of the 60 cardinals (or more) on whom he saw the Vatican gates close for an indefinite period there were only two whose personal equipment included a bath, and these were the two English Cardinals—Cardinal Manning and Cardinal Howard. If the princes of the Church, in such overwhelming majority, could dispense with what their British brethren deem so necessary, is it wonderful if their humbler compatriots should be equally resigned to a similar "self-denying ordinance"? The Roman population looks back with pride on its progenitors whose virtues it would fain congratulate itself on inheriting. But one of these was the use of the bath, which the humblest citizen could enjoy in such magnificent establishments as those of Titus, of Caracalla, and of Diocletian, whose very ruins are still among the "Mirabilia" of the Eternal City. It would do well to resuscitate the practice, if only for personal comfort and individual health, to say nothing of the gain to the public in the matter of hygiene, especially on occasions of the *feste* which attract to its basilicas promiscuous crowds of the faithful from all parts of Christendom.

Nov. 21st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Weather and the Water-supply.

A QUITE unexpected calamity has befallen this city in consequence of the protracted absence of rain and of the frost. Although Vienna has boasted of an excellent supply of pure water since the completion of the famous "Hoch-quell Wasserleitung" some 35 years ago, it has happened now that not only has the reservoir nearly run dry but there is a shortage in the daily influx. Vienna requires a daily supply of 1,000,000 hectolitres (one hectolitre is equal to 22 gallons). In normal times this quantity is easily obtained from the mountain springs whence the water is carried in the aqueducts to Vienna over some 70 or 75 miles. But since Sept. 10th there have only been three rainy days and the total rainfall has been estimated at less than three inches. A snowfall some time ago was also of little assistance and the frosts which have continued since then have made matters still worse. It has therefore been decided to cut off a large number of the water pipes in the houses and to diminish the habitual waste of water in baths, hotels, coffee-houses, and many private buildings. The population suffer under these measures but as long as the abnormal conditions prevail the utmost care is necessary to prevent a veritable "water famine."

Abnormal Development of Teeth in a Baby.

A very rare instance of premature development was demonstrated at the last meeting of the Medical Society, when a baby, aged four weeks, was shown with all 20 teeth in his mouth. The child was born at the normal term and is normal in all respects save that the gums are perforated by 20 small, otherwise apparently quite normal, milk teeth in the proper position. The ossification of the bones, the development of hair, and the state of nutrition are in accordance with the age of the baby, a healthy boy. Such occurrences are not frequent, although several instances have been reported within the last few years. The parents are not near relatives to each other and no etiological factor can be suggested to account for the abnormality.

The Proposed New "Infectious Diseases Act."

The Government has just laid before the House of Parliament the outlines for a new "Infectious Diseases Act," to become law within three months. As there are no general rules adopted uniformly in the different countries which constitute the Empire of Austria, and as science has made enormous progress since the last codification of the public health laws, the new regulations take into consideration all these points of view. The following diseases must be notified, without payment, to the public health officer: bubonic plague, cholera, small-pox, abdominal typhus (enteric fever), dysentery, recurrent fever, blackwater fever, leprosy, anthrax, yellow fever, scarlet fever, diphtheria, epidemic cerebro-spinal meningitis, malleus and rabies, glanders, and all suspicious injuries sustained from animals or through animal tissues. In case any other disease should become epidemic or extremely dangerous to the public, the executive is entitled to deal with it as if it were contained in the above-mentioned list. The notification must be made by the medical man, nurse in charge of the case, or by inn- and hotel-keepers, teachers, and coroners. Persons attacked by any one of these infectious diseases must be isolated if necessary. The lodgings and belonging of the patient and his family must be disinfected, and articles which cannot be dealt with in a satisfactory manner must be destroyed. Compensation must be given, however, in every instance of compulsory destruction. Any place or inhabited house may be put in quarantine. Special physicians may be appointed in times of epidemics to give gratuitous medical assistance, and pensions are to be awarded to them should they be incapacitated in the discharge of their duties, the pension to be paid to the family of any such physician who dies. The expenses of sanitary precautions in times of epidemics are to be borne by the State. The Bill contains no clause dealing with vaccination. It is intended in the future to make vaccination compulsory, but it is deemed advisable to postpone the matter until all negotiations with the local boards have been completed. As violent opposition is expected in this respect the Government wants to make its position quite good before embarking on legislation.

The Prevention of Arterio-sclerosis following the Use of Adrenalin.

In a communication to the Gesellschaft der Aerzte, Dr. Mansfeld explained the details of his experiments to prevent arterio-sclerosis by the use of adrenalin. A series of experiments has brought to light the fact that the injection of adrenalin and oily substances was not detrimental to the intima of the blood-vessels. A series of ten rabbits received daily injections of 2½ grains of adrenalin intravenously and a control series received the same injections with the addition of a subcutaneous injection of cholin (1 grain). The result was that the animals treated with adrenalin showed serious disease of the aorta, whilst those treated with cholin as well showed no lesions whatever. This observation is of the first importance, for some complaints have been made already that the protracted use of adrenalin has been followed by untoward after-effects. Experiments with other substances than cholin did not give such favourable results. Care must be taken to obtain pure cholin as it decomposes readily.

Three Cases of Renal Operations.

Dr. Fabricius recently demonstrated three patients and the very interesting preparations obtained from them. The first patient was a woman, aged 29 years, who had been operated upon several times for stone in the kidney; two stones had been removed successfully, when suddenly after an interval of six weeks of complete health septic fever supervened. In hospital accumulation or retention of pus was diagnosed and catheterisation of the ureter corroborated the diagnosis. But the patient was anxious to be freed from her pain and asked to have the kidney removed. This was done, and the kidney on section proved to be a mass of small abscesses. The incisions into the parenchyma of the organ had completely healed. The second patient complained of turbid urine and radiography proved the presence of an enormous "coral" stone in the kidney. During the operation all the pyramids of the organ became detached from each other, so that after extraction of the stone the kidney consisted of several separate lobes. Nevertheless, the patient made a good recovery, although the stone is one of the biggest that have been removed without extirpation of the organ. A portion of the cortical substance of the kidney had to be removed. The stone had completely filled the

Both inguinal and cervical glands were enlarged and there were condylomata. Weight on admission, 11 stones 10 pounds. Oct. 7th: The patients had had three injections of arsacetin (21 grains). The rash showed undoubted signs of improvement, the papules were smaller and less bright in colour, and there was a very marked general improvement. He looked much better, the headache had gone, and the pustules on the scalp were drying up. Oct. 14th: The patient had had seven injections (49 grains). The improvement was most marked, the rash had almost disappeared, the scalp was quite normal, and all signs of condyloma had gone. Oct. 21st: 70 grains of arsacetin had been injected. All symptoms had subsided and the patient's general health and appearance had improved out of all recognition and he was discharged to duty. One could hardly have looked for such a rapid recovery in a case which on admission threatened to be a very severe one and I have seldom seen a better result.

CASE 19.—Private ——, Irish Guards, was admitted to hospital on August 28th. He then had a large ulcerating sore involving the frænum, the glans, and part of the prepuce. The base of the ulcer was indurated. He also had a bright red roseolar eruption on the chest, the abdomen, and the back, and a few scattered papules. There was a large indurated gland in the left groin. The patient's weight was 12 stones. Oct. 7th: The patient had had four injections of arsacetin (28 grains). The rash showed signs of fading and the patient looked better. The sore had healed. Weight, 12 stones 3 pounds. Oct. 14th: The patient had had seven injections (49 grains). There was a very marked improvement, the rash had quite disappeared in some places, and where it was still present it was much less bright in colour. Weight, 12 stones 4 pounds—a gain of four pounds. Oct. 21st.: The patient completed a course of arsacetin of which he had had 70 grains. All active symptoms had disappeared and his general health and appearance had improved much—in fact, his health was excellent.

CASE 20.—Private ——, Irish Guards, was admitted on Sept. 23rd suffering from phimosis, œdema of the prepuce, and marked induration at the tip of the prepuce. There was a well-marked maculo-papular eruption on the chest, the abdomen, and the back. The lymphatic glands of the groin were somewhat enlarged, as also were those of the neck. The patient's weight was 10 stones 4 pounds. The patient was circumcised on Sept. 30th. The prepuce was found to be very hard and indurated, especially the lower part. Oct. 7th: The patient had had three injections (21 grains). The rash was fading and the patient had gained three pounds in weight, which now was 10 stones 7 pounds. Oct. 14th: The rash had almost completely gone except for a few yellowish spots in the flank. The circumcision was healing up and the lymphatic glands were less indurated. Oct. 21st: 70 grains of arsacetin had been injected and all the above symptoms had gone. The patient's health and appearance were excellent and he was discharged to duty.

CASE 21.—Private ——, 1st Scots Guards, was admitted to hospital on Oct. 9th. There was no history of a primary sore and there was no sign of one but he had been in hospital in September last for balanitis. He now had a well-marked pigmented eruption on the lower part of the abdomen, the thighs, the buttocks, and the legs. The rash had probably been on the body for some time. The tonsils and the throat were congested and there was a tendency to mucous patches. Both the inguinal and cervical glands were indurated. Weight on admission, 11 stones 2 pounds. Oct. 14th: The patient had had three injections (21 grains). The rash was clearing off considerably except for a few pigmented spots on the thighs. Weight, 11 stones 4 pounds, a gain of two pounds. The throat was much better. Oct. 21st: Six injections of arsacetin had been administered (42 grains). The rash had gone, the throat had healed, and the general appearance was good.

The Preparations Used.

Soamin.—Of the preparations used soamin was employed in 26 of the above cases. As already described in the paper quoted above, soamin is a para-amino-phenyl-arsonate having the formula $C_6H_4NH_2ASO(OH)(ONa)5H_2O$—in fact, it approximates very closely to the original preparation atoxyl. It has the advantage over the latter in that its purity can be assured. As will be seen, all these 26 cases had their full course of soamin which consists of a total of 100 grains and in only two were there the slightest bad effects (Cases 15 and 16); both as recorded showed slight toxic symptoms after they had had their eighth injection. The fact that the patients concerned were over 50 years of age might possibly account for the effects.

Arsacetin.—Eight of the series were treated with the arylarsonate known as "arsacetin" recommended by Ehrlich, as also by Professor Neisser; it is a sodium acetyl-phenyl-arsonate. $(C_6H_4NHCH_3CO).AsOOHONa$ = arsacetin. Professor Neisser says of it: "1. The preparation is certainly far less toxic than the old atoxyl, both healthy and diseased animals tolerating very much larger doses of arsacetin than of atoxyl. 2. As far as it is possible to make any comparison as to the remedial action on syphilis he thinks there is no doubt but that everything favours arsacetin. 3. No decomposition of any kind in the solution, even when stored for a long time, could be detected, nor does boiling daily alter the solutions in any respect." At Rochester Row in the above cases I have been giving 40 minims of a 15 per cent. solution every second day, this is equal to seven grains of arsacetin. The preparation can be employed in either a 10 per cent. or a 15 per cent. solution. The latter has the advantage that it does not require the injection of so large a quantity of fluid and consequently the temporary painfulness in the locality of the injection is slighter; there is, however, this disadvantage that the 15 per cent. solution deposits the salt when cold, so that before use it is necessary to heat it to bring it into solution again.

Comparison of the salts.—It is hard to give a definite opinion, at present, as to which of these two arylarsonate preparations is the most efficient owing to one's limited experience as regards arsacetin; at the same time one cannot help being very much struck by the remarkable results one has seen following its use in the cases treated, and it certainly possesses undoubted advantages over soamin, in that its solutions do not decompose; hence it is unnecessary to make them up fresh daily as is the case with soamin.

Conclusion.—The good results obtained from the use of arylarsonates in this further series of cases go to strengthen one's conviction that in them we possess a second specific for syphilis, at least from a preventive and remedial point of view. As regards the former I have at present ten cases under observation which were originally admitted with what were in my judgment undoubted primary lesions of syphilis, and in seven of which the spirochæta pallida was demonstrated; these cases underwent courses of soamin, varying from between 60 and 100 grains, and have now been all closely observed every week during the last ten months without developing any further sign of syphilis. From the remedial point of view the good results of these 34 cases speak for it. But as a curative agent it is beyond us at present to give a positive answer to this all-important question; time and clinical experience alone will enable us to do so; nor can this be done until it is proved without doubt that arylarsonates are capable of permanently expelling the spirochæta pallida from the system, as indicated by the patient being rendered capable of reinfection. Neisser's successful experiments on apes from this point of view justify us in hoping for this end. Until the question as to the capability of arylarsonates bringing about a permanent cure is fully established (which it is hoped Wassermann's serum test will be able to tell us for certain), I consider that after a course of arylarsonates mercury should be given, and for this purpose, after my patients have completed a course of arylarsonates, I put them on intramuscular injections of metallic mercury.

Military Hospital, Rochester-row.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—A meeting of this society was held on Nov. 20th, Dr. F. de Havilland Hall being in the chair. The list of sickness claims examined by the committee was a long one, and as is usual at this time of the year showed signs of rapidly growing. On the whole, however, the sickness business of the autumn has been favourable to the society and has worked off a good proportion of the loss that was sustained in the spring. The list of "chronics," that is, of permanently disabled members, continues to grow and more than £4000 a year are now being disbursed in respect of them. A large special reserve will be made for these at the approaching valuation of the society's business. Prospectuses and all further particulars can be had on application to Mr. F. Addiscott, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

profession of medicine. That improvement was apparent o anyone who recalls the conditions of professional life—ducational, ethical, and social—that prevailed in an earlier generation. In a word, the Council is by its nature progressive, and it makes for progress in other bodies. It is he concern of the nation as well as of the profession that ts advance should be encouraged, whether by the removal of hindrances or by the bestowal of further powers. On the work it has succeeded in accomplishing, notwithstanding its estrictions, it may well rest its claim to be intrusted with better equipment and a freer field of action. Of its original members, which included leaders in medicine like Brodie, Watson, Green, Acland, Syme, Corrigan, Clark, Hastings, Lawrence, Christison, Stokes, and others, none now survive. Of those who joined the Council towards the end of ts second decade we have lost Sir James Paget, Sir John Simon, Dr. Samuel Haughton, and within the last few weeks Sir Henry Pitman, after he had passed the hundredth year of his life of honourable and honoured service. But happily we are still able to greet their esteemed comrades, Sir William Turner, our only remaining past President; Mr. Pridgin Teale, whom lately his own county of York delighted to honour, as he is honoured wherever he is known; and Lord Lister, *non nobis solum sed toti mundo natus*, the glory of British medicine and the benefactor of the human race. To be colleagues or successors of such men, and of many whom time fails me to enumerate, may well make us, as members of this Council, both proud and earnest—proud that we are privileged to carry on their work; earnest, when we reflect on the responsibility that privilege implies. To the dead and to the living alike we are debtors, for their ideals and for their example. Besides Sir Henry Pitman, there has recently passed from us, in a green old age, Sir John Banks, the most genial of courtly physicians, whose native brilliancy and humour made him an ever-welcome colleague. And we have also to mourn the sudden but assuredly not untimely death of one who, seven years ago, was still our faithful and deeply respected fellow-worker, Dr. James Grey Glover. His intellectual candour, his strong faith in God and man, his courtesy, and his capacity for friendship made him an admirable representative of the practitioners of England. They chose wisely when they chose a man like him to be their spokesman; the Council was the better for his presence, and the richer for the 15 years of his strenuous activity on its behalf.

Of changes in our present membership I have only one to mention. The University of Cambridge has appointed Sir Clifford Allbutt to the seat which I had the honour to occupy from 1889 onwards. His fame and the great place he fills in our profession are known to all of you. But as a colleague who for many years served with him in the medical faculty of Cambridge, and always on the happiest terms of comradeship, I may be allowed to bespeak for him a special welcome. His personal qualities of mind and bearing will speedily procure him your friendship, as his work has already procured your admiration. On another member, hitherto known to us as Mr. Power, His Majesty has been pleased to confer the Knight Commandership of the Order of the Bath, in recognition of his eminent services to the public health. His work as an investigator, an administrator, and a counsellor of the Government and of the people of this country has been unsparingly rendered, often at the cost of his own health, and it has been singularly effective and fruitful. The mark of Royal favour which he has now received was never more worthily bestowed. The Council will join with the profession at large in congratulating Sir William Henry Power on his promotion and in wishing that in greater freedom from official cares his strength may be renewed for further service to the State.

His Majesty has also done special honour to two members of the Council, Dr. James Little and Dr. David White Finlay, by appointing them to be his Honorary Physicians in Ireland and in Scotland respectively. This recognition of the professional position they have gained by their attainments and their personal worth will be heartily approved by the Council. Lastly, it is my duty humbly but gratefully to acknowledge the gracious act of the King with reference to your President, who, happening to occupy this chair on the occasion of the Council's jubilee, has been favoured by the bestowal of a decoration. The Council will, I am sure, appreciate the honours which have been accorded to it and to its members by the Sovereign, esteeming them as an indication of His Majesty's approbation for their efforts to carry out loyally the duties laid upon them by the State, and of His Majesty's desire to encourage all who participate in the Council's work to persevere in their endeavours for the public good. At the present session several questions of national importance, which have been submitted for our consideration by the Lord President of the Privy Council, will be dealt with. The dangers arising from the administration of anæsthetics by untrained or unqualified persons have recently received public attention. A Bill has been proposed for the purpose of obviating some of these dangers; but it contains certain provisions which appear, to me at least, to be questionable, and on these I have ventured on your behalf to make communications to the authorities during the recess. The Executive Committee will have a report to lay before you on the subject.

We have also received for information the Nurses' Registration Bill and the Tuberculosis Prevention (Ireland) Bill, which have lately been under the consideration of Parliament. Each contains clauses referring to this Council on which it behoves us to express our opinion or to give instructions to our officers as to the advice which should be tendered to Government on the questions raised. The Medical Companies Bill has made no progress in the House of Commons during the autumn. Another measure affecting the Council has passed into law during the current session of Parliament. By the Irish Universities Act, which received the Royal Assent on August 1st, provision is made for substituting two new universities in the place of the Royal University of Ireland. Under Section 11 each of the two new Universities is empowered to hold qualifying examinations in medicine, surgery, and midwifery, as if it had been in existence at the passing of the Medical Act, 1886. Moreover, the governing body of each University is entitled to choose one representative to be a member of the General Council, in the place of the single representative of the Royal University. The graduates of the latter University, medical and other, are distributed, according to rules laid down in the Act, between the new universities. These are to have their seats in Dublin and Belfast respectively, and each will from the outset possess a numerous constituency of medical graduates already registered. I may add that your President's name is included in the Act as a commissioner for the University at Belfast, as is also the name of President Windle, lately the chairman of our Education Committee, as a commissioner for that at Dublin. The duty of the commissioners is to frame statutes for the general government of the new universities, and includes the duty of regulating the conditions of admission to medical and other degrees. By the friendly assistance of the Colonial Office and of the Foreign Office a large mass of authoritative information has been obtained respecting the laws regulating the practice of medicine, and the restrictions imposed on unqualified practitioners, throughout the empire and in foreign countries. This information, which reached the Council's office in various forms and in numerous languages, has been carefully analysed and digested by the Registrar and his staff for the use of the Committee on the Prevention of Unqualified Practice. As it is entirely derived from official sources the digest will be of value to the public, and when it has served the immediate purpose of the committee it will be well to issue it as one of the Council's publications. To the best of my knowledge no digest at present accessible surveys so fully and so authentically the existing laws of the civilised world in relation to medical practice. His Excellency the Governor of Bombay has invited me to attend, as his guest, a medical congress convened by him to meet at Bombay in February next and to deliver an address at a general assembly of the congress. In view of the movement which is on foot towards the better regulation of medical qualification and practice in India I should have been glad if it had been possible to accept the invitation. But the exigencies of work here and in Glasgow forbid so long an absence from home as would be necessary and I have had regretfully to decline.

An important declaration of the law, this time by judicial not by legislative authority, has been pronounced with reference to the Dentists Act. The Lord Chief Justice, with Mr. Justice Bigham and Mr. Justice Walton, have, in an appeal against the conviction of an unregistered practitioner of dentistry, decided that certain words (e.g., "painless extraction") employed by him in an advertisement were sufficient to bring him within the terms of Section 3. The words were held in effect to be a statement that the advertiser was were withdrawn and introduced into equal volumes of melted agar and plates poured; after 24 hours' incubation at 37° C. the colonies which had developed were counted and thus the numbers of organisms present in equal volumes of Tubes *a* and *b* and in equal volumes in Tubes *c* and *d* ascertained. The several tubes were then incubated at 37° C. and by means of the loop equal volumes were withdrawn at the same intervals, plates made, and colonies counted as before. The results are set out in Table VIII.

It is very evident that not only do the organisms die off more slowly in the first few hours in the nasal mucus than they do in the salt solution but also that after multiplication has begun they also increase more rapidly in the mucus than in the salt solution, conclusive evidence that not only is nasal mucus neither bactericidal nor inhibitory but also that it is actively nutrient. The obvious inference therefore is that the rôle of nasal mucus is purely a mechanical one to wash away the rapidly growing organisms—its action therefore is exactly that which Eyre has demonstrated that of the lacrymal secretion to be.

Site of formation of opsonins.—Wright, Bulloch, and others are agreed that opsonins are not elaborated in the blood and probably not in the blood-forming organs. That they are elaborated in the muscles and subcutaneous tissues is rendered probable by the following experiments which show that the opsonic index of muscle plasma to various organisms is considerably higher than that of the blood plasma. A human leg was obtained immediately after amputation and perfused through the popliteal artery with normal saline solution until this returned quite clear through the veins. The muscles were then dissected out, dried with filter paper, minced, cooled in an ice chest, and the muscle plasma extracted in a press. The very earliest portion was rejected as being obviously diluted with the saline solution used in the perfusion. The latter portions were collected and the index towards bacillus tuberculosis, bacillus of Friedländer, and staphylococcus albus was compared with that of the patient's blood serum. The results obtained are set forth in the following table:—

TABLE IX.

Experiment 1.

Bacillus tuberculosis.

Muscle plasma.	Human blood serum.
115 in 100 polymorphonuclear cells.	84 in 100 polymorphonuclear cells.

Index = 1·4.

Experiment 2.

Bacillus of Friedlander.

Muscle plasma.	Human blood serum.
112 in 100 polymorphonuclear cells.	90 in 100 polymorphonuclear cells.

Index = 1·24.

Experiment 3.

Staphylococcus albus.

Muscle plasma.	Human blood serum.
427 in 50 polymorphonuclear cells.	324 in 50 polymorphonuclear cells.

Index = 1·3.

Some slight allowance must also be made for the inevitable admixture of the muscle plasma with the saline solution. This only accentuates the difference, marked as it already is. It would thus appear that the muscle tissues contain a fluid with higher opsonic power than the blood plasma and may therefore be a site of opsonic formation. These results were confirmed by comparison of the opsonic powers of the muscle plasma and blood serum of animals towards various organisms.

These experiments render the view probable that when a vaccine is injected subcutaneously the opsonin is elaborated in the immediate neighbourhood of the site of injection and thence finds its way into the general circulation. Assuming, then, the accuracy of these observations upon the local formation of opsonins and the action of nasal mucus the processes of infection and the reactions thereto may be explained as follows.

Tissue metabolism and so opsonin formation go hand-in-hand with blood-supply. The nose is infected by organisms in a state of dormant activity. A draught striking, say, the back of the neck affects the vaso-motor nerves, causing constriction of the vessels of the nasal mucosa, and a resultant diminution in tissue metabolism and opsonin-formation. The organisms are thereby lighted up into activity and a cold begins. The protective mechanism of the body is now called into play, vaso-constriction is followed by vaso-dilatation, with consequent hyperæmia and increase in tissue metabolism. The result of this is rise in the local formation of opsonin and increased activity of the mucous glands, with consequent destruction and washing away of the infecting organisms. This process may be complete, in which case the cold rapidly gets well, or it may prove insufficient, in which case the cold progresses to a subacute or chronic state only to get well when the organisms have lost their virulence or been gradually destroyed.

VII.—TREATMENT.

(*a*) *Of acute colds.*—The best form of treatment is, as always, prevention—and much can be done in this direction both by the sufferer and by others; by the former by clearly realising that a cold carelessly communicated to others may prove a death-blow. It therefore behoves him to regard himself as an infectious case and take above all every possible care not to come into contact unnecessarily with anyone to whom a cold may be a serious matter, such as an old infirm person or anyone infected by chronic bronchitis or advanced heart disease. Infected handkerchiefs should be sterilised as soon as possible; this can easily be done by occasionally sprinkling them with a drop or two of formalin carried in a small bottle; and on no account should a sneeze be allowed to disperse organisms throughout a room but should be received into a handkerchief. It is his duty to avoid crowded rooms and public meetings, for his own sake as well as that of others, whenever possible; he should remain in his own room during the acute coryzal stage and adopt efficient means of cure.

The non-sufferer can do much to ward off attacks; in fact, I would go so far as to say that no one has any business to catch a cold except through sheer mischance. Due attention is paid daily to the toilet of the surface of the body, and even to that of the teeth; surely the nose should receive equal attention, especially in the atmosphere of crowded cities? To this end the nose should be douched each night at bed-time and if agreeable each morning on rising with a weak warm alkaline antiseptic solution; nothing is better for this purpose than glycothymoline or thymoglycin one part to three or four parts of warm water. This procedure is very efficient: numerous cases which formerly were perpetually catching colds have become almost immune to their attacks by the adoption of this simple precaution. At the first symptom of an approaching cold the nose should be douched and the throat gargled. Should these precautions have been omitted or have proved inefficacious and a cold have matured other means of combat must be employed.

In practice, my first procedure is to take cultivations from the nose upon blood serum and blood agar for next day's identification. It is through the vaso-motor system that the disease can in the early stages be best attacked. Accordingly the feet should be placed in hot mustard and water and the patient put to bed in a warm but thoroughly well ventilated room.

If nasal douches be employed in the acute coryzal stage—and I do not think they should—they must be used with great care to prevent increasing the chances of extension to the Eustachian tube and accessory sinuses; the simple device of placing the palm of the hand firmly over the external auditory meatus when expelling the mucus from the nostril will often suffice to prevent the dilatation of the corresponding Eustachian tube, and the consequent admission of infected material. In many subjects the tube of one side appears to be much more liable to infection than that of the other.

The diet, and especially the proteid, should be restricted, and particular attention paid to the bowels and kidneys; all cases of cold are constipated, and this must be carefully avoided. The excessive nasal discharge can be controlled by promoting free action of the kidneys and skin and can be much diminished by restricting the fluids taken. Whether this is strictly advisable, however, is rather doubtful in view of the mechanical action of the mucus upon the infecting organisms.

As regards drug treatment, this is largely symptomatic, but much reliance has been placed on solutions of quinine sulphate as a means of prevention or of shortening an attack; consideration of its actions will show that this is based probably upon analogy of its specific action in malaria.

to the comfort, happiness, and beauty of humanity. Dental surgery, he thought, warded off senility, because with a good set of teeth the better digestion of food was assured. He was not quite certain, however, whether after all Parr did not reach his great age owing to the fact that he had no teeth and was thus compelled to live on milk, of which possibly a good deal was sour, and Metchnikoff had pointed out the usefulness of the lactic acid bacillus in prolonging life by combating auto-intoxication. The proceedings, which were enjoyable throughout, closed with the toast of "The Chairman," proposed by Mr. John J. Andrew, President of the British Dental Association, a speech the kindly sentiments of which the chairman gracefully acknowledged. During the evening an excellent programme, comprising madrigals, glees, and catches, most of which were of the eighteenth century, was sung by the Frau Musika Vocal Quartette.

THE NATIONAL DENTAL HOSPITAL.—The students' annual dinner of this hospital was held at the Trocadéro Restaurant, London, on Nov. 20th, under the chairmanship of Sir William Henry Allchin, who, in proposing the toast of "The Hospital and School," said that though the qualification of L.D.S. was excellent in all respects, still, if it were possible for dentists to hold a general medical qualification it would be to their advantage because then there could be no question as to the propriety or otherwise of dental surgeons administering an anæsthetic. Further, it seemed to him that if every dentist qualified in general medicine and surgery it would add much to the collective dignity of the profession. Mr. P. S. Spokes, the dean of the school, in the course of his reply to the toast, said that in regard to additional medical qualifications, if everyone had the time and money at his disposal then he thought that everyone should, before applying himself to the dental profession, finish his medical training. He claimed, however, that men who passed the L.D.S. were able dental surgeons and well fitted for their work. Other speakers included Mr. A. Pearce Gould, Mr. K. W. Goadby, and Mr. C. W. Glassington.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual meeting of the British Medical Temperance Association was held in the rooms of the Medical Society of London on Nov. 20th, the attendance being good. The President, Professor G. Sims Woodhead, occupied the chair, and among others there were present Dr. V. H. Rutherford, M.P., Surgeon-General George J. H. Evatt, C.B., Dr. Heywood Smith, Dr. T. N. Kelynack, Dr. G. B. Basil Price, Dr. E. Claude Taylor, Dr. R. Leslie Ridge, and Dr. C. F. Harford. The President paid a warm tribute to the services of the late Dr. J. J. Ridge who had acted as honorary secretary of the association for 32 years. A discussion followed on the future work and aims of the association in which many spoke. The policy outlined was that the association should be strictly medical and non-political, working for the advancement of knowledge of the medical and scientific side of the alcohol problem. It was announced that the *Medical Temperance Review* would be continued and published quarterly. The association has 671 members and 237 student associates.

THE Prussian Academy of Sciences has granted to Dr. Gustav Fritsch £100 to enable him to publish a work on the area centralis of the human retina.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

THE Parliamentary session seems likely to be more prolonged than was anticipated when the autumn sitting began in October. The most sanguine estimates are that Parliament will be prorogued a few days before Christmas. However, if this confident anticipation is to be realised there must be a considerable acceleration of the rate of progress of the Ministerial programme of legislation. The House of Commons has still to deal with such important subjects as education, the miners' eight hours' day, and housing and town planning, and unless the Government abandons some of its Bills the statement that the session will extend into January seems well founded.

HOUSE OF COMMONS.

THURSDAY, NOV. 19TH.

The International Commission on Opium.

Mr. THEODORE C. TAYLOR asked the Secretary of State for Foreign Affairs what were the terms of reference of the International Commission on Opium which was to meet in Shanghai in January next, and whether the inquiry would cover the use of morphine and cocaine.—Mr. MCKINNON WOOD (on behalf of Sir EDWARD GREY): The terms of reference are still under consideration and they will be communicated to the honourable Member as soon as they have been definitely settled.

The Grants to County Infirmaries in Ireland.

Mr. O'DOWD asked the Chief Secretary to the Lord Lieutenant of Ireland whether any portion of the grant given by a county council to a county infirmary could be applied towards the maintenance of a separate institution for tuberculous patients.—Mr. CHERRY (the Attorney-General for Ireland) replied on behalf of Mr. BIRRELL: The reply to this question is in the negative.

Hop Substitutes in the Manufacture of Beer.

Answering Mr. SUMMERBELL Mr. ASQUITH said: I understand that my right honourable friend the Chancellor of the Exchequer will shortly introduce a Bill to prohibit the use of hop substitutes in the manufacture of beer.

Tuberculous Milk in London.

Mr. ELLIS DAVIES asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether his attention had been drawn to the fact that out of 92 samples of milk sampled by the officials of the London County Council last week 23·9 per cent. were found to be tuberculous; and what steps, if any, the Government proposed to take to deal with the disease.—Sir EDWARD STRACHEY replied: The Board has seen a copy of the report of the Public Health Committee of the London County Council to which my honourable friend is perhaps referring. It would appear that the samples examined were taken at various times during the last quarter. The Board is carefully considering whether it can take any action to deal with the matter.

MONDAY, NOV. 23RD.

Petrol Accidents.

Mr. PERCY BARLOW asked the Secretary of State for the Home Department whether his attention had been called to the frequency of accidents involving loss of life and personal injuries arising from the ignition or explosion of petrol and other vapours; and whether he was prepared to take any, and if so what, steps to ascertain whether any means existed of preventing such accidents.—Mr. GLADSTONE answered: I have had this matter under my consideration, and I hope shortly to be able to appoint a small committee to consider the question of the use of mechanical devices to diminish the dangers attendant on the storage of petrol spirit.

The Sale of Food and Drugs Act in Scotland.

Mr. VINCENT KENNEDY asked the Secretary for Scotland to state the numbers of samples taken under the Sale of Food and Drugs Act, or the corresponding Scotch Act, for the years 1905–06–07; how many prosecutions were instituted and with what result; and what was the average annual cost of working this department.—Mr. SINCLAIR replied: The number of formal samples examined by analysts on behalf of local authorities in Scotland for the years ended Sept. 30th, 1905, 1906, and 1907, and the number of prosecutions and the result of such prosecutions were as follows:—

	1905.	1906.	1907.
Number of samples	7221	7514	6842
Number of prosecutions ...	373	419	369
Number of convictions	300	328	282

No information is collected by the Local Government Board for Scotland regarding the annual cost of working the Sale of Food and Drugs Act.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ALLEN, R. W., M.B., B.S. Lond., has been appointed Clinical Pathologist to the Mount Vernon Hospital.

BAGGS, J. C., L.S.A., has been appointed Medical Officer to the Siamese Government at Tuket.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health for the Gloucestershire Combined Sanitary District.

CLARKE, WALTER TRAVERS, M.R.C.S., L.R.C.P. Lond., has been appointed School Medical Officer for Morley, Yorks.

COOK, E. N., M.B., B.S., M.R.C.S., L.R.C.P., has been appointed House Surgeon at University College Hospital.

CORFIELD, CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Dental Anæsthetist at the Bristol General Hospital.

ETTLES, WILLIAM, M.D., C.M. Aberd., F.R.C.S. Edin., has been appointed Pathologist to the Royal Eye Hospital.

GILL, JOHN WALLIS, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Liskeard (Cornwall) Board of Guardians.

GOUGH, WILLIAM, M.B., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Honorary Medical Officer to the Leeds Maternity Hospital.

at 60° C. This result was confirmed by repetition with two other specimens of serum as follows:—

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
220 in 100	67 in 100	280 in 100	61 in 100

Just as in the former experiment we see that about a quarter of the opsonin for bacillus septus is not destroyed by heating for one hour at 60° C.

(c) Organism employed. bacillus of Friedlander.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
777 in 100	92 in 100	636 in 100	97 in 180

From this it would appear that about one-seventh of the opsonin for bacillus of Friedlander is not destroyed by heating at 60° C. for one hour.

One striking feature in the experiments (b) and (c) with heated serum is that only 1 cell in 10 or 20 exhibits phagocytic power and that it exhibits it usually to a very marked degree. A frequent experience in doing opsonic determinations even with emulsions of considerable dilution is to find a cell here or there crowded far above its fellows with organisms. The recurrence of this phenomenon in cases where heated sera are employed would suggest peculiar activity in certain few leucocytes, an activity which may be exerted upon organisms almost independently of the opsonising action of the serum.

B. *Experiment. Determination of length of negative phase.*—It is well known that the first result of the injection of a vaccine of any organism is the production of a so-called negative phase, or temporary reduction in the opsonic index to that organism; this period during which the negative phase lasts may be regarded as one of increased susceptibility or diminished powers of resistance, and varies not only for different organisms but also for different individuals. It therefore becomes a matter of great importance to gain some idea of its length in the case of these "cold" organisms, lest premature exposure of the patient to changes of temperature and cold should result in an increase in the severity of the attack and a possible pneumonia in the case of a Friedländer or paratetragenus infection.

(a) An injection of 250,000,000 of killed bacillus septus was given and samples of blood were taken on injection and after intervals of 3, 6, 12, 18, 24, 36, 48, 72, and 96 hours. The comparative opsonising powers of the various sera towards bacillus septus were then determined in the usual way with the following results:—

TABLE X.

1. On injection	......	882 bacilli in 200 cells	Index = 1
2. After 3 hours	......	544 „ „	„ = 0·62
3. „ 6 „	......	885 „ „	„ = 1·0
4. „ 12 „	......	804 „ „	„ = 0·91
5. „ 18 „	......	949 „ „	„ = 1·08
6. „ 24 „	......	1096 „ „	„ = 1·25
7. „ 36 „	......	1000 „ „	„ = 1·15
8. „ 48 „	......	1044 „ „	„ = 1·20
9. „ 72 „	......	1220 „ „	„ = 1·38
10. „ 96 „	......	1248 „ „	„ = 1·39

From this we see that at the end of three hours the negative phase is fully established, that the index has recovered to unity at the end of six hours, again to fall slightly at 12 hours, then to recover and gradually attain a maximum at about the end of the third day.

(b) *For micrococcus catarrhalis.*—

TABLE XI.

Injection = 350,000,000 organisms.

1. On injection	......	942 bacilli in 200 cells	Index = 1
2. After 3 hours	......	722 „ „	„ = 0·77
3. „ 6 „	......	580 „ „	„ = 0·62
4. „ 9 „	......	825 „ „	„ = 0·88
5. „ 15 „	......	1125 „ „	„ = 1·20
6. „ 22 „	......	1080 „ „	„ = 1·15
7. „ 28 „	......	1131 „ „	„ = 1·20

Here we see that the negative phase lasted somewhere between nine and 15 hours, say about 12 hours. This experiment, as in the case of the one with bacillus septus, was done upon myself when quite free from cold. The following observation was made upon a patient who had been troubled with a bad tracheal cough for a fortnight, from whose tracheal mucus the micrococcus catarrhalis had been recovered in practically pure culture.

TABLE XII.

Injection=350,000,000 organisms.

Normal serum*	... ...	250 bacilli in 100 cells ...	Index 1
Patient's serum	before injection ...	140 „ „ ...	„ = 0·56
„ „	after 4 hours ...	90 „ „ ...	„ = 0·36
„ „	„ 8 „ ...	220 „ „ ...	„ = 0·88
„ „	„ 12 „ ...	280 „ „ ...	„ = 1·12
„ „	„ 15 „ ...	312 „ „ ...	„ = 1·25
„ „	„ 18 „ ...	325 „ „ ...	„ = 1·30

TABLE XIII.

The Opsonic Index during an Acute Attack due to Bacillus of Friedländer.

Third day of cold. Cold began on 16th inst. Index before attack 1·25.

2 P.M.	18th	... ...	Index = 1·17
11 „	18th	... ...	„ = 1·05
10 A.M.	19th	... ...	„ = 1·26
10 P.M.	19th	... ...	„ = 1·07
10 A.M.	20th	... ...	„ = 1·07

The subacute stage began on the 20th.

4 P.M.	24th	... ...	Index = 0·96
Noon	26th	... ...	„ = 0·89
„	27th	... ...	„ = 0·93

Injected with 300,000,000 at 2 A.M. on the 28th inst., as the subacute stage had become distinctly annoying to the patient.

2 A.M., 28th, before injection	... ...	Index = 0·87
After 8 hours ...	... ...	„ = 1·9
„ 18 „	... ...	„ = 2·14
„ 32 „	... ...	„ = 2·4

Nose quite sterile and cold perfectly well.

In another case the negative phase lasted over 24 hours.

From these experiments we learn that the duration of the negative phase does not usually last over 12 hours. If, therefore, a patient be injected in the evening, remain in the house, and go to bed early, risk of a fresh acute attack being lit up should be over by the time of rising in the morning; for even if the positive phase be not fully established the index is then on the rise, and a period of rising index is probably one of slight danger of infection.

(c) *Preparation of the vaccine.*—It is well recognised that to obtain the best results it is advisable to prepare the vaccine from the organisms isolated from the person's own body. In the case of tubercle this is hardly possible, while in gonorrhœal affections it is not always easy, nor does it seem so imperative for two reasons: firstly, the gonococcus seems to be a bacteriological entity and not to be a member of a family; and, secondly, in chronic affections it may be of so much diminished virulence that a vaccine prepared from a fully virulent strain may be the more advantageous to employ. The bacillus septus and micrococcus catarrhalis also appear to be bacteriological entities, but so easy is their isolation, and consequently the preparation of a vaccine, that unless the case is one urgently calling for injection, when a stock vaccine may be employed, I consider the preparation of one from the patient's own organisms the better procedure. The case of the bacillus of Friedländer stands on quite a different footing. This appears to be not a single organism but to be a generic term for a number of very closely related bacteria, exhibiting, it is true, the same morphological appearances and general cultural reactions but varying slightly in behaviour towards the various sugars. In Table XIV. this is set forth for the nine strains isolated from nine of my cases. It will be remembered that these were proved highly pathogenic to rabbits, guinea-pigs, and rats. My best thanks are due to Dr. J. W. H. Eyre for confirming these reactions.

No. 3 is of special interest inasmuch as it was isolated from a chronic cold of which the acute attack was almost certainly communicated by No. 1. Shortly after the culture was taken the patient was well and the question is whether the changed reactions are due simply to diminished activity or to changes of environment.

Comparison of sugar reactions.—It will be seen that the only absolutely constant results as regards the formation both of acid and gas for all nine strains were obtained in the cases of glucose, levulose, and galactose. In the instances of all the other sugars slight variations are seen. Strains 1,

Notes, Short Comments, and Answers to Correspondents.

QUEEN ANNE'S PHYSICIANS.

IN "Queen Anne and Her Court," by Mr. P. F. W. Ryan, recently published by Messrs. Hutchinson and Co., there is much to interest medical readers. The work consists of a series of splendid portraits of the men and women—the *dramatis personæ* of one of the greatest dramas of English history. Here is the author's description of Dr. John Arbuthnot and his quarters in St. James's Palace:—

> "Passing through the darkening galleries and cloisters one comes to a remote wing of the palace, where in dingy quarters a gentleman of forty, pleasant of face, with a humorous twinkle in his eye, kept his Court amongst his books. This evening he is less serene than is his wont. His apartment has somewhat the air of discomfort one associates with unusual preparations. Everything here is too trim, too mathematical to please John Arbuthnot. His books have been dusted and disarranged. His easy chair is in rebellion; they have made it look formal; it is at the angle of irritation with regard to the light, and he can neither rest his feet on the mantelpiece nor on the table. One must make sacrifices for one's friends or lose them; and John Arbuthnot, physician extraordinary to Queen Anne, was not a curmudgeon to grumble because his rooms were uncomfortably neat to receive Her Majesty and a wedding party. Yes, a wedding party, no less; and for a secret wedding, too. Death and damnation! If people would marry why not by daylight; or if by candlelight, why not in their own rooms!
>
> Arbuthnot was not only a physician, he was a man of wit and learning and as cheerful as he was gifted. Swift said of him that he was the first wit in London and Pope celebrated his medical skill in the lines:—
>
> 'Friend to my life, which did not you prolong
> The world had wanted many an idle song?'
>
> His rooms in St. James's were the resort of every pleasant fellow employed at Court, and of all the wits of the town. Thither they made their way of an evening from the theatres and coffee-houses to play at cards and punish a bottle while discussing the latest book, or pamphlet, or comedy. They did justice to the scandal of the hour and when fresher topics flagged it was always easy to poke fun at the Queen above the Queen—Her Majesty, Sarah."

Then follows a most amusing description of the secret wedding of Abigail Hill and Captain Masham, the Queen stealing on tip-toe to the ceremony in mortal terror of being caught by her arch enemy and tyrant Sarah, Duchess of Marlborough.

Speaking of Dr. Radcliffe the author says: "He was the first of his profession and a high Tory, with little love for princes or princesses who owed their dignities to the Revolution. Radcliffe offended Anne by declining to hasten to St. James's Palace when she imagined she needed his presence. 'Tell Her Highness,' said Radcliffe, 'nothing ails her but the vapours.'" He was summoned to the death bed of Anne's son, the young Duke of Gloucester. On being told that the patient had been bled he replied that they had destroyed the Prince. "You may finish him," he said, "I will not prescribe." It was Radcliffe who, when summoned to the bedside of William III., looking at the King's swollen legs said, "I would not take your two legs for your three kingdoms." The well known story of the encounter between Radcliffe and the great painter Sir Godfrey Kneller bears re telling. They were good friends and to facilitate their friendly intercourse a door was put into the wall that separated their two gardens in Kensington. But the doctor's maids stole the painter's flowers. The painter then sent a note saying that he would take the door away and brick up the aperture. To this the doctor replied that he might do anything he liked to the door, except paint it. Kneller responded that he was willing to take anything from Dr. Radcliffe, except his physic.

"THE HUMAN WOMAN."

WE cannot publish much of the correspondence which we have received arising out of our editorial remarks of last week upon Lady Groves's recent work with this title. Lady Groves's work puts forward the arguments on her side. We have expressed our views on them frankly, but we do not claim to have settled the whole of a difficult question. Most of the points at issue are before our readers and they must make up their own minds.

THE NEED OF MEDICAL MEN IN CHINA.

IN his annual report, just received at the Foreign Office, Sir Alexander Hosie, acting commercial attaché to the British Legation at Peking, observes that "at a time when the Chinese Government has made up its mind to eradicate the opium habit, China requires the services of thousands of medical men to help the people who are smokers to rid themselves of the craving for the drug, and she does not possess them. She also requires their services to diminish the tremendous infant mortality of the country and to remedy those insanitary conditions to which much of that mortality is due. It is true that there are medical colleges in Hong-Kong and in several cities of China, but their graduates are merely a drop in the ocean of the Empire's requirements." In another section of his report, dealing with imported medicines, Sir Alexander Hosie states that Japanese goods take the lead, British coming second. The Japanese importers aim at reaching the poor in China by making up their medicines in small doses, with labels in Chinese setting forth the methods of use and the diseases which they are intended to cure.

GARBAGE-MONGERS AT WIGAN.

AT the Wigan borough police court on Nov. 19th two hawkers were summoned for being in possession of 27 pieces of diseased meat for the purpose of sale and intended for the food of man. Evidence was given that the meat was "unsound, diseased, and as soft as rags, and not fit for human food." The defendants did not appear and a warrant was issued for their arrest. Another case was heard by the Wigan justices on the following day in which Joseph Harrison was summoned for exposing for sale a forequarter of beef which had tubercles on the pleura; the beef was condemned and destroyed. Although clear evidence was given by the medical officer of health as to the diseased condition of the meat and the danger to the community caused by the sale of tuberculous meat, evidence which compelled the bench to acknowledge the case as proved, the defendant was let off on payment of the costs only. It would be interesting to know if this leniency was the result of the arguments of the defending solicitor who adduced Professor Koch's views on bovine tuberculosis and also suggested that "the highest authorities contend that although there is a slight tuberculosis in meat it is all the better for the consumer."

METRIC SYSTEM.

To the Editor of THE LANCET.

SIR,—I observe that you notice in THE LANCET of Nov. 14th a new invention entitled the "Versimetric" Chart which is likely to be useful. This encourages me to write you these few lines to explain two little rules for converting the linear metric measures into approximate English equivalents, as follows. Take the denominators of the fractions of the metre which are tenths and call them ninths of a yard; thus, one decimetre equals one ninth of a yard, one centimetre equals one-ninetieth of a yard, one millimetre equals one-nine-hundredth of a yard approximately. As the yard is 36 inches and 36 is divisible by both 9 and 18, and 90 or 900 are both divisible by the same divisors and the latter by 36 also, it is easy to discover that a centimetre, or $\frac{1}{90}$th yard or $\frac{36}{90}$ equals $\frac{2}{5}$ inch and that a millimetre or $\frac{36}{900}$ equals $\frac{1}{25}$ inch. The metre itself approximately equals ten ninths of a yard (40 inches). The second rule is to multiply the number of centimetres by 4 and divide by 10, which simply means placing the decimal point to the left of the last figure of the product—e.g., 5 centimetres (multiplied by 4 and divided by 10) equal 2·0 inches; 12 centimetres (multiplied by 4 and divided by 10) equal 4·8 inches, and so on. To turn inches into centimetres multiply the number of inches by 10 and divide by 4—e.g., 6 inches (60 ÷ 4) equal 15 c.m. These rules will only apply to small measures.

I am, Sir, yours faithfully,

Nov. 16th, 1908.

F.

A HYGIENIC PRACTITIONER.

A PAMPHLET has been placed in our hands entitled "Are Medicines and Operations Necessary?" The author is one I. Brozel and the book, which is marked "No. 1 of Brozel's Hygienic Library. Tenth Thousand," is an impudent attack upon the medical profession as well as an invitation to the public to go to the writer "for advice and treatment, paying 10*s.* 6*d.* and 21*s.* per month."

STERILISATION IN HYPODERMIC INJECTIONS.

To the Editor of THE LANCET.

SIR,—In these days of hypodermic injections, can any of your readers suggest any way of quickly sterilising both the syringe and the liquid to be injected? Lysol and other irritant antiseptics added to the liquid and used to lubricate the piston of the syringe simply irritate the subcutaneous tissues so much as to make the patient sometimes refuse further treatment, while boiling the syringe for each patient causes much loss of time.—I am, Sir, yours faithfully,

Nov. 19th, 1908.

SYDNEY WHITAKER.

AN AFRICAN ANTIDOTE TO SNAKE POISON.

MR. J. P. Herbst, assistant resident magistrate at Rietfontein, Cape Colony, in a report on the large tract of land known as the Kalahari Desert, describing the natives of that region and their habits, observes that the personal possessions of a Bushman consist of a few lean and hungry dogs, a short but heavy knobkerrie, a long bone tsamma knife, a bow and arrows, the dried body of the "gnubo" snake as an antidote against snake-bite, a skin bag as a receptacle for these articles, and a tin for use as a kettle. The "gnubo" snake is very rarely found, spending most of its time underground. It is small, of a brown colour, and said to be very poisonous. There are two kinds—one with two small, short, fore-feet. The dried body is carried by all natives in the Kalahari district and in German South West Africa and the dried flesh, ground to a powder and rubbed into the incised wound, is said by all to be an absolutely safe antidote to the most virulent snake poison. It is said to draw the poison "out in a stream." Some "gnubo" was analysed in Cape Town some years ago but no properties were found that could account for this action.

at 60° C. This result was confirmed by repetition with two other specimens of serum as follows:—

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
220 in 100 ……	67 in 100	280 in 100 ……	61 in 100

Just as in the former experiment we see that about a quarter of the opsonin for bacillus septus is not destroyed by heating for one hour at 60° C.

(*c*) Organism employed: bacillus of Friedlander.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
777 in 100 ……	92 in 100	636 in 100 ……	97 in 180

From this it would appear that about one-seventh of the opsonin for bacillus of Friedländer is not destroyed by heating at 60° C. for one hour.

One striking feature in the experiments (*b*) and (*c*) with heated serum is that only 1 cell in 10 or 20 exhibits phagocytic power and that it exhibits it usually to a very marked degree. A frequent experience in doing opsonic determinations even with emulsions of considerable dilution is to find a cell here or there crowded far above its fellows with organisms. The recurrence of this phenomenon in cases where heated sera are employed would suggest peculiar activity in certain few leucocytes, an activity which may be exerted upon organisms almost independently of the opsonising action of the serum.

B. Experiment. Determination of length of negative phase.—It is well known that the first result of the injection of a vaccine of any organism is the production of a so-called negative phase, or temporary reduction in the opsonic index to that organism; this period during which the negative phase lasts may be regarded as one of increased susceptibility or diminished powers of resistance, and varies not only for different organisms but also for different individuals. It therefore becomes a matter of great importance to gain some idea of its length in the case of these "cold" organisms, lest premature exposure of the patient to changes of temperature and cold should result in an increase in the severity of the attack and a possible pneumonia in the case of a Friedländer or paratetragenus infection.

(*a*) An injection of 250,000,000 of killed bacillus septus was given and samples of blood were taken on injection and after intervals of 3, 6, 12, 18, 24, 36, 48, 72, and 96 hours. The comparative opsonising powers of the various sera towards bacillus septus were then determined in the usual way with the following results:—

TABLE X.

1. On injection	……	882 bacilli in 200 cells	……	Index = 1
2. After 3 hours	……	544 ,, ,,	……	,, = 0·62
3. ,, 6 ,,	……	885 ,, ,,	……	,, = 1·0
4. ,, 12 ,,	……	804 ,, ,,	……	,, = 0·91
5. ,, 18 ,,	……	949 ,, ,,	……	,, = 1·08
6. ,, 24 ,,	……	1096 ,, ,,	……	,, = 1·25
7. ,, 36 ,,	……	1000 ,, ,,	……	,, = 1·15
8. ,, 48 ,,	……	1044 ,, ,,	……	,, = 1·20
9. ,, 72 ,,	……	1220 ,, ,,	……	,, = 1·38
10. ,, 96 ,,	……	1248 ,, ,,	……	,, = 1·39

From this we see that at the end of three hours the negative phase is fully established, that the index has recovered to unity at the end of six hours, again to fall slightly at 12 hours, then to recover and gradually attain a maximum at about the end of the third day.

(*b*) *For micrococcus catarrhalis.*—

TABLE XI.

Injection = 350,000,000 organisms.

1. On injection	……	942 bacilli in 200 cells	……	Index = 1
2. After 3 hours	……	722 ,, ,,	……	,, = 0·77
3. ,, 6 ,,	……	580 ,, ,,	……	,, = 0·62
4. ,, 9 ,,	……	825 ,, ,,	……	,, = 0·88
5. ,, 15 ,,	……	1125 ,, ,,	……	,, = 1·20
6. ,, 22 ,,	……	1080 ,, ,,	……	,, = 1·15
7. ,, 28 ,,	……	1131 ,, ,,	……	,, = 1·20

Here we see that the negative phase lasted somewhere between nine and 15 hours, say about 12 hours. This experiment, as in the case of the one with bacillus septus, was done upon myself when quite free from cold. The following observation was made upon a patient who had been troubled with a bad tracheal cough for a fortnight, from whose tracheal mucus the micrococcus catarrhalis had been recovered in practically pure culture.

TABLE XII.

Injection = 350,000,000 organisms.

Normal serum*	… … … … …	250 bacilli in 100 cells …	Index 1
Patient's serum	before injection …	140 ,, ,, …	,, = 0·56
,, ,,	after 4 hours …	90 ,, ,, …	,, = 0·36
,, ,,	,, 8 ,, …	220 ,, ,, …	,, = 0·88
,, ,,	,, 12 ,, …	280 ,, ,, …	,, = 1·12
,, ,,	,, 15 ,, …	312 ,, ,, …	,, = 1·25
,, ,,	,, 18 ,, …	325 ,, ,, …	,, = 1·30

TABLE XIII.

The Opsonic Index during an Acute Attack due to Bacillus of Friedlander.

Third day of cold. Cold began on 16th inst. Index before attack 1·25.

2 P.M.	18th	… … … … … …	Index = 1·17
11 ,,	18th	… … … … … …	,, = 1·05
10 A.M.	19th	… … … … … …	,, = 1·26
10 P.M.	19th	… … … … … …	,, = 1·07
10 A.M.	20th	… … … … … …	,, = 1·07

The subacute stage began on the 20th.

4 P.M.	24th	… … … … … …	Index = 0·96
Noon	26th	… … … … … …	,, = 0·89
,,	27th	… … … … … …	,, = 0·93

Injected with 300,000,000 at 2 A.M. on the 28th inst., as the subacute stage had become distinctly annoying to the patient.

2 A.M., 28th, before injection	… … … …	Index = 0·87
After 8 hours …	… … … … …	,, = 1·9
,, 18 ,,	… … … … …	,, = 2·14
,, 32 ,,	… … … … …	,, = 2·4

Nose quite sterile and cold perfectly well.

In another case the negative phase lasted over 24 hours.

From these experiments we learn that the duration of the negative phase does not usually last over 12 hours. If, therefore, a patient be injected in the evening, remain in the house, and go to bed early, risk of a fresh acute attack being lit up should be over by the time of rising in the morning; for even if the positive phase be not fully established the index is then on the rise, and a period of rising index is probably one of slight danger of infection.

(*c*) *Preparation of the vaccine.*—It is well recognised that to obtain the best results it is advisable to prepare the vaccine from the organisms isolated from the person's own body. In the case of tubercle this is hardly possible, while in gonorrhœal affections it is not always easy, nor does it seem so imperative for two reasons: firstly, the gonococcus seems to be a bacteriological entity and not to be a member of a family; and, secondly, in chronic affections it may be of so much diminished virulence that a vaccine prepared from a fully virulent strain may be the more advantageous to employ. The bacillus septus and micrococcus catarrhalis also appear to be bacteriological entities, but so easy is their isolation, and consequently the preparation of a vaccine, that unless the case is one urgently calling for injection, when a stock vaccine may be employed, I consider the preparation of one from the patient's own organisms the better procedure. The case of the bacillus of Friedländer stands on quite a different footing. This appears to be not a single organism but to be a generic term for a number of very closely related bacteria, exhibiting, it is true, the same morphological appearances and general cultural reactions but varying slightly in behaviour towards the various sugars. In Table XIV. this is set forth for the nine strains isolated from nine of my cases. It will be remembered that these were proved highly pathogenic to rabbits, guinea-pigs, and rats. My best thanks are due to Dr. J. W. H. Eyre for confirming these reactions.

No. 3 is of special interest inasmuch as it was isolated from a chronic cold of which the acute attack was almost certainly communicated by No. 1. Shortly after the culture was taken the patient was well and the question is whether the changed reactions are due simply to diminished activity or to changes of environment.

Comparison of sugar reactions.—It will be seen that the only absolutely constant results as regards the formation both of acid and gas for all nine strains were obtained in the cases of glucose, levulose, and galactose. In the instances of all the other sugars slight variations are seen. Strains 1,

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 4.30 P.M., Dr. S. J. Gilfillan: Demonstration of Cases of Mental Disease at the Colney Hatch Asylum.

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Coccus Diseases: (1) Impetigo Contagiosa; (2) Furuncle; (3) Carbuncle; (4) Coccogenic Sycosis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. Buzzard: Myelitis.
FRIDAY.—3.30 P.M., Dr. Buzzard: Myelitis.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck-street, W.

THURSDAY.—5 P.M., Dr. F. S. Palmer: Anterior Poliomyelitis.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Mr. Addison: A Demonstration on Selected Surgical Cases.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (5th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Nov. 26th, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 20	30·13	W.	...	60	49	37	38	39	Hazy
" 21	30·02	WNW	...	69	49	39	42	44	Fine
" 22	29·53	W.	0·16	65	53	44	54	56	Cloudy
" 23	29·74	N.W.	0·03	72	51	46	45	43	Cloudy
" 24	30·17	S.W.	...	59	55	39	42	43	Cloudy
" 25	30·06	S.W.	0·02	75	52	43	45	47	Cloudy
" 26	30·15	S.W.	...	62	53	45	45	47	Cloudy

years, involvement of one Eustachian tube; frequent exacerbations, at least six every winter.

Duration of treatment.—14 months.

Number of injections.—Three of Friedländer vaccine and two of tracheal organism.

Result.—Greatly diminished secretion of mucus from naso-pharynx and trachea. One acute attack during 12 months.

CASE 31 (still under treatment).—

Description.—Chronic nasal catarrh for 20 years with involvement of frontal and ethmoidal sinuses and of the left middle ear; repeated surgical operations; many exacerbations and acute attacks.

Duration of treatment.—Intermittent during nine months.

Number of injections.—Five.

Result.—Little improvement in the chronic condition, Friedländer's bacillus being still present. Increased bodily comfort and marked diminution of acute attacks, only one in the nine months.

CASE 34.—

Description.—Chronic tracheitis for years with exacerbation and rather frequent attacks of naso-pharyngeal catarrh.

Duration of treatment.—12 months.

Number of injections.—Three of tracheal organisms and two of bacillus septus and micrococcus catarrhalis.

Result.—Practical disappearance of excessive secretion of mucus with one slight exacerbation and one acute attack of cold due to the micrococcus catarrhalis in the 12 months.

CASE 42.—Chronic nasal catarrh for from 10 to 12 years with involvement of right Eustachian tube and middle ear; between exacerbations symptoms almost disappear.

Treatment.—Still progressing: one of bacillus of Friedlander, bacillus septus, and micrococcus catarrhalis; one of bacillus septus (own *organisms*); *one of* bacillus septus and micrococcus catarrhalis (own *organisms*).

Result.—Considerable improvement. No acute attacks during past six months.

2. *Acute Colds.*

(*a*) Those due to the bacillus septus.

CASE 8.—

Description.—Very subject to acute colds, especially upon undertaking a train journey, which always began with a sore throat and would appear to have been due to the bacillus septus.

Duration of treatment.—15 months.

Number of injections.—Two of bacillus septus alone and three of mixed organisms.

Result.—Only one attack during 15 months, but that a very severe one indeed and due to the micrococcus catarrhalis.

CASE 9.—

Description.—Sore throat, profuse nasal discharge, no cough. Bacillus septus isolated.

Treatment.—One injection of 250,000,000 organisms upon the fourth day.

Result.—Complete recovery within 48 hours and subsequent immunity during the whole winter.

CASE 17.—

Description.—Acute nasal catarrh beginning with sore throat; cough absent. Bacillus septus isolated. Patient very liable to such attacks which usually lasted for a month or more.

Treatment.—Injection of 275,000,000 organisms upon the third day.

Result.—Complete recovery within 48 hours without the presence of any subacute stage. Subsequent immunity for at least six months. The patient was not seen subsequently to that period; I heard that he then caught a severe cold but have no details.

CASE 30.—

Description.—An acute attack of nasal catarrh beginning with sore throat; *cough altogether absent.* This attack differed in clinical character to the usual ones in which sore throat was, as a rule, absent and persistent tracheal cough habitual. The bacillus septus was alone present.

Injections.—One of 200,000,000 each of bacillus septus and micrococcus catarrhalis.

Result.—*Almost complete recovery in two days without any subacute stage.*

Subsequent history.—Immunity for over six months, several attacks which seemed to be coming on *aborting completely within an hour or two.* An injection of 150,000,000 each of bacillus septus and micrococcus catarrhalis was then given to secure immunity for a further period, but in about a month a very severe attack due to *micrococcus catarrhalis* came on and further vaccine treatment was emphatically declined.

CASE 32.—

Description.—The patient was very subject to colds with sore throat and cough. In this attack cough was quite absent and the bacillus septus was isolated.

Treatment.—Upon the third day an injection of 250,000,000 of bacillus septus to meet the present attack and 150,000,000 of a stock vaccine of micrococcus catarrhalis to immunise against future attacks from that organism were given.

Result.—Considerable constitutional disturbance for 24 hours, then very rapid convalescence and immunity for six months, when a fresh attack due to the micrococcus catarrhalis supervened. This was met by immediate injection of a small dose of mixed septus, catarrhalis, and Friedlander vaccine which appeared very markedly to shorten the attack. It would thus appear that during nine months only one cold was caught instead of several and this yielded readily to vaccine therapy.

CASE 38.—

Description.—The patient had been very prone to colds which began with cough and sore throat. In *the present* attack sore throat was a prominent symptom but cough was absent. The bacillus septus was isolated.

Treatment.—An injection of 250,000,000 each of bacillus septus and micrococcus catarrhalis and bacillus of Friedlander.

Result.—Complete immunity for four months, then an incipient cold came on and the patient at once *returned for* an injection of 125,000,000 each of bacillus septus, micrococcus catarrhalis, and bacillus of Friedländer. For 24 hours there was some little constitutional disturbance but the cold was completely aborted. Thus during seven months practically complete immunity has been secured and the patient assures me that but for the injections he would certainly have had several attacks in this time.

(*b*) *Colds due to the bacillus of Friedländer.*

CASE 19.—

Description.—The patient was very subject to attacks like the present, *sore throat* and cough being absent. The nasal discharge was very profuse indeed, the subacute stage very pronounced. The bacillus of Friedlander was isolated.

Treatment.—Injection upon the twelfth day of 300,000,000 of bacillus of Friedlander.

Result.—Disappearance of organisms after 32 hours; convalescence complete after five days. Complete immunity for a year.

3. *Case due to Mixed Infection by Bacillus of Friedländer and Micrococcus Catarrhalis.*

CASE 29.—

Description.—The present attack was the fourth within six months. There was very profuse discharge, no sore throat, but bad cough. The bacillus of Friedländer and micrococcus catarrhalis were both isolated.

Treatment.—Upon the fourth day 250,000,000 of the bacillus of Friedlander were given but no micrococcus catarrhalis, none being available.

Result.—Severe constitutional disturbance for 24 hours, then very rapid improvement. The cough, however, persisted for two months; six months later an injection of 250,000,000 of each of the three organisms was given with the result that *complete immunity from* colds has been secured for a whole year.

4. *Case due to the Micrococcus Catarrhalis.*

CASE 41.—

Description.—Attack characterised by bad cough and absence of sore throat. Rhonchi to be heard all over the chest. Micrococcus catarrhalis isolated.

Treatment.—Injection of 250.000,000 micrococci upon the third day.

Result.—Next day the cold itself was much better, *but the cough* persisted to a slight extent for a fortnight. Up to date (four months) there has been no fresh attack.

CASE 37.—Has just commenced treatment, convalescence from an acute attack having already begun; no definite conclusion could be drawn from the one injection, but an attempt is to be made to secure immunity from future attacks.

Conclusions Drawn from the Results of Vaccine Therapy in the above Cases, and Rules for its Employment.

A. Acute colds.—It would appear that by the injection of an appropriate dose of the corresponding bacterial vaccine convalescence in acute attacks of cold can be markedly hastened and complications obviated. My procedure during the last few months, especially in several cases not recorded in this paper, has been slightly altered. The attempt used to be made, not only to deal with the present attack but also to secure immunity at the same time against the other organisms as well. The result of this was, *as mixed stock* vaccines were *usually* employed containing equal numbers of the several organisms, that a dose which was appropriate in an acute attack due to one given organism would contain insufficient numbers of the other organisms to secure future immunity against them. For instance, in a "catarrhalis" cold, a dose of 125,000,000 of micrococcus catarrhalis would be given; this sufficed for that infection, but the dose of 125,000,000 of bacillus septus simultaneously given would not suffice to secure immunity, say, for more than three months *against* this latter organism. Accordingly now the present infection is alone *dealt* with *at first*, and *an attempt* made three weeks later to secure complete immunity by the administration of a dose of 250,000,000 of each of the "cold" organisms.

The best times for dealing with an acute attack are either immediately at the onset or upon the third day. At the former period the cold may be completely aborted; at the latter the onset of the subacute stage may be obviated and convalescence be complete within from *24 to 36 hours.* Inoculation during the interval between the first and third day is not free from risk of *causing considerable* constitutional disturbance. The appropriate doses to employ are 250,000,000 *of* bacillus septus and 125,000,000 of either the micrococcus catarrhalis or bacillus of Friedländer. Should the accurate diagnosis of the infecting organism or organisms not be possible a dose of 75–125,000,000 of the combined vaccine of the several "cold" organisms may be given with safety. I have not, as a rule, found repetition *of the dose* necessary, but should this be so then 500,000,000 of the bacillus septus or *micrococcus catarrhalis* may be given at the end of a week and 250,000,000 of the bacillus of *Friedländer* at the end of a fortnight.

To secure immunity against future attacks the administration of a dose of 250,000,000 of each of the several organisms every four to six months will probably suffice, the first *being* given three weeks after recovery from the acute attack. Should this dosage produce *any marked constitutional* disturbance then a diminished one must be employed upon subsequent occasions.

The Horace Dobell Lecture

ON THE

LATENT PERSISTENCE AND THE REACTIVATION OF PATHOGENIC BACTERIA IN THE BODY.

Delivered before the Royal College of Physicians of London on Nov. 12th, 1908,

BY LEONARD S. DUDGEON, F.R.C.P. LOND.,

BACTERIOLOGIST TO, AND JOINT LECTURER ON GENERAL PATHOLOGY AND LECTURER ON SPECIAL PATHOLOGY IN THE MEDICAL SCHOOL OF, ST. THOMAS'S HOSPITAL.

MR. PRESIDENT, FELLOWS OF THE COLLEGE, AND GENTLEMEN,—My first duty is to thank you for the great honour which you have conferred upon me in asking me to deliver the third Horace Dobell lecture. This honour is still further increased by the fact that the two previous lecturers, Dr. E. Klein and Dr. F. W. Andrewes, have added by numerous investigations so considerably to the advancement of the science of bacteriology.

This lectureship was founded by Dr. Horace Dobell for the purpose of encouraging research in "the ultimate origin, evolution, and the life-history of bacilli and other pathogenic micro-organisms." I have endeavoured as far as possible to discuss certain details concerning the life-history of many of the more important pathogenic bacteria, more especially in reference to their existence in normal tissues and their persistence in the body subsequently to some infective lesion.

It is now being recognised that pathogenic bacteria may persist in the tissues for varying periods without causing any ill-health in the patient in whose tissues they occur, but at any period they may leave their host to infect others or may for some unknown reason excite inflammatory changes in the tissues in which they have been living in an inactive state.

ON THE BACTERIOLOGY OF NORMAL ORGANS.

Ford,[1] in 1901, published the results of researches in the *Journal of Hygiene* on the bacteriological investigations of the normal organs of rabbits, guinea-pigs, dogs, and cats. He found that each species of animals showed its peculiar bacteriology regardless of the condition under which the animals were killed, or the method by which cultures of the organs were made. Thus the staphylococcus albus, staphylococcus aureus, bacillus mesentericus, bacillus proteus, and certain pathogenic spore-bearing bacilli were found in the organs of rabbits and guinea-pigs. Positive cultures of bacteria were grown in a large proportion of cases usually on the sixth, seventh, or eighth day, but in some instances as late as the seventeenth. In summarising the results of these investigations he says: "In whatever manner these latter questions be answered, I must maintain as a result of the experiments here cited that at least 70 per cent. of the internal organs of our ordinary domesticated animals contain bacteria which are capable of development, provided a sufficient time be allowed to elapse between the removal of the organs and the final examination."

Various observers had investigated this subject previously to Ford and had obtained most conflicting results. Some had found the internal viscera invariably sterile; others, such as Zweifel, concluded that anaerobic organisms were habitually present. In a paper published in THE LANCET in 1904, Morgan,[2] from a series of careful bacteriological investigations on the viscera of healthy animals, came to the conclusion that normal organs did not contain pathogenic bacteria and that the presence of non-pathogenic organisms in the cultures is probably due to accidental contamination.

The tissues of the fœtus and of the newly born infant are usually considered to be free from micro-organisms. In children and adults bacteria are found in various parts of the human body. From these facts it is evident that organisms must enter the various tissues soon after birth and persist throughout life. It is these organisms which are the cause of so many of the acute and chronic infections to which we are liable; in fact, auto-infection is universally regarded to be a common source of infection in man.

Professor Welch many years ago drew attention to the presence of the staphylococcus epidermidis albus as a normal inhabitant of the human skin. This staphylococcus we now know to be closely allied to other staphylococci met with in infective processes in man, although Andrewes and Gordon[3] consider it to be a species perfectly distinct from the staphylococcus pyogenes group (albus, aureus, and citreus) and readily distinguishable by its biological characters. We know that these staphylococci are found in the skin after it has been rendered as clean as modern surgical methods permit, that they are of frequent occurrence in the healing of wounds, while, on the other hand, these organisms owing to their persistence in the tissues, are liable to give rise to infections of more or less severity.

Schenk and Lichtenstern,[4] in a paper published in 1901, refer to the bacteriological examination of 43 abdominal wounds. These observers included in the wounds threads of sterilised silk which they withdrew at various intervals and tested bacteriologically. They also examined pieces of skin removed at the commencement of the operation and pieces of fat removed at its termination. Their surgical technique included the use of alcohol and corrosive sublimate in the preparation both of the patient's skin and of the surgeon's hands. Of their 43 cases, 39 healed by first intention, and four suppurated slightly, but only seven cases, or 16 per cent., were found to be sterile, the staphylococcus albus being the predominant organism.

Mr. Sargent and I[5] carried out similar observations on the skin, tissues, and ligatures in connexion with aseptic wounds in the wards of St. Thomas's Hospital. Here antiseptics are not included in the surgical technique, and thus bacteriological investigation can be completed under the most favourable conditions. In these observations of 45 cases treated without chemicals the wound surface was sterile on only 26 occasions and in 15 instances the staphylococcus albus was cultivated. The skin cut from the edge of the wound at the conclusion of the operation was found to be sterile six times in the first 45 cases, while on 30 occasions the staphylococcus albus was found to be present. The suture, removed at intervals varying from 24 hours to six days after operation, was found to give a growth of the staphylococcus albus on 30 occasions out of a series of 45. The exudate at the time of the removal of the suture gave a growth of the staphylococcus albus on 18 occasions. There was only one case of suppuration in the whole of this series. We thus see that organisms belonging to the staphylococcic group are of frequent occurrence in wounds which heal without suppuration; their presence, however, but for bacteriological investigations would be unknown. It is more than probable that the existence of these organisms in normal tissues is an important source of suppurative inflammation in the healing of wounds.

It has also been shown that the staphylococcus albus is one of the most important organisms in peritoneal infections. It has been found to be frequently present in the blood clot in intraperitoneal hæmorrhage and also in the peritoneal cavity in various acute infections. It can be cultivated from the great omentum of normal animals and from the human omentum in cases in which the peritoneal cavity is apparently healthy.

A staphylococcus has been shown to be of frequent occurrence in malignant growths. This organism has been described as the micrococcus neoformans, and this name would suggest that it is an organism possessed of special specific properties. But Andrewes and Gordon[6] consider this micrococcus—at least, the culture which they investigated—to be the staphylococcus epidermidis albus, and Dunkley and I[7] about the same period referred to its identity with the staphylococcus albus. These observations are important

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[1] W. W. Ford: The Bacteriology of Normal Organs, Journal of Hygiene, vol. i., 1901, p. 277.

[2] H. de R. Morgan: The Presence of Bacteria in the Organs of Healthy Animals, THE LANCET, July 2nd, 1904, p. 21.

[3] F. W. Andrewes and M. H. Gordon: The Biological Character of Staphylococci Pathogenic for Man, Local Government Board Report Appendix B., No. vii., 1907.

[4] Schenk and Lichtenstern: Zeitschrift fur Heilkunde, vol. xxii., 1901.

[5] Leonard S. Dudgeon and P. W. G. Sargent: The Bacteriology of Aseptic Wounds, THE LANCET, Nov. 17th, 1906, p. 1335.

[6] F. W. Andrewes and M. H. Gordon: The Biological Character of Staphylococci Pathogenic for Man. Local Government Board Report, Appendix B., No. vii., 1907.

[7] Leonard S. Dudgeon and E. V. Dunkley: The Micrococcus Neoformans, Journal of Hygiene, vol. vii., No. 1, January, 1907.

44 per cent. of the patients passing albumin after operation passed acetone. 25 per cent. of these had secondary vomiting. Acetone was present without any secondary vomiting in 16 cases, or 21 per cent. Secondary vomiting without acetone occurred in 3 cases. There were 13 septic cases; of these 9 passed acetone after operation and 5 passed acetone both before and after operation. Of the 7 malignant cases, 3 passed acetone after operation and none passed acetone before operation. The primary vomiting in this series was so marked, consisting chiefly of retching, commencing immediately after the cessation of the anæsthetic, that the series was stopped earlier than was anticipated. The urines in this series were all alkaline before operation and with two exceptions were acid after operation—the two exceptions, we think, were due to decomposition of the urines.

Third series.—These patients were treated with half an ounce of glucose every four hours before operation for six doses, the last dose being given four hours before operation.

	No. of cases.	Per cent.
Total number of cases	100	—
Cases showing acetone in urine—		
Before operation	3	—
After operation	22	—
Cases of primary vomiting	53	—
Cases of secondary vomiting	21	—
Acetone was present in	6	28·0
Marked vomiting	2	—
Acetone was present in	2	100·0

(These cases lasted 28 hours and 24 hours respectively.)

19 per cent. of the patients with albumin in their urine passed acetone. Secondary vomiting occurred in 2 cases, or 40 per cent. These two cases were the only cases of marked vomiting in the series. Cases passing acetone without vomiting numbered 8. There were 12 septic cases; of these, 6 passed acetone after operation and 1 before and after operation. There were 14 malignant cases; of these, 2 passed acetone after operation and 1 before and after operation. The large proportion of primary vomitings in this series led us to suppose the amount of glucose given to be at fault; the dose has been decreased to one teaspoonful. The results appear so far to be more satisfactory. We hope to confirm this by a later series. The glucose is taken much better by the patients than the sodium bicarbonate; it must be given pure or freshly mixed, as otherwise it tastes musty owing to rapid bacterial invasion. In no case was glucose present in the urine either before or after operation. During the whole of the three series increased acidity of the urine after operation was noticed.

Comparative Analysis.

—	Series 1.	Series 2.	Series 3.
Acetone in urine before operation	25·2%	25·4%	3%
,, ,, after operation	60·4%	53·4%	22%
Cases of primary vomiting	54·3%	67%	53%
,, ,, secondary vomiting	30%	34·2%	21%
Acetone in cases of secondary vomiting	89%	88%	28%
Marked vomiting	13·4%	12%	2%
Acetone in cases of marked vomiting	89%	88%	100%
Percentage of patients with albuminous urine passing acetone	42	44	19
Cases of secondary vomiting in (8)	15·8%	25%	40%
Cases of secondary vomiting without acetone	10 cases.	3 cases.	14%
Cases where acetone was present without symptoms	30%	21%.	8%

The anæsthetics given during these three series were with few exceptions either chloroform or C.E. mixture given on a Skinner's mask, or $CHCl_3$ by Junker's inhaler; 32 per cent. were induced by ethyl chloride. The percentage of acetone after the various anæsthetics showed very little change. We could not determine that the time in hospital previous to operation had any bearing on the subject. The average duration of stay was four days previous to operation.

The following previous observations were noted and confirmed: (1) the greater liability of children to symptoms; (2) the frequency in which septic cases, especially abdominal, showed symptoms of acidosis; and (3) the length of anæsthesia was not a great factor in the production of acetone.

The following three cases show the value of sodium bicarbonate in the after-treatment. (For permission to publish Case 1 we are indebted to Dr. H. M. Evans of Lowestoft.)

CASE 1.—The patient, a male, aged 12 years, was admitted for appendix abscess on April 25th last. Vomiting had been present for three days prior to operation. Operation was performed on the 26th at 12 noon. The anæsthetic was A.C.E. and ether by open method. The abscess was evacuated and the appendix was removed. The duration of the operation was 60 minutes. At 2.30 P.M. the patient was extremely restless; the mucous membranes were cyanosed, respiration was irregular, and the pulse was almost imperceptible. There was vomiting of mucus streaked with dark grumous matter. A specimen of the urine passed at this stage showed the presence of albumin and an intense acetone reaction. 10 ounces of sodium bicarbonate solution (grs. v. to ℥ i.) were injected into the subcutaneous tissues of the left axilla. At 4.30 P.M. restlessness and vomiting were still marked; the stomach was washed out with sodium bicarbonate solution (ʒi—O i) and 10 ounces of sodium bicarbonate solution were injected into the right axilla. At 9.30 P.M. the patient was much quieter, the vomiting ceased, and the respirations were regular. On April 26th he was again restless and was vomiting, but not dark matter. The stomach was again washed out with sodium bicarbonate solution. The urine was alkaline; albumin was present and acetone was absent. The further progress of the case was uneventful.

CASE 2.—The patient, a male, aged seven years, was admitted for talipes equino-varus on March 29th last. The operation consisted of excision of the astragalus. The anæsthetic was ethyl chloride and chloroform. The duration of the operation was 60 minutes. The patient became collapsed, and vomiting started in the first 12 hours and continued into the next 24. The grumous matter was again present. The urine showed acetone after the operation. The treatment was confined to the administration of sodium bicarbonate by the mouth—ʒi every four hours. The drug was given 12 hours after operation and the vomiting was quickly controlled. The acetone did not disappear until two days after operation.

CASE 3.—The patient, a female, aged five years, was admitted for congenital ptosis on April 21st last. A plastic operation was performed, the anæsthetic being ethyl chloride and chloroform. Vomiting started in the first 12 hours but became much more marked in the next 24. The child was collapsed. Acetone was present in the urine before and after operation. Sodium bicarbonate had been given before operation and was again given for two days afterwards. The vomiting soon ceased. Acetone was present in the urine until two days after operation.

Prophylaxis.—In the emergency cases, in which we find acetone present before operation, the evidence tends to show that vomiting is more marked after operation; this is especially so in children. Therefore in such cases either of the following methods should be adopted:—1. If possible delay for a few hours to admit of treatment by the mouth or the rectum. The drug may be given in large doses. 2. Surgical procedure, such as transfusion with a sterile 5 per cent. isotonic glucose solution. We would here point out the danger of using such a solution for flushing out the abdomen, owing to the excellent pabulum afforded to bacteria.

Routine treatment.—For children, tablets of glucose grs. 10 four-hourly for 12 doses; for adults ʒi. of glucose four-hourly for 12 doses. This method enables the liver to store up glycogen and so deal with the acid products arising from the toxic action of the anæsthetic. In the after-treatment sodium bicarbonate is still the best drug to use.

During our third series we never had a case which needed any treatment afterwards, so we were unable to judge of the value of glucose given later. After the condition of acidosis has been established, the theoretical combination of the acid with the basic radicle seems obviously correct, but the bases might well be made to include magnesium and calcium as well as sodium. The treatment afterwards therefore resolves itself into giving saline solution either by the tissues or veins to make up for fluid lost by vomiting; to wash the stomach out with a solution of sodium bicarbonate and to leave in

B. Observations on the virulence of diphtheria bacilli persisting for long periods in the throats of infected persons.—There are certain experimental records which show that a general decrease in virulence of the diphtheria bacillus does occur by prolonged stay in the throats of infected persons, but on the other hand there is conclusive evidence forthcoming to prove that these bacilli may persist in the throat and nose for very long periods without showing any decrease in virulence. Dr. Graham-Smith refers to several authors to illustrate these points. Dowson, for example, observed fully virulent diphtheria bacilli in the noses of two children for a period of five months. Schäfer discovered virulent bacilli in the throat of a boy seven and a half months after an attack of tonsillitis. Sevestre and Méry observed two cases in which virulent organisms were present 49 and 38 days after separation of the diphtheritic membrane. Williams reported a case in which virulent bacilli persisted for 157 days. Professor R. T. Hewlett isolated from a boy's throat 22 weeks after an attack of diphtheria bacilli which in small doses killed guinea-pigs in 36 hours. Müller in 1897 observed fully virulent diphtheria bacilli in the mouth of a "contact" for two and a half months. Cobbett in 1901 isolated and examined for virulence the bacilli from the throat of a number of persons on several occasions until the disappearance of the organisms. Bacilli were isolated and found virulent in one case up to the thirtieth day, in another on the sixty-sixth day, and in two "contacts" the bacilli were found to be virulent in one up to the fifty-eighth day and in the other the eighty-second day. In 1901 Prip examined, cultivated, and tested the pathogenicity of the diphtheria bacilli from the time of the disappearance of the membrane in eight cases up to the period when the organisms could no longer be isolated. In one instance fully virulent bacilli were found 335 days from the commencement

These observations which have been referred to conclusively prove that diphtheria bacilli are capable of retaining their virulence for prolonged periods in the throats of infected persons. In a few instances they appear to have lost their virulence to some extent, but in the great majority of cases full virulence was noted up to the time of their final disappearance.

These records given by Dr. Graham-Smith are of great importance because they prove that diphtheria bacilli may persist in the tissues of apparently healthy people without giving rise to any abnormal condition of the throat, but yet in most instances retain their virulence.

Bacillus Proteus.

This group of bacteria is found most commonly in the urine and intestinal tract. In the former it may be the cause of bacilluria and may have been present for varying periods unknown to the patient. It may at any time and for some unknown reason give rise to acute infection of the urinary tract, but this is not, however, of very common occurrence. It is this group of organisms which persists in the urine for indefinite periods and gives rise to attacks of so-called alkaline cystitis. In one instance the organism was present in the urine without producing any symptoms—in fact, the abnormal condition of the urine was disregarded—but after removal of the uterus for fibromyomata the abdominal wound became infected with this organism and gave rise to a chronic gangrenous condition of the surrounding tissues which it is especially liable to do. It is known that in some cases of cerebral abscess the only organism which is cultivated from the pus may be one of the proteus group. This fact is of great interest because in some cases of chronic middle-ear disease the discharge will be found to show the presence of this bacillus in pure culture. The proteus group serves as an excellent illustration of the all-important fact referred to elsewhere in this lecture—namely, the persistence of an organism in the tissues for indefinite periods without giving rise to any symptoms, but occasionally acting as the cause of some acute illness.

Bacillus Coli.

This organism, as we know, is a normal inhabitant of the intestinal tract in man and animals. It may persist here without giving rise to any acute or chronic infection of which the patient is conscious. On the other hand, it is the most constant organism met with in the bacteriology of peritonitis,[12] especially in the commonest variety, that due to appendicitis. It persists in the appendix after the acute stage has subsided, and may after removal at the quiescent period give rise to acute diffuse peritonitis. It is owing to the active part this bacillus is known to play in peritonitis which has led to the practice by some surgeons of having cases of the kind vaccinated with this organism a few days previous to operation.

Perhaps the most interesting condition with which we are acquainted is infection of the urinary tract caused by this organism. We know that it is frequently met with without giving rise to any inflammatory condition and without any symptoms, but for some unknown reason it may produce various acute infections not sufficiently recognised even at the present day. I have notes of a case in which the bacillus coli was present in the urine although the patient and her medical adviser were unaware of any abnormal condition of the urine. At the sixth month of pregnancy she was taken ill with an acute disease associated with high temperature and rigors proved to be due to the bacillus coli which previously had been multiplying in the urine without exhibiting any evidence of pathogenicity. In other instances, although it may be present in such enormous numbers in the urine as to give rise to the term bacilluria, it may not occasion even a slight degree of pyrexia. In other cases the first indication of any acute illness may be an acute febrile disease clinically indistinguishable from typhoid fever and which can only be diagnosed by bacteriological methods. In those cases which I have met with of this character the presence of the bacillus coli was proved previously to the acute illness—that is, at a period when the patient was in apparently good health. Further, this organism which normally exists in our tissues appears to play a part sometimes of great importance in typhoid fever. It is known that in this disease it is frequently met with in the urine, giving rise to bacilluria and certain other conditions.

It is important to recognise that these organisms as a rule retain their pathogenicity for the lower animals quite apart from the source from which they have been isolated in man.

Bacillus Typhosus.

Most people are agreed at the present day that by the term "typhoid fever" we understand certain clinical phenomena which are due to infection with various micro-organisms belonging to the typhoid-coli group and not necessarily to the specific micro-organism, the typhoid bacillus. This fact serves to explain why acute diseases regarded as typhoid fever on their clinical manifestations have failed to give a positive typhoid agglutination reaction at any period of the disease, quite apart from those rare instances of true infection by means of the bacillus typhosus which also fail to give this reaction. Such an instance occurred in the case of a well-known medical man who directly infected himself with the typhoid bacillus and whose blood up to the time of his death failed to give a positive reaction. Still further, it is now recognised that we may have infection with the typhoid bacillus without any of the clinical manifestations of typhoid fever.

These facts have been specially emphasised in a most valuable paper recently contributed to the *Journal of the Royal Army Medical Corps* by Major J. C. B. Statham.[13] He says: "Before we can profitably discuss the question of typhoid or enteric etiology, it is necessary to clearly realise what these words mean both in their clinical and bacteriological senses. Typhoid means typhus-like and was used to represent the clinical picture of prolonged fever—abdominal symptoms, exhaustion, and mental apathy—often present in this disease. The word 'enteric' was introduced owing to the prevailing idea that intestinal lesions and certain symptoms were always present in typhoid Now these terms 'typhoid' and 'enteric' have the sanction of long usage and will stay in consequence, but unless we are careful this nomenclature is liable to lead us into diagnostic error and has possibly even helped to keep alive and spread endemic and epidemic typhoid." "15, even 10 years ago, it might have been confidently stated that in the bacillus typhosus of Eberth had been found the unique causal agent of the dangerous and widespread disease 'typhoid fever.' The knowledge of recent years has forced us to realise that there are quite a number of allied but distinct of tearing through the pia mater the blood was extravasated between that membrane and the brain substance; it tracked round the optic chiasma and pons to the side of the medulla and thence poured by way of the iter into the ventricles.

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[12] Leonard S. Dudgeon and P. W. G. Sargeant: The Bacteriology of London, 1905.

[13] Major J. C. B. Statham: The Complex Nature of Typhoid Etiology and the Rôle Played by Animals and Man in the Spread of the Typhoid Group of Diseases. Journal of the Royal Army Medical Corps, October, 1908, No. 4, vol. ii.

The diagnosis of ruptured cerebral aneurysm was based on the sudden onset with vomiting and occipital headache, together with the remission of the symptoms. The blindness of the right eye appeared to be a disturbing factor in the diagnosis; it was, presumably, explained post mortem by the pressure of the aneurysm on the right optic nerve. A specimen is preserved in the University College Museum in which the same condition is present. The alternative diagnosis was that of syphilitic meningitis and the improvement in the patient's general state, concurrent with antispecific treatment, lent for a time support to that belief. It is probable that the symptoms at the onset were due to a small rupture of the aneurysm; this furnishes an explanation for the brown staining observed in the neighbourhood of the optic nerves. The aperture was plugged by blood clot and the effused blood was gradually absorbed with temporary relief to the patient's condition; then, on the sixteenth day, the second rupture took place (perhaps due to straining at stool) and death resulted. Although a history was not obtained the etiology of the aneurysm was presumably syphilitic. This is the most plausible explanation for the atheromatous and degenerative state of the arterial vessels in so comparatively young a subject and many of the recorded cases of cerebral aneurysm have a syphilitic origin.

The case is of interest owing to the rare condition and the period of 16 days that elapsed between the primary rupture of the aneurysm and the fatal issue. With regard to the first point, the anterior cerebral artery holds the fourth place in the order of frequency of aneurysms of the cerebral vessels, the middle cerebral, the basilar and the internal carotid being more commonly affected. Beadles,[1] after an exhaustive review of 555 cases of cerebral aneurysm, states that "in aneurysms of the anterior cerebral and anterior communicating arteries the number in which definite cerebral symptoms occurred is so trifling and so vague that most certainly such an aneurysm is impossible of diagnosis." In this case, however, definite signs, the expression of a grave cerebral lesion, were present. The first symptom of the aneurysm was its partial rupture. This, of course, obtains in many of the cases recorded in the literature, the other types being (*a*) those in which no symptoms existed during life and the patient succumbed to some intercurrent disease; and (*b*) those cases where the apoplectiform seizure was preceded by pressure symptoms and signs simulating those given by a cerebral tumour.

As a rule, rupture of the aneurysm is followed by speedy death, and if the terminal event is delayed the interval between the primary and secondary rupture of the aneurysm is not of the duration noted here. In van der Byl's[2] case of rupture of the posterior cerebral the patient was taken to Middlesex Hospital, having fallen down in the street in a fit and having died while in the waiting room. Dr. J. Rose Bradford[3] records a case of aneurysm of the basilar artery in which the patient lived for 40 hours from the onset of his symptoms, and he draws attention to the long survival between the first and second rupture. Optic neuritis and absent knee-jerks are no new features in the physical signs that a cerebral aneurysm may present.

In conclusion, I must express my thanks to Dr. Rose Bradford for his kindness in permitting me to publish the case.

Brompton, S.W.

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[1] Aneurysms of the Larger Cerebral Arteries, Brain, 1907, p. 285.

[2] Transactions of the Pathological Society of London, 1855–56. vol. vii., p. 129.

[3] Aneurysm of the Basilar Artery, Transactions of the Clinical Society of London, vol. xxviii., 1895.

THE RESEARCH DEFENCE SOCIETY.—A public meeting in connexion with the Research Defence Society will be held in St. William's College, York, on Friday, Dec. 11th, at 3.30 P.M., when a lecture will be given by Mr. Stephen Paget on the work which has been done. The following amongst others have signified their intention of being present:—Lord Deramore, the Dean of York, Canon Watson, Canon Robinson, Rev. C. C. Bell, Mr. W. H. Jalland, Dr. F. Shann, Dr. R. Turner, Dr. Macdonald, Mr. E. R. Dodsworth, and Mr. H. V. Scott. The honorary secretary of the York branch is Mr. Gerald S. Hughes.

A NOTE ON THE BACTERIAL CONTAMINATION OF MILK AS ILLUSTRATING THE CONNEXION BETWEEN FLIES AND EPIDEMIC DIARRHŒA.

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MY views on this subject are well known and on some future occasion I shall revert to the whole matter. The object of the present communication is to record briefly the results of two simple experiments which I made in the summer of 1907.

I. The first was undertaken on a warm day in August, 1907, as follows. Two well-cleansed saucers were three-fourths filled with milk from the ordinary household supply. [This supply is subject to rather stringent conditions under guarantee.] One saucer was then covered over with a clean plate, the other was left exposed, both being placed on the same table in the kitchen. Some flies were observed in the room. Apart from the circumstance that one saucer was covered and the other uncovered, both were under identical conditions as to temperature, &c. Five hours later the uncovered milk was found to contain the bodies of two flies, and I proceeded to subject both milks to bacteriological tests, the results of which may be summarised as follows (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	Number of bacteria per c.c. (as estimated from gelatin [illegible] at 22° C. Dilution = 0·0001 c.c. original milk).	Taurocholate broth [illegible] c.c. after 18 hours.	Glucose bile salt litmus broth 0·001 c.c. original milk.		Anaerobic milk culture for spores.
			Acid.	Gas.	
A (uncovered) containing two flies.	7,425,000 (after five hours' exposure).	Uniform turbidity.	+	+ ¾	–
B (covered over).	3,100,000 (after five hours covered over).	,,	+	+ ¼	–

These results indicate that in five hours on a warm day milk exposed to flies contained millions more of gas-forming bacteria than the same milk kept covered over.

The following observations are significant of the *physical* deterioration of the exposed fly-containing milk as compared with the protected milk (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	August 15th, after 24 hours.	August 16th, after 48 hours.	August 17th, after 72 hours.
A	Slight putrefactive odour.	Stinking odour more marked; milk clotted.	Odour still more marked; milk acid.
B	*No odour.*	Milk clotted; ordinary smell of sour milk.	No putrefactive odour; only that of lactic acid fermentation.

II. The second experiment was made in September, 1907. The temperature was 72° F. in the laboratory. Two portions of the same sample of milk hereafter referred to as C and D were placed in the same room in a cottage in which flies were present. Sample C stood exposed from 4 P.M. on the 11th until 8 A.M. on the 12th. Sample D was covered over but otherwise subject to exactly *similar* conditions. Both samples were subjected to bacteriological tests at 4 P.M. on the 12th. [With regard to the physical condition, the exposed milk– Sample C—contained two flies floating in it. It was observed that the *ovipositors* of these flies were completely extruded in each fly. The milk had a slight putrefactive odour and already there was a tendency to clot.

and a gall-stone was present in the gall-bladder. Typhoid bacilli were isolated from the liver, spleen, bile, and interior of the gall-stone. Levy and Kayser consider that this case is an example of auto-infection—the bacillus persisting in the patient's gall-bladder, similarly to the numerous examples concerning other bacteria quoted throughout this lecture. It was practically living as a saprophyte until finally it gave rise to the fatal infection. There seems to be considerable evidence in favour of auto-infective attacks caused by the bacillus typhosus.

Cases of exceptional interest have recently been investigated by Huggenburger,[20] assistant at the Bacteriological Institute in Zürich. 13 cases of enteric fever had occurred in one family. In 1877 the mother had typhoid fever, in 1886 the father, in 1892 the son, in 1902 the daughter-in-law, and nine servants from 1899 to 1908. A bacteriological examination was made of the excreta of all members of the household. Virulent typhoid bacilli were isolated from the fæces of the mother who had had no symptoms since her illness in 1877. These cases, therefore, stretch over a period of 30 years. Although this organism had been present in her tissues for this considerable length of time, it had never given rise to any symptoms, but is regarded as the source of infection in the other members of the household.

In the Army Medical Report for 1907 some interesting investigations were made of 11 cases of typhoid fever occurring at Kasauli. It was found that the soldiers' cook had the bacillus typhosus in his fæces although he was in perfect health and had not been in hospital for eight years previously.

At the Central Research Laboratories at Kasauli the excreta from typhoid convalescents were repeatedly subjected to bacteriological examination and also those from a large number of healthy men. In three of the latter group typhoid bacilli were isolated, and in each instance these men had been nursing cases of enteric fever. In these laboratories it was pointed out that the excretion of typhoid bacilli in the fæces was markedly intermittent, intervals as long as 80 days occurring.[21]

In July, 1906, Gray and I published a case concerning a man who had the typhoid bacillus persisting in his tissues for four years and which probably gave rise to typhoid fever in a member of his family by direct infection. In July, 1902, he was in the wards of St. Thomas's Hospital for typhoid fever under the care of Dr. Hector W. G. Mackenzie. He was discharged on Sept. 10th, re-admitted on Sept. 18th for pain in the right femur, and left the hospital three weeks later quite well. On Oct. 18th, 1904, more than two years after the attack of typhoid fever, he was readmitted for tenderness over the right femur. On Nov. 6th an abscess was opened and a pure culture of the bacillus typhosus was obtained from the pus. He left the hospital on Dec. 21st, 1904, with the wound healed, but a few weeks later the scar gave way and pus was discharged through a sinus. In June, 1905, the patient came to the hospital for further treatment. In the same month his wife was admitted to St. Thomas's Hospital suffering from a severe attack of typhoid fever which proved fatal. The patient stated that his wife collected the soiled dressings after he dressed the wound and then burnt them. No one else had had typhoid fever in his house so far as he knew. In July, 1905, the pus was re-examined and the bacillus typhosus was isolated. The patient's serum failed to cause homologous agglutination, but a standard human typhoid serum and immune horse serum produced a high degree of agglutination with the patient's bacillus. The fact that the patient's serum fails to agglutinate the homologous bacillus in cases of this class has been noted by Dr. Dean and other observers. On Dec 9th of the same year the bacillus typhosus was still present. In February, 1906, dead bone was removed by Mr. W. H. Battle and the bacillus typhosus was isolated from the depth of the wound. This was then washed out daily with a 1 per cent. solution of urotropin with the result that in a few days the bacillus typhosus could not be cultivated, and at the end of March a similar result was noted. In this case, therefore, we have the persistence of the typhoid bacillus in the tissues for four years without producing any greater effect than local necrosis of bone. If, as is probable, the patient's wife was infected by it, it shows that the organism was still highly virulent when transplanted in the tissues of a fresh host.

In 1908 a man was admitted to St. Thomas's Hospital suffering from cholelithiasis. He had served in the army and in India, but he was never known to have had typhoid fever. In 1900 the patient had a severe attack of colic but no further attack until six months before he came to St. Thomas's Hospital. In January, 1908, he gradually became jaundiced and was admitted to the hospital. The urine contained bile pigment, Cammidge's test was positive, and the fæces were dark in colour. His leucocytes numbered 2280 per cubic millimetre, but the differential count was normal. The serum gave a positive reaction on a standard laboratory culture of the bacillus typhosus with a dilution as high as 1 in 500 within 30 minutes at room temperature. A gall-stone was removed at the operation by Mr. H. H. Clutton from his gall-bladder, but the interior of the stone was found to be sterile. From his bile the bacillus typhosus was isolated in pure culture. The urine was sterile and the fæces on two examinations only failed to show the presence of the typhoid bacillus. Three weeks later the bile was re-examined and the bacillus typhosus was still found to be present. Several re-examinations were made at subsequent intervals but the bacillus typhosus was never isolated again, only the bacillus coli. This patient was treated with a typhoid vaccine which I made from the organism isolated from his bile. He received seven doses in all, commencing about a fortnight from the time of the operation.

In April, 1908, a man was admitted to St. Thomas's Hospital under the care of Mr. G. H. Makins suffering from jaundice. He had had jaundice for six weeks 30 years before, and "influenza" 20 years ago. The jaundice had lasted for one week. There were high pyrexia and rigors. At the operation a suppurative condition of a large thick-walled gall-bladder was found from which the bacillus paratyphosus B. was obtained in pure culture. The patient eventually died and at the post-mortem examination a suppurative cholangitis was found and carcinomatous disease of the gall-bladder. In this case it is impossible to say when the paratyphoid bacillus entered the body. He was never known to have had typhoid fever and the only illness which might have been mistaken for paratyphoid fever was "influenza," which occurred 20 years previously. The importance of finding one of the paratyphoid bacilli in this case is considerable. In the first instance, as already stated, the patient was never known to have had "typhoid fever," but he was admitted to a surgical ward for suppuration in the biliary passages caused by an organism which is usually associated with a febrile illness similar to clinical typhoid fever. The greatest danger likely to arise in a case of this kind is the occurrence of typhoid fever among the patients or nurses, although nothing of this nature developed from this bacillus. The point which is of greatest interest is whether the bacillus persisted in the patient's biliary passages as a saprophyte, became re-activated, and gave rise to suppuration in a carcinomatous growth, or had it only quite recently entered from the intestinal tract?

On March 27th 1908, a man was admitted under the care of Mr. Clutton in the wards of St. Thomas's Hospital who had been jaundiced for five weeks. There was no history of typhoid fever nor of any disease resembling it. At the operation gall-stones were present in the gall-bladder and a condition of suppurative cholecystitis. The interior of the gall-stones was found to be sterile, but from the pus in the gall-bladder a bacillus presenting all the morphological and cultural tests of the typhoid bacillus in every detail was isolated. The patient's serum agglutinated it, but positive typhoid serum produced no effect either when the organism was recently isolated or after it had been cultivated on artificial media for one week at room temperature. The patient's serum also failed to have any agglutinative action on a culture of the bacillus typhosus. In this case an organism was isolated from the tissues which, when subjected to a detailed cultural examination, was found to be indistinguishable from a typhoid bacillus, but yet cannot be classed as such owing to the completely negative results obtained with the serum tests.

During the last two years bacilli of the paratyphoid group have been isolated from three private patients whose urine I have examined. In two cases the organism was accompanied

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[20] P. Fosch. Annalen, Congress of Hygiene, Berlin, 1907, vol. ii., p. 1119.

[21] On the Health of European Troops Serving in India, Army Medical Report for 1907, vol. xlix., p. 97.

Figs. A and B will make our meaning clear. In Fig. A the contents of the thoracic cavity are exposed from behind. The left pleural cavity is distended by a pleural effusion, the left lung being compressed towards its root, and the posterior mediastinal mesentery, formed by the approximated leaflets of the right and left pleuræ between the œsophagus and aorta, bulges towards the right so as to compress the base of the right lung. The extension of the posterior mediastinal mesentery is best seen in the transverse section shown in Fig. B, *b*. The heart also is forced towards the right, pressing against the root of the right lung, while the left lobe of the thymus is pushed upwards into the root of the neck. It will be observed that the extension of the left pleural cavity across the line of the spinal column is triangular in shape; its base is below, behind the diaphragm, its apex above at the level of the roots of the lungs. Above the roots of the lungs the line of separation between right and left pleural cavities is normal in position. Were such a chest to be percussed out an area of dulness to the right of the mid-line of the spine and corresponding to Grocco's triangle should be found.

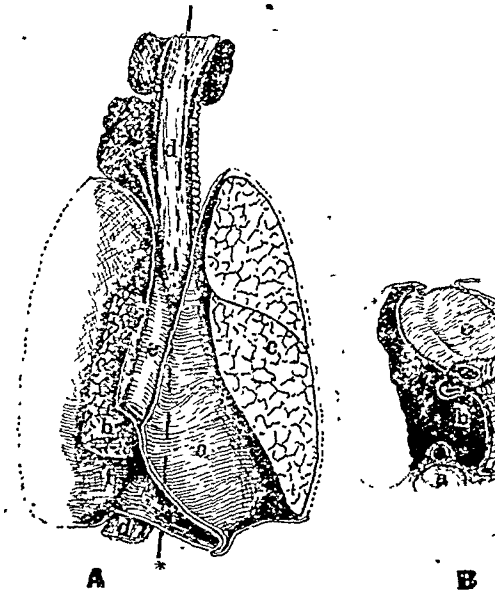

Fig. A. The contents of the thoracic cavity exposed *from* behind. The line of the spinal column is indicated *.... .*. *a*, the posterior mediastinal mesentery bulging into the right pleural cavity; *b*, compressed left lung; *c*, right lung compressed at its base; *d*, œsophagus; *e*, aorta; *ff*, left pleural cavity; *g*, left half of the thymus pushed into neck.
Fig. B. Section of thoracic contents. *a*, on body of vertebra; *b*, left pleural cavity extending to right; *c*, œsophagus and inferior vena cava; *d*, right lung; *e*, right ventricle.

The condition of parts corresponds exactly to the description given by Professor G. Elliot Smith,[1] only that the case examined by him was an adult and the pleural effusion on the right side. He explains the triangular shape of the pleural extension as due to a pendulum-like movement of the contents of the thorax, the collection of fluid in the basal part of the right pleural cavity causing the thoracic contents to swing to the left. All other observers, so far as we know, have dealt with the causation of Grocco's triangle from a clinical and physical point of view. Dr. W. Ewart, who was the first in this country to explain the clinical signs of Grocco's triangle, ascribed it to the pleural effusion acting as a mute and preventing the vertebral column from conducting the pulmonary resonance. Dr. F. W. Forbes-Ross[2] regards Grocco's triangle as a "physical necessity of the anatomical conformation of the posterior chest wall"; Roch and Dufour[3] reach practically the same conclusion. Like Dr. Forbes-Ross they ascribe the triangle of dulness chiefly to the musculature of the back. Dr. Ewart in a later paper[4] notes the fact that a similar triangle is present in case of subphrenic abscess. He believes that the fluid content of such an abscess acts, like a pleural effusion, as a mute on the spinal column. On theoretical grounds we should expect a subphrenic abscess to produce Grocco's triangle, but in a manner different from that supposed by Dr. Ewart. Recently Dr. W. Pasteur[5] has dealt with "massive collapse" of the base of the lung as a sequence of subphrenic abscess and other abdominal inflammatory states; he ascribes, and we think rightly, the pulmonary collapse to a cessation of action and relaxation of the diaphragm on the diseased side, a reflex inhibition following on the subphrenic inflammation. The dome of the diaphragm on the diseased side is found to be raised upwards; there is a considerable diminution of the pleural space on the diseased side, with a corresponding loss of the elastic traction of the basal part of the lung. On the basal part of the sound side there is the usual negative pressure, with the result that the collapsed basal part of the lung on the diseased side is drawn towards the sound side, giving rise to a triangular area of dulness.

Another reason for placing this case on record is again to draw attention to the clinical and physiological importance of the structure named here, the posterior mediastinal mesentery, described and figured by one of us in these pages some five years ago.[6] It corresponds to the translucent triangle seen in the corresponding part of the thorax when the patient is examined in a suitable position by the aid of x rays. This mesentery has been overlooked by anatomists owing to the body being hardened and always examined in the supine position, when the heart and mediastinal contents are pressed backwards against the spine. It can be well demonstrated during the course of a post-mortem examination when the sternum and costal cartilages are removed. If the pericardium with its contents be then lifted forwards the posterior mediastinal mesentery will be seen to stretch from the pericardium to the spine and to have a front to back extent of from one to two inches. In our opinion Professor Elliot Smith is justified in applying the term pendulum-swing to the contents of the thorax; when a full breath is taken the heart and roots of the lungs can be seen to move forwards and downwards following the direction taken by the descending diaphragm. To permit that movement the posterior mediastinal mesentery must be slack and long; it is its slackness and extensibility that permit so free and easy an extension of the contents of one pleural cavity towards the side which has the higher negative pressure; the mesentery being triangular in shape, apex above and base below, retains that outline when pressed into the sound side by a collection of fluid on the diseased side, thus giving rise to a triangle of dulness such as is described by Grocco. We believe that those who have described this condition in sound normal individuals have used a light method of percussion and elicited the triangular dulness yielded by the erector spinæ.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Resistance of Arteries to External Pressure.—An Excitant for Leucocytes of Healthy Persons in the Blood Plasma of Patients Suffering from Carcinoma.

A meeting of this section was held on Nov. 24th, Dr. S. J. Gee, the President, being in the chair.

Dr. W. P. Herringham and Mr. F. Womack, from the Physics Laboratory of St. Bartholomew's Hospital, communicated a paper on the Resistance of Arteries to External Pressure, detailing experiments on the value of the sphygmomanometer as a test of the blood pressure. Small glass tubes were tied into arteries removed from dead bodies and connected with a water-pressure system on which was interpolated a mercury manometer. The artery was placed inside a large glass tube closed at each end by perforated rubber corks through which the small tubes ran. The large outer tube was connected with a reservoir of water, and through this with a column of mercury, by which pressure inside the large tube and outside the artery could be measured. The pressure inside the artery when the system was open was his condition on discharge being that all ulcers had healed and the state of his general health had improved in a marvellous way (he had gained 8 pounds).

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[1] The Lancet, Sept. 28th, 1907, p. 890.
[2] The Lancet, June 29th, 1907, p. 1773.
[3] La Semaine Médicale, No. 43, 1908.
[4] See Annotation, The Lancet, Jan. 18th, 1908, p. 172.
[5] The Lancet, Nov. 7th, 1908, p. 1351.
[6] The Lancet, March 7th, 1903, p. 633.

The rapid progress which was made in this case was extraordinary, more especially the way in which the ulcers healed without any local treatment. My reasons for considering this to be probably a specific case was the character of the throat ulceration, age of patient, &c.

CASE 9.—Private ——, Irish Guards, was admitted on August 8th with indurated sore on penis, enlarged inguinal and cervical glands, and maculo-papular eruption scattered over the trunk. He went through the usual course of soamin and was discharged to duty on the 31st, all active signs having disappeared. His general health had much improved (he had gained 5 pounds in weight).

CASE 10.—Private ——, Grenadier Guards, was discharged from the Royal Herbert Hospital, Woolwich, on June 26th, where he had been then under treatment for 30 days for syphilis and had received 25 inunctions of mercury. He was admitted to Rochester Row on August 10th with indurated scar on the penis, mucous patches on the inside of the cheeks and tongue, and ulceration of the throat, and he was covered with a bright roseolar rash. He went through the course of soamin (100 grains) and was discharged from hospital on Sept. 6th. After having had four injections all ulcers in the mouth had healed and on completing the full course his general health had much improved (he had gained 5 pounds in weight). This case was notable from the rapid manner in which the patches and ulcers healed without any local assistance.

CASE 11.—Lance-Corporal ——, A.S.C., was placed on the syphilis register at Woolwich on Feb. 17th, and was stated to have been suffering from a scar on the penis, shotty glands in the groin and neck, and roseolar rash on the body. He had received 19 mercurial inunctions and 12 mercurial injections of one of the soluble salts. He was admitted to Rochester Row on August 11th with condylomata and mucous patches on the penis, scrotum, and tongue. He was put on the course of soamin, which he completed and was discharged on Oct. 1st, all symptoms having disappeared. His health had much improved (he had gained 6 pounds in weight).

CASE 12.—Private ——, Cameron Highlanders, was admitted on August 17th with typical Hunterian chancre on the penis, inguinal and cervical glands, shotty ulceration of the throat, and roseolar rash on the body and the limbs. He completed a course of soamin and was discharged on Sept. 14th. The sore had quite healed, the induration had disappeared, as had also the rash and the other symptoms, and the general health was much improved.

CASE 13.—Private ——, Irish Guards, was admitted on August 27th. This was a neglected case. There was a sore under the prepuce and phimosis was present, necessitating circumcision, as well as a well-marked papular eruption over the trunk, the legs, and the arms. The deep inguinal and cervical glands were enlarged, and there was ulceration of the throat. A full course of soamin was completed, and when the patient was discharged from hospital all active symptoms had disappeared and his general health was excellent.

CASE 14.—Private ——, Scots Guards, was transferred to Rochester Row from another hospital where he was reported to have been doing badly. His condition on admission was generally bad; he was much debilitated and run down. The deep inguinal and cervical glands were enlarged and shotty; the inside of the cheeks, the tongue, and the throat were badly ulcerated; and there was a papulo-pustular eruption on the back and the flanks. The patient has completed a full course of soamin and has done remarkably well. All the ulcers healed rapidly and the rash has practically disappeared.

CASE 15.—The patient, aged 55 years, contracted disease 25 years ago when he had all the classical signs of the disease in its primary and secondary stages. He went through various spasmodic courses of specific treatment at various periods but never had a thorough course. For many years he was quite free from any symptoms until five years ago, when his tongue became sore and leucoplakia formed on it; at the same time an ulcer appeared in the middle of the lower lip; both these lesions have resisted all treatment, including mercury and iodide of potassium internally over long periods. The patient came under my notice on August 31st. The tongue was furrowed from old ulceration and was marked with leucoplakia, which was well raised in places; there was an ulcer on the lower lip scabbed over; this had been present for the past five years and had been diagnosed as epithelioma on more than one occasion. There was no enlargement of the lymphatics in the neighbourhood. The patient was put on soamin injections, of which he had a full course. After the sixth injection (60 grains) I noted: "Ulcer on lip looking decidedly healthier, general health much improved." After the tenth injection: "Ulcer almost entirely healed, tongue improved, mucous membrane of mouth in much better condition." Further treatment for the present was stopped. The rapid improvement was certainly a surprise and the way in which this old-standing case responded to the arylarsonates was remarkable. After the eighth injection the patient showed signs of toxic effects—i.e., noises in the head and a slight attack of colic; these passed off and he completed his course—in fact, he had a total of 110 grains.

CASE 16.—The patient, aged 54 years, contracted syphilis 30 years ago, when he went through three courses of treatment at Aix-la-Chapelle in two years. There was no further return of the disease until two years ago, when after a severe attack of influenza his tongue became very sore and eventually it ulcerated, leucoplakia also appearing on it. At first the condition was diagnosed as cancer, but eventually syphilis was substituted for the latter and he was treated accordingly. I saw him first on August 25th. The tongue was much thickened and ulcerated both on the dorsum and at the sides, and it was covered with leucoplakia; the inside of the cheeks also was thickened and ulcerated. The gums were in a dreadful state of ulceration the result of excess of mercury. The patient had actually been taking a mixture containing solution of perchloride of mercury and iodide of potassium three times a day for eight months continuously before coming to me. He complained of cramps, especially at night time, in the calves of both legs, and also "pins and needles" in the feet and the toes. Ankle clonus was normal. The patellar reflex was diminished in the right leg and normal in the left. The pupils were normal, the general health much below par, and there was loss of sleep and of appetite. The patient went through a full course of soamin (100 grains), at the end of which the tongue and the mucous membrane of the mouth had much improved, whilst the general health had remarkably done so. Appetite and sleep returned. After the eighth injection the patient complained of noises in the head and a peculiar feeling in both legs.

Notes on Cases Treated with Arsacetin.

CASE 17.—Private —— was admitted to hospital on Sept. 25th. On admission he had two small, hard, roundish lumps under the skin of the prepuce; there was no ulceration, and he said that the skin had never been broken, but that was doubtful. He stated that he had had the lumps for the last six months and that he noticed a rash upon him three days before admission. The rash was roseolar in type and was most marked on the chest and the abdomen. The inguinal glands were not enlarged, but those in the neck were hard and shotty. The throat was a little congested. The patient's weight on admission was 12 stones 7 pounds. Oct. 7th: The patient had had four injections of arsacetin (28 grains). The rash was fading and in some places had quite disappeared. The throat was much better and the two small indurated lumps in the prepuce were softer. The patient's weight was 12 stones 12 pounds—a gain of 5 pounds. Oct. 14th: The rash had quite disappeared, the throat was better. Weight 12 stones 13 pounds. Oct. 21st: The patient had had 70 grains of arsacetin. All active symptoms had disappeared and he was apparently in excellent health and was accordingly discharged to duty.

CASE 18.—Private ——, Irish Guards. Admitted to hospital on Sept. 30th with a well-marked papular eruption all over the body, the chest, the abdomen, the arms, and the legs. The papules were large and some were lenticular and well raised and a few were scaly. The scalp was more or less covered with a papular, and in some places a pustular, eruption and there were some pustules at the junction of the nose and forehead and some on the lower lip. The patient was in hospital on August 22nd with a small hard suspicious sore on the frænum and he left the hospital on Sept. 1st. The hair was falling out and the patient complained of severe frontal headache at night time.

another microscope were shown on a warm stage some eggs from fresh urine developing embryos, the urine having been kindly supplied by Fleet-Surgeon P. W. Bassett-Smith, R.N., from Haslar Hospital. Dr. Sandwith also showed a series of photographs of the natural history and pathological results of the worm and exhibited a model of Mr. Owen Richards's vesical calculus weighing nearly 32 ounces.[1] As it has so often been stated that stones in the Egyptian bladder are directly caused by a nucleus of bilharzia eggs, for which idea there seems to be little or no foundation, Dr. Sandwith pointed out that in the Egyptian peasant, from whom this stone was removed by piecemeal extraction with osteotome and mallet above the pubes, with free perineal drainage, no bilharzia eggs were found in the urine either before or after the operation. By the side of this stone was shown a model of Mr. H. M. N. Milton's calculus, which alone surpassed it as the largest ever successfully removed from a living patient. Mr. Milton's stone weighed 34½ ounces, and was extracted whole by abdominal section.[2] The original stones both lie in the Museum of the Royal College of Surgeons of England.

Mr. J. **CANTLIE** read a paper on Lesions of the Rectum and Sigmoid Flexure met with in Post-dysenteric and other cases of Intestinal Flux. He said that before describing the pathological states of the rectum and sigmoid flexure it was necessary to draw attention to certain anatomical details which were essential to the better understanding of the lesions of this part of the alimentary canal. From clinical observations gathered during examinations of the rectum by the sigmoidoscope he was induced to examine the rectum and sigmoid flexure anatomically more closely in order to ascertain if an explanation could thereby be afforded of certain frequently occurring conditions, more especially in post-dysenteric diarrhœa. Shortly the results of his anatomical observations were these:—1. That at the junction of the sigmoid flexure and rectum in the normal bowel of the adult a well-marked narrowing took place which had for its basis a ring of thickened circular muscular fibres of the intestine and a blending of the longitudinal muscular bands at the same spot. These conferred upon the narrowing referred to an action similar to the pylorus of the stomach and he had named this the "sigmo-rectal pylorus." The functions of this opening were retentive to the contents of the colon and prevented the fæces accumulating and pressing upon the anus, thereby doing away with the constant feeling of the desire to defæcate which fæces in the rectum always induced. 2. The junction of the colon and sigmoid flexure presented another narrowing with similar anatomical features which he had named the "colo-sigmoid pylorus." This upper opening, less narrow than the lower or sigmo-rectal pylorus, assisted in the retention of the fæces in the colon and served to mould the fæces to the rounded shape which they assumed in normal stools. 3. At the insertion of the levator ani into the rectum about half way up there was a functional narrowing of the rectum caused by the action of the muscle. When this muscle was relaxed they had the ballooning of the rectum but the causes of this relaxation and consequent ballooning in certain conditions of the rectum were not yet known. So that proceeding from below upwards they had: (*a*) the anal sphincters for one and a half inches; (*b*) a tubular portion of the tube with a longitudinally arranged mucous membrane for some two and a half inches; (*c*) the insertion of the levator ani; (*d*) a puckered portion of the rectum with a sacculated mucous membrane for four inches; (*e*) the sigmo-rectal pylorus; (*f*) a dilatation behind this pylorus with a mucous membrane in irregular folds; (*g*) the upper or colo-sigmoid pylorus; and (*h*) the descending colon. The lesions of the lower part of the bowel might be arranged under three headings: 1. Lesions acting on the rectum and sigmoid flexure from without. Short of causing actual obstruction, these caused what might be called passive shedding of mucus seen especially in intestinal casts. A pregnant uterus, a retroverted or retroflexed uterus attended by increased size of the organ, fibroids of the uterus, ovarian tumours, inflammatory adhesions around the left ovary, tumours of the pelvic walls, tumours of the omentum, appendicitis, aneurysm of the left iliac arteries, enlargement of the left kidney whether from cystic disease or hydronephrosis, in fact, any pressure from without might not only be associated with mucus in the fæces but might induce retention and a diarrhœa of retention. It was necessary, therefore, in all cases of persistent mucus in the stools not associated with a previous history of dysentery and with absence of blood in the mucus combined with a fair state of health to examine for abdominal lesions extraneous to the bowel. 2. Lesions might arise in the wall of the bowel. The most common of these were malignant disease or fibrous stricture but it was possible that both of these were secondary to troubles arising within the gut itself. 3. In regard to lesions arising within the bowel it was difficult in the present state of our knowledge to separate 2 from 3 in this enumeration, for although they knew that thread-worms, bilharzia, and factors of this nature induced changes in the intestinal walls it was difficult to state whether the several lesions which determined intestinal flux were due to ingested contents or whether the attendant causes primarily attacked the mucous membrane. Of the lesions met with in the rectum which could be actually made out by inspection with the proctoscope by reflected light or through the sigmoidoscope by direct light neglecting the anal affections were: 1. An ulcer situated in the posterior aspect of the rectum about one and three-quarter inches up or just above the internal sphincter, just opposite the tip of the coccyx, which might be styled the tropical ulcer, seeing its frequency in persons who had resided in the tropics and had been the subjects of intestinal flux. It was single, rounded, punched-out looking, very painful when touched, and gave rise to the neuralgia so often complained of. It was an aggravating complication in the last stages of sprue and in many post-dysenteric conditions. It was easily cured by incisions and in many cases of troublesome intestinal flux the condition would disappear, and what seemed an incurable diarrhœa by drugs was thus readily got rid of. 2. Multiple ulcers, two to three inches from the anus, presenting a greyish dull brown appearance, sometimes with hæmorrhagic margins inclining to an oval shape with their long axes parallel to the length of intestine, were associated with irregular evacuations of a pultaceous consistence sometimes accompanied by blood in the stools, and were due to tertiary syphilis and must be treated accordingly. 3. At the sigmo-rectal pylorus was the situation at which post-dysenteric lesions were chiefly met with. Here they might find one or another of the following conditions: (*a*) an œdema of the mucous membrane. (*b*) The wall of the bowel might be studded with multiple purulent looking collections in the mucous membrane varying from the size of a pin-head to that of a split pea or larger. Associated with these might be one or several ragged ulcers covered with a whitish surface. This condition was met with in relapses of dysentery of a more or less acute nature. (*c*) Multiple ulcers of varying size with angry margins were extremely painful on the attempt being made to pass the sigmoidoscope and accompanied by spasm of the bowel rendering it impossible to push the instrument beyond them. (*d*) Infiltration of the submucous tissue with scars of old ulcers amounting to stricture of the bowel which might become even (*e*) of a fibrous character. 4. The sigmoid flexure itself when any of the lesions in the sigmo-rectal pylorus above enumerated were present was usually in a state of œdema and catarrh. For treatment when the causes of mucus in stools were situated without the bowel wall steps must be taken to deal with them on general surgical principles. When the bowel wall itself was seen to be at fault the treatment depended upon the state of the lesions met with. For general œdema of the mucous surface enemata of warm sea water (not diluted) would be found highly efficacious—that applied also to all states of the rectum associated with excess of mucus; in so-called mucous colitis sea water was serviceable. When the bowel was ulcerated in the neighbourhood of the sigmo-rectal pylorus pure carbolic acid was the most satisfactory application. When there was infiltration of the submucous tissues amounting to a strictured state of the bowel at the sigmo-rectal pylorus, accompanied by intermittent attacks of loose evacuations with a quantity of mucus, it was necessary to treat the stricture. One of the commonest conditions which they had to treat in long-standing intestinal flux succeeding dysentery was one in which after a few days or even a few weeks of apparently healthy evacuation there was a remission consisting of bulky, frequent, and very loose motions, often frothy in character, accompanied by a large quantity of mucus. This condition might last from a few days to a week or two, to be succeeded by apparently normal motions,

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[1] THE LANCET, July 25th, 1908, p. 230.

[2] THE LANCET, Sept. 16th, 1893, p. 687.

THE COMMON COLD: ITS PATHOLOGY AND TREATMENT,

WITH ESPECIAL REFERENCE TO VACCINE THERAPY.[1]

BY R. W. ALLEN, M.D., B.S. LOND.,
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(Concluded from p. 1594.)

VI.—NATURAL CURE OF COLDS.

THE most striking clinical feature of an acute attack of nasal catarrh is perhaps the excessive mucous secretion, and the question arises as to the causation and function of this.

Causation of increased mucous secretion.—The effect of the application to the nasal mucosa of such chemical irritants as strong ammonia and acrolein is so marked as to favour the view that the increased flow is merely a reflex response to the toxins formed by the infecting organism. It would appear, however, from the following experiments that this is not so. Of the several organisms capable of producing a cold Friedlander's bacillus is the one which incites the most copious secretion. Accordingly a tube of broth was inseminated with a virulent culture of Friedländer's bacillus and incubated at 37° C. for nine days, when the formation of any toxin is, as a rule, at a maximum. The culture was then filtered rapidly through a sterilised porous candle. Some of the clear sterile filtrate was then swabbed over my nasal mucosa, but, so far from an increase, a marked diminution in the amount of mucous secretion was produced for the next few hours.

The next experiment seems equally convincing, as despite the observation of a French observer it seems to show that the bacillus of Friedlander does not produce extracellular toxin, or at all events only in very minute quantity.

Experiment.—20 cubic centimetres of broth were inseminated with a virulent culture and incubated at 37° C. for nine days; rapid filtration through porous candles was carried out and the sterility of the filtrate was ascertained; 10 cubic centimetres of this filtrate were then injected intraperitoneally into a guinea-pig and 5 cubic centimetres into a rat. No rise of temperature or malaise could be detected and repetition of the experiment gave a like result.

Again, if staphylococci and Friedländer's bacillus be planted into the same broth and incubated, the latter will soon kill off the former even if any acid be neutralised with powdered marble as quickly as it is formed by the bacilli. The following table shows this.

TABLE VII.

Period of incubation.	$\frac{\text{Bacilli}}{\text{Staphylococci.}}$	$\frac{\text{Bacilli}}{\text{Staphylococci.}}$
(1) Prior to incubation.	$\frac{1}{1}$	—
8 hours at 37° C.	$\frac{43}{1}$	—
24 hours at 37° C.	$\frac{250}{6}$	—
(2) Prior to incubation.	$\frac{1}{15}$	$\frac{1}{15}$
5 hours at 37° C.	$\frac{7}{1}$	$\frac{7}{1}$
12 hours at 37° C.	$\frac{190}{3}$	$\frac{190}{3}$

Column 2 = acid not neutralised with marble. Column 3 = acid neutralised with marble.

If this lethal action of the bacillus pneumoniæ upon staphylococci be due to extracellular toxin formation, then a similar result should have been obtained in the following experiments, but it was not.

Two tubes of broth were inseminated with equal numbers of bacilli, powdered marble being added to one of them to neutralise any acid formed. After four days' incubation at body heat rapid filtration was performed through sterilised porous candles. Six cubic centimetres of each filtrate were obtained, of which half in each case was heated to 95° C. for 30 minutes to destroy any toxin present. To each of these four tubes three cubic centimetres of broth were added and equal numbers of staphylococci were introduced. After incubation at 37° C. for four and for eight hours the organisms in equal volumes of the several cultures were counted, with the following result:—

Period of incubation.	+A. +T.	+A. −T.	−A +T.	−A. −T.
4 hours	290	330	260	380
8 "	490	510	520	560

A. = acid. T. = toxin.

The differences are so slight as to be within the errors of experiment, and strong confirmation is afforded of the view that the bacillus of Friedlander does not form any extracellular toxin. It would thus appear that the increased mucous secretion is not due to the effects of extracellular toxin formed by the infecting bacilli, but to the mechanical irritation set up by the presence of these foreign bodies in the respiratory tract.

Action of nasal mucus.—Wurtz, Lermoyez, and others have expressed the view that the secretions of the various mucous and serous glands, such as those of the eye, the nose, the uterus, and the vagina, possess bactericidal properties. StClair Thomson and Hewlett[2] studied the action of mucus upon anthrax spores and found no proof of bactericidal action. Klemperer and Park and Wright[3] agreed that the nasal secretion has no bactericidal action. In view of this difference of opinion and the fact that an admirable opportunity presented itself of collecting a large quantity of nasal secretion the following experiment was decided on. From a case of acute nasal catarrh due to the bacillus of Friedländer nasal secretion was being poured out at the rate of from 15 to 20 cubic centimetres per hour. 10 cubic centimetres were collected without difficulty and were at once filtered through a sterile porous candle; 6·7 cubic centimetres of clear slightly alkaline fluid were thus obtained; four sterile test-tubes were taken. Into Tube *a* were placed 3·5 cubic centimetres of filtered nasal mucus; into Tube *b* 3·5 cubic centimetres of a 0·1 per cent. salt solution; into Tube *c* 3·2 cubic centimetres of filtered nasal mucus; and into Tube *d* 3·2 cubic centimetres of a 0·1 per cent. salt solution. Emulsions of 18-hour-old cultures of the bacillus of Friedländer and of staphylococcus aureus were then prepared. Tubes *a* and *b* were then inseminated with equal volumes of the emulsion of Friedländer's bacillus and Tubes *c* and *d* with equal volumes of the staphylococcal emulsions. By means of a sterile platinum loop equal amounts of the several mixtures

TABLE VIII.

A.—For Bacillus of Friedlander, Tubes a and b.

Volumes withdrawn—	Tube *a*, nasal mucus. Number of colonies.	Tube *b*, salt solution. Number of colonies.
After ½ hour.	902	944
" 1 "	520	136
" 2 hours.	800	1
" 4 "	Over 100,000	11,360
" 12 "	Uncountable.	Hundreds of thousands.
" 24 "	"	Uncountable but not so numerous as in Tube *a*.

B.—For Staphylococcus Aureus, Tubes c and d.

Volumes withdrawn—	Tube *c*, nasal mucus. Number of colonies.	Tube *d*, salt solution. Number of colonies.
On mixing.	1336	1896
After ½ hour.	1176	1363
" 1 "	1064	2808
After 2 hours.	1880	2552
" 4 "	908?	1020?
" 8 "	9376	4112
" 12 "	Uncountable.	Hundreds of thousands.

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[1] A thesis accepted for the M.D. degree (Branch II.), University of London.

[2] THE LANCET, Jan. 11th, 1896, p. 86.

[3] Journal of Laryngology, London, 1898, vol. x., p. 247.

ligament from the front he had no difficulty in enucleating it. There was considerable hæmorrhage, but he was fortunate in that the first suture included the uterine artery, and he had little trouble afterwards. He did not ligate the ovarian artery separately. He sutured up the rest of the cavity with silk sutures.

The PRESIDENT showed the following card specimens: (a) Epithelioma of the Uterus, 9; (b) Adeno-carcinoma of the Uterus, 3; (c) Sarcoma of the Uterus; (d) Fibroid of the Uterus, 14; (e) Adeno-myoma of the Uterus; (f) Carcinoma of the Ovaries; (g) Cyst of the Ovary, 6; (h) Dermoid, 2; (i) Pyosalpinx; (j) Tuberculous Tubes; (k) Tubal Pregnancy; and (l) Hypernephroma.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Sheffield on Nov. 20th, Dr. A. J. Wallace (Liverpool), the President, being in the chair.—Dr. J. W. Martin (Sheffield) exhibited a specimen of Extra-uterine Pregnancy occurring in the left Fallopian tube of a uterus bicornis unicellis. At the abdominal section the left Fallopian tube containing the gestation sac was seen to be attached to the left cornu of a double uterus. The cornu in size and shape resembled the normal corpus uteri. The right horn was represented by a solid structure four inches long and as thick as the little finger; it occupied the sac of a right-sided inguinal hernia. The round ligament and the right appendage could be recognised, but the attachment of the right Fallopian tube to the rudimentary cornu was indistinct.—Dr. J. E. Gemmell (Liverpool) showed a specimen of Primary Epithelioma of the Vagina occurring in a woman aged 40 years. The growth occupied the upper three-fourths of the posterior wall and was freely excised after a preliminary Schuchardt's incision had been made. Microscopically the structure was that of a squamous-celled growth with pronounced mitotic nuclear figures. This feature, together with the absence of cell-nests, pointed to its rapid growth.—Mr. Percival E. Barber (Sheffield) reported a case of Pelvic Hæmatocele due to Carcinoma, simulating Ectopic Gestation. The patient was a single woman, aged 37 years, who complained of severe abdominal pain following a period of three months' amenorrhœa. Under anæsthesia the pouch of Douglas bulged downwards and the examining finger passed readily through very friable tissue into a cavity from which escaped blood clot and broken-down débris. Microscopical examination showed it to be a columnar-celled carcinoma, probably secondary to adeno-carcinoma of the ovary.—Dr. W. E. Fothergill (Manchester) recorded two cases of Gynatresia. The first was that of a girl, aged 14 years, the subject of advanced phthisis, who came under observation on account of pain in the right side and two months' amenorrhœa. Menstruation began at the age of 13 years and was regular for a year, when it ceased. Examination revealed an abdominal tumour reaching to the umbilicus; its lower pole could be felt per vaginam, and to the extreme right of this a crescentic slit represented the os externum of the right half of a double uterus, through which menstruation had occurred for a year. The left half was atresic and distended by retained menstrual fluid which was evacuated. The symptoms were entirely due to the general malady, the hæmatometra being an accidental complication. In the second case, hæmatometra and hæmatocolpus were present in a girl aged 15 years who had never menstruated and had had no menstrual molimina. On evacuating the over-distended bladder an abdominal tumour extending above the umbilicus was defined. There was no vaginal orifice, and the perineum was bulged as by a fœtal head at the end of labour. An incision behind the meatus urinarius through one-third of an inch of very firm tissue evacuated about a gallon of the usual chocolate-coloured fluid. The edges of the vaginal mucosa were secured to the edges of the skin incision. Free drainage was insured by maintaining the sitting posture from the time the patient left the operating table.—Professor R. Favell (Sheffield) narrated a case of Obstructed Labour in a Bicornuate Uterus. The patient, a woman, aged 23 years, had had two children, the last 14 months ago. She gave a history of seven and a half months' amenorrhœa, with more or less constant abdominal pain, and latterly severe hæmorrhage. The physical signs resembled those of an ovarian tumour complicating pregnancy. Abdominal section showed the condition to be due to pregnancy in a uterus bicornis unicellis, the right horn of which was occupied by the fœtus; the left horn, the smaller, contained the placenta. Cæsarean section was performed through a transverse incision and recovery was uneventful.—Dr. Miles H. Phillips (Sheffield) related a case of Apparent Recurrence of a Cervical Fibroid in a patient, x-para, aged 48 years, from whom he had enucleated a cervical fibroid a year previously. The patient returned complaining of pelvic pain and bladder irritability. There was no vaginal discharge or loss of flesh. Examination revealed a bossy tumour in the anterior lip of the cervix in the site of the original growth. Abdominal total hysterectomy was carried out in the event of the tumour proving to be malignant. Microscopically it was to be regarded, however, as a fibro-myoma undergoing myxomatous degeneration.—Mr. Archibald W. Cuff (Sheffield) communicated a short note on the Spontaneous Closure of Ureteral Fistulæ.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Nov. 24th, Dr. F. J. Smith, Vice-President, being in the chair.—Dr. A. G. Bateman, secretary of the Medical Defence Union, read a paper entitled "Unqualified Practice and the Medical Act of 1858." He reviewed cases taken in the courts under the Act and urged that the medical and legal professions should strive to get proper recognition of the medical practitioners in this country and the abolition of the quack. Dentists and veterinary surgeons were protected against unqualified practice but apparently human beings were not of so much account as animals. Education of the public for their own safety and well-being was necessary.—Sir William H. Allchin (visitor), Dr. F. W. Hewitt, Mr. F. W. Sherwood (recorder of Worcester), Mr. A. D. Cowburn, Dr. S. B. Atkinson, Mr. H. Sweeney, Mr. M. Wimpfheimer, and Mr. R. Burrows, LL.D., joined in the discussion that followed.—Dr. Bateman having briefly replied, the meeting adjourned.

Reviews and Notices of Books.

Quain's Elements of Anatomy. Edited by EDWARD ALBERT SCHÄFER, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh; JOHNSON SYMINGTON, M.D. Edin., F.R.S., Professor of Anatomy in Queen's College, Belfast; and THOMAS HASTIE BRYCE, M.A., M.D. Edin., Lecturer in Anatomy, University of Glasgow. Eleventh edition. In Four Volumes. Part 1, Vol. III., Neurology. By E. A. SCHÄFER and J. SYMINGTON. With 361 illustrations, many of which are coloured. London: Longmans, Green, and Co. 1908. Pp. 421. Price 15*s.* net.

IN our issue of July 18th, p. 162, we mentioned the subjects which would be contained in the four volumes of "Quain's Elements of Anatomy" and we published a review of Vol. I. (Embryology, by Dr. T. H. Bryce). The next portion of the work in order of publication is the one at present under notice (Part 1 of Vol. III.), embracing the general structure and mode of development of the elements of the nervous system and the special structure of the spinal cord and brain. It will be followed by a second part containing the descriptive anatomy of the nerves and of the sense organs, the two parts together constituting a complete text-book of neurology.

The present volume has been edited and almost entirely rewritten by Professor Schäfer and Professor Symington who have undoubtedly taken the greatest care that the book should be worthy of their names. Needless to say, their labours have been eminently successful, for the book, besides embodying the most recent knowledge on the subject of which it treats, contains an extensive bibliography and is lavishly supplied with illustrations which would be difficult to surpass. The first section, containing an excellent account of the general structure and mode of development of the nervous system, is followed by a detailed account of the structural elements of the nervous system, in which the histological anatomy of nerve cells and nerve fibres, of neuroglia cells and fibres, of nerve endings, and of

That it is a powerful antiseptic is admitted, but a solution of at least 1 in 500 is required before an infecting organism can be destroyed. A few grains daily by the mouth are not likely to reach the nasal mucosa; local application in the form of insufflations proves much more efficacious and will control the excessive discharge. Upon the stomach in such doses as are usually taken in colds it exerts a disturbing influence, while the tinnitus of the ears and headache which it may produce even when combined with hydrobromic acid, are distinctly undesirable results. In the blood it circulates as the chloride, diminishing metabolism by increasing the stability of the oxyhæmoglobin and prejudicially affecting the white blood corpuscles, the phagocytes of the body. Its only utility is as an antipyretic, and fever in these cases is usually conspicuous by its absence. In brief, a more useless drug theoretically could hardly be employed. In practice, these prejudicial effects are masked and even overcome by judicious combination with ammonia, one of the most powerful of stimulators of the heart and respiration. By the influence of this drug upon the vasomotor system a slight balance is perhaps left upon the credit side. It must, however, be admitted that many eminent physicians hold a very different view of the utility of quinine.

The most useful drugs in shortening an attack are perhaps oil of cinnamon and oil of eucalyptus, but these must be used and not dallied with, the doses in the pharmacopœia are much too small. Both these drugs are antiseptic in action and are excreted by all the mucous membranes; they stimulate the heart both reflexly and directly and dilate the blood vessels, thus exerting valuable action upon the vasomotor system; in their action upon the bronchial tubes they are antispasmodic. The first of these drugs should be given in 20-minim doses in milk for each of the first three hours, then every other hour in 15-minim doses for two doses, then three or four hourly in 10-minim doses; if the patient can at once take to bed cure is usually complete in from 36 to 48 hours; in fact, I have seen some remarkable cures of very severe colds in even less time than this and have never seen any ill effects. Oil of eucalyptus requires more care in its use and a pure oil alone should be employed. It is not so pleasant to take as oil of cinnamon and is distinctly less agreeable to those around. To obtain the best results local application should be combined with administration by the mouth. This is done by the addition of five or six drops to boiling water and inhalation of the medicated steam through any suitable inhaler. By the mouth from 10 to 15 minims should be taken every three or four hours upon sugar; oil of the Pinus pumilionis can be also employed in an exactly similar way.

To assist the action of the skin and kidneys the following prescription by Burney Yeo is very useful at bed-time: tct. opii, ♏x.; vin. ipecac., ♏v.; sp. aether. nit., ʒi; liq. ammon. acet., ʒiij; aq. camp. ad ℥iss. Misce et fiat haustus, hora somni sumendus.

These measures may suffice to cut short an attack but should they not the subsequent course taken by the cold will depend upon the organism at work. A correct differential diagnosis will enable one to anticipate subsequent events and provide against them. Should the bacillus septus be at work no complications are as a rule to be anticipated and treatment of the early stages is chiefly symptomatic. Should the sore throat prove troublesome a gargle and spraying by means of an atomiser of the following composition is useful: pot. chlorat, gr. x.; liq. ferri perchlor., ♏ xv.; glycerini, ♏ xxx.; aq. ad ℥ i. Misce et fiat gargarisma; quartis horis utenda. In my experience this mixture ceases to be of benefit after about 24 hours and a change to the following is advisable: pot. chloraf, gr. x.; A. hydrochlor. dil., ♏ x.; syrup, ʒ i.; aq. ad ℥ i. M. et fiat gargarisma; quartis horis utenda. Should the *fourth* stage, that of thick tenacious mucus secretion, prove troublesome, intranasal douches will afford considerable relief. If the micrococcus catarrhalis be responsible for the attack the symptoms and complications may be much more severe. Headache, facial neuralgia, and cough may cause considerable discomfort; for the last of these I used to prescribe glycoheroin, but it did not prove very satisfactory, and I have found a new drug, pyramidon and its salts, much more useful; if there be any pyrexia five-grain doses in cachets every four hours of the pyramidon acid salicylate are perhaps best, but if the cough be bad and rhonchi are heard in the chest then similar doses at the same intervals of the acid camphorate are to be recommended.

Infection of the Eustachian tube and middle ear is by no means infrequent and may cause considerable discomfort. Applications of dry heat to the external ear are of service; the results of vaccine therapy though satisfactory are somewhat slow in appearing.

Should the trachea and bronchi be badly affected a tedious convalescence, with possible disturbance of the circulatory and digestive systems, is almost inevitable. Here a single injection of from 250,000,000 to 500,000,000 of a catarrhalis vaccine often acts in a manner which is almost marvellous; several cases of the most incessant cough have secured perfect freedom in less than 24 hours.

As regards the influenza bacillus I have nothing to say, as it appears to have been conspicuous by its absence during the past four years, and my consequent experience is *nil*. Horder, however, in the number of the *Practitioner* for May, 1908, records the results of treatment of a case of chronic ulcerative endocarditis due to the influenza bacillus by means of the corresponding vaccine. The favourable result therein obtained holds out good hopes that vaccine therapy might prove of service in dealing with acute attacks of catarrh due to this bacillus.

In the case of Friedländer's bacillus chronicity is most to be feared, but infection of the Eustachian tube and middle ear is by no means unlikely. Apart from vaccine therapy I know of no useful measure in dealing with these complications.

(*b*) *Of chronic colds.*—These all seem to be due to the bacillus of Friedländer. In each of two cases several operations had previously been performed on the nose and throat but without effecting relief from the perpetual cold for more than a few weeks; nevertheless, where spurs or deflections or polypi be present in the nose or enlarged tonsils in the throat, surgical interference should first be sought and adequate airway obtained. The most distressing symptom is a continual "stuffiness" of the nose. This condition is due not so much to excess of nasal secretion as to reflex turgidity of the nasal mucosa. That it is reflex in origin is shown by the instantaneous relief afforded various subjects on getting into a cold bath, by going out of a hot room into a cold, or by even leaning the head to one side. This would suggest that permanent relief might be secured by cauterisation of the mucosa over a certain area, as in the instance of one of the forms of asthma. So far as I am aware this has never been tried. Another way is by destroying the organisms which set up the reflex. Intranasal douches are useful but seem hardly sufficient for this purpose. Combination of this with injections of a vaccine prepared from the organisms isolated from the patient has proved very satisfactory.

Details of my work upon the vaccine-therapy of colds will now be given.

VIII.—THE VACCINE THERAPY OF COLDS.

A. Experiment. To determine whether there are opsonins for the organisms in question—viz., bacillus septus, micrococcus catarrhalis, and bacillus Friedländer.—Two specimens of blood serum were taken and each was divided into two portions, one of these being heated for one hour at 60° C. to destroy any opsonin which might be present. The sera, unheated and heated, were then employed as usual in opsonic determinations and films prepared. The counts obtained for 50 polymorphonuclear leucocytes were as follows:—

(*a*) Organism employed: micrococcus catarrhalis.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
250 in 50	0 in 50.	260 in 50	0 in 50

The presence of an opsonin for this organism, which is all destroyed by heating for one hour at 60° C., is thus demonstrated.

(*b*) Organism employed: bacillus septus.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
68 in 50	23 in 50	67 in 50	23 in 50

which proves the presence of an opsonin for bacillus septus, which, however, is *not all* destroyed by heating for one hour be designated the "supraliminal" or ordinary consciousness. In illustration of this conception the range of psychical processes is compared to the spectrum of the sun's rays. It is familiar that beyond the visible spectrum there are the heat rays at the red or lower end, the actinic and other rays at the violet end; so it is suggested that in the "conscious spectrum" there are subliminal faculties beyond the lower or organic end and beyond the higher or intellectual end. The object of Mr. Myers's work was to present and to examine the various kinds of evidence on which this general conception was based.

The first subject considered in the light of this view of conscious activities is that of "Disintegrations of Personality." A psychological study is given of certain forms of mental alienation, including those of the "fixed idea," of double personality, and of secondary personality. Next, genius is considered, and the ingenious hypothesis is offered that the inspiration of genius is due to the capacity of utilising a wider range of faculties than in the ordinary person and to "subliminal uprushes" into actual consciousness. Various personal experiences of great men are quoted in support of this idea. Genius is thus supposed to be due to the subliminal mentation coinciding with, and supplementing, the supraliminal without changing the apparent phase of personality. Hypnotism, on the other hand, is regarded as the result of subliminal operations changing the apparent phase of personality from the state of waking in the direction of trance, while the phenomena called sensory or motor automatism result when the subliminal forces itself up through the supraliminal without amalgamation as in crystal vision and automatic writing.

A chapter is devoted to a study of sleep and dreams and an explanation of the genesis of dreams in the light of the above general conception is developed. It is suggested that the sleeping consciousness is capable of telæsthetic and telepathic properties, perhaps to a greater degree than the waking. It is further assumed that human life possesses two aspects, a material phase, to which the organism reacts, and a spiritual or cosmic phase. The subliminal self is conceived as in the main directing the sleeping period in which the organism may draw in energy from the spiritual world or "expatiate in the exercise of supernormal powers—telepathy, telæsthesia, ecstasy."

The subject of hypnotism is next considered at some length, the history from the days of Mesmer to the present time is lucidly outlined and the nature of the phenomena associated with the hypnotic state is discussed. Mr. Myers was in the main in agreement with the Bernheim or Nancy School, and regarded Charcot's work on hypnotism as having retarded rather than helped its progress. He recognised the paramount importance of suggestion in regard to hypnosis and defined suggestion in terms of his own hypothesis as "successful appeal to the subliminal self." He believed that the possibilities of advance opened up by hypnotism were very great, not only as a therapeutic agent but also as a means for educating and evolving human faculties by enlarging the sphere of application of subliminal mental activities.

Sensory automatisms, which are defined as "the products of inner vision or inner audition externalised into quasi-percepts," form the subject of the next chapter. Various phenomena, such as those of linked sensation or synæsthesiæ, memory images, hallucinations, and the appearance of phantasms or visitations, are considered. The importance of telepathy in connexion with some of these phenomena is frequently emphasised and two alternative views are offered to explain the phenomenon of the appearance of phantasms, one that of "telepathic impact," the other that of "psychical invasion," which supposes that the agent in some way causes a modification of some definite portion of space in such a way as to give the impression of an apparition to one or more percipients.

The more complex, though cognate, subject of phantasms of the dead forms the subject of the next chapter. The question is obviously one of paramount importance in connexion with the main thesis of the survival of personality after bodily death. The conditions to which such phenomena must conform in order to be attributable to the influence of a discarnate mind are laid down. Various recorded instances are analysed and it is contended that the general nature of such manifestations is in conformity with those of spontaneous telepathy during life and with those of phantasms of the living and that they fall into three groups: actual apparitions, emotional and motor manifestations, and definite intellectual messages.

Motor automatism, or the conveyance of messages by movements of limbs, hand, or tongue initiated by inner motor impulses beyond the conscious will, forms the subject of the next chapter. In this connexion muscle reading (often wrongly called mind reading), automatic writing, and automatic speech are discussed in detail and the view is expressed that such phenomena may be due to an actual "psychical invasion" of the percipient by some other personality. This idea is further developed in the next chapter which is devoted to a consideration of trance, possession, and ecstasy. Possession is thus regarded as a more developed form of motor automatism in which there is a more or less complete substitution of personality. Some important recorded cases of possession are discussed. In an epilogue the relation of these phenomena to religious beliefs is discussed and hope is expressed of the future advances to be made by careful research on the lines of inquiry outlined in this book.

It is impossible to study the work of the lamented and gifted author without admiration for his enthusiasm and for the careful, scientific, and laborious analysis to which he subjected the complex data at his disposal. The charm of his literary style, the ingenious character of his speculations, and the fascination which the subject of the survival of personality has always possessed for the thoughtful minds of all ages combine to render the volume one of great interest. The result is to leave us in a receptive, though not a convinced, state of mind in regard to many of the interesting phenomena and speculations with which it is concerned.

The Story of a Lifetime. By Lady PRIESTLEY. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1908. Pp. 334. Price 12*s.* 6*d.*

Lady Priestley tells us in the preface to her book that it was originally written some five years ago solely for family reading. A few copies only were printed but the book soon became known and many applications were made both to see the book and to review it. At first Lady Priestley refused to make it public but at length she yielded, and we congratulate her on her resolve; for the result is that the reading public is now in possession of a book of reminiscences which are, unlike some reminiscences, not boring, not twaddly, but full of interest, especially to those who take delight in literary or artistic matters.

Eliza Priestley was a twin daughter of Robert Chambers, the well-known Edinburgh publisher, so she was brought up in the Edinburgh of the "forties" and "fifties" and was a member of the remarkable literary and artistic circle of those days which then made Edinburgh famous. John Brown, Noel Paton, George Combe, Simpson, Aytoun, Theodore Martin, are only a few among the names which appear in Lady Priestley's recollections of her childhood. Bulwer Lytton, immortalised as much by "George de Barnwell" as by "Eugene Aram," was a frequent visitor at the

2, 6, and 9 were identical in all their reactions. Despite this the vaccine employed for Case 1 with complete success was quite inefficient when used upon Case 9. Before injection with 300,000,000 dead organisms the index stood at 1·45, a week later it was only 1·0, yet a week later it was only 1·36. This might, of course, have indicated a very long negative phase, but a repetition of the injection with a like dose of a vaccine prepared from the patient's own organism gave a quite satisfactory result.

(*d*) *The results of vaccine therapy.*—(1) In chronic colds; (2) in *acute colds.* *15 of the cases underwent vaccine* therapy. Chronic colds: Cases 1, 16, 31, 34, and 42. Acute colds: Cases 8, 9, 17, 19, 29, 30, 32, 37, 38, and 41. The results may be tabulated thus.

1. Chronic Colds.

CASE 1.—
nasal catarrh for 12 years with about 20 acute
—21 months.
—Eight.

Result.—There was disappearance of the bacillus of Friedlander after three injections. Complete immunity from acute attacks secured for 15 months by means of injections of the vaccines of the several "cold organisms, then one acute attack due to the micrococcus catarrhalis.

CASE 16.—
Description.—Chronic naso-pharyngeal and tracheal catarrh for 17

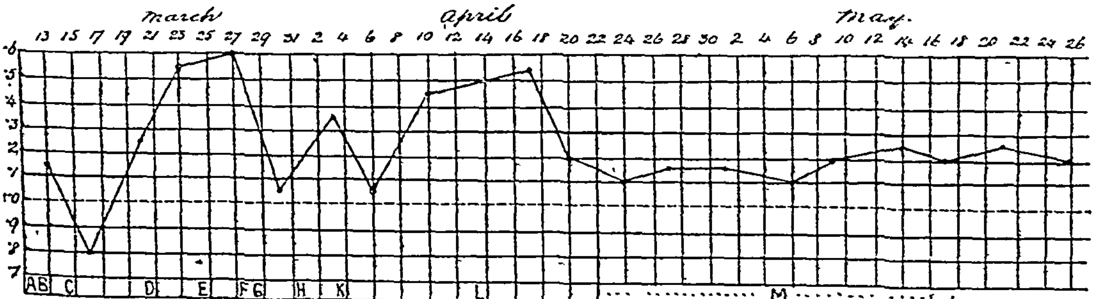
TABLE XIV.—*Sugar Reactions of Nine Strains of Friedländer's Bacillus.*

	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			No. 6.			No. 7.			No. 8.			No. 9.		
Days	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7
Glycerine	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—
Glucose...	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Levulose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Galactose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Mannite	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dulcite	AG	—	—	AG	—	—	A	—	—	—	—	A	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Saccharose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Lactose	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Maltose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Raffinose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dextrin...	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Inulin	AG	—	—	AG	—	—	No change.			—	—	A	A	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—

A = Acid. G = Gas.

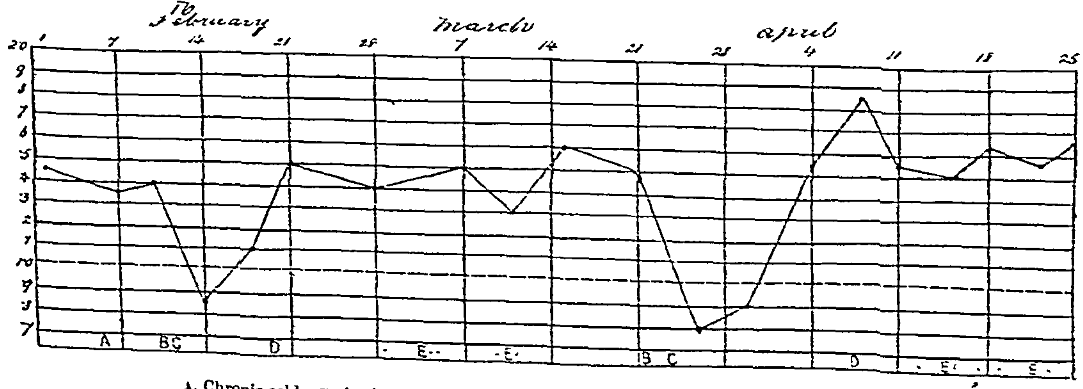
OBSERVATIONS UPON THE OPSONIC INDEX TOWARDS THE BACILLUS OF FRIEDLÄNDER OF TWO CASES OF CHRONIC NASAL CATARRH DUE TO THIS ORGANISM.

CHART 1 (CASE 1).



A, Free from acute attack. B, Acute attack came on. C, Negative phase. D, Positive phase. E, Chronic cold. F G, Acute attack with negative phase. H, Better. K, Another acute attack. L, Much better. M, Truly chronic condition of nasal catarrh.

CHART 2 (CASE 16).



A, Chronic cold. B, Acute attack. C, Negative phase. D, Positive phase. E, Chronic cold.

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) SPARTAN BISCUITS; AND (2) APAX BISCUITS.

(HUNTLEY AND PALMER, READING.)

1. THE Spartan biscuit represents a form of food which has been considerably enriched with protein. Our analysis shows that the protein amounts to 21·16 per cent., the other constituents representing ordinary wheaten flour. The mineral matter amounted to 1·30 per cent. and the moisture to 3·40 per cent. The biscuit is satisfactorily dry and crisp and is thoroughly cooked. As a source of food containing a trustworthy proportion of nutrient substance the biscuits are satisfactory, providing reparative materials as well as those elements which support the energy of the body. 2. Apax biscuits also represent a high protein value, the protein amounting, according to our analysis, to 27·34 per cent. This addition obviously diminishes the proportion of carbohydrates, a fact which has suggested their use by persons inclined to corpulency. Under the microscope branny particles were easily observed. The Apax biscuit is undoubtedly nourishing while it is also calculated to help peristaltic action.

COLVO.

(RISICCOL, LIMITED, 31 AND 32, BUDGE-ROW, LONDON, E.C.)

Colvo is the name given to a powder which contains, according to our analysis, 40·50 per cent. of cod-liver oil. This large percentage of oil present in a preparation which is in the form of powder, dry and almost dusty, is remarkable. The absorbent is magnesia. The powder may be administered in many ways without offending the susceptibilities of those who find ordinary cod-liver oil repulsive. We have also examined biscuits which, according to our analysis, contained over 20 per cent. of oil, the oil again being obscured in the same way. The preparations represent a satisfactory attempt at meeting the chief objection to a well-known valuable therapeutic agent.

GINORA (BITTERS).

RAYS, LIMITED, OVAL-STREET, GREAT PORTLAND-STREET, LONDON, W.)

According to our analysis, and chemically speaking, this is a dilute alcoholic solution of well-known bitters. It contains 8·51 per cent. of extractives, consisting chiefly of bitter principles. The alcohol amounted to 17·17 per cent. per volume. Like many well-known bitters it encourages the secretion of digestive juices and stimulates the appetite.

CAPE COLONY WINES AND BRANDIES.

(HENRY C. COLLINSON, LIMITED, 9, CASTLE-STREET, CAPE TOWN; LONDON AGENCY, 38, MINCING-LANE, E.C.)

We have from time to time had occasion to examine the wines produced in Cape Colony, and it is quite evident that the methods of cultivation there are now meeting with a success approaching that obtained in other countries. We have received, for example, a series of samples from Cape Town recently which comprised wines of the type of Rhine wines, Medoc wines, Burgundy wines, Oporto wines, and Jerez wines, and amongst these also we may mention some brandies which are promising in character. We cannot deal with all the samples referred to but will select a few which we regard as good examples. The wine known as Hermitage, for example, is distinctly of the Bordeaux character, light as regards alcohol, non-acid, and pleasant to the taste. On analysis this wine gave the following results: alcohol by volume, 13·43 per cent.; extractives, 2·32 per cent.; mineral matter, 0·22 per cent.; volatile acidity reckoned as acetic acid, 0·12 per cent.; and fixed acidity reckoned as tartaric acid, 0·525 per cent. Pontac again closely resembles a burgundy—that is, a robust, almost purple-coloured, wine with good "flower," as connoisseurs would say. It contained 17·17 per cent. by volume of alcohol, 3·65 per cent. of extractives, a volatile acidity of 0·18 per cent. calculated as acetic acid, and a fixed acidity of 0·55 per cent. calculated as tartaric acid. The Kimberley Club sherry and the Cape port we cannot endorse as having the æsthetic characters of the famous wines of Jerez and Oporto respectively, although we have no doubt that they are pure genuine wines. Drakenstein we regard favourably as an agreeable light wine resembling Rhine wine, though somewhat heavier in respect of alcohol, of which it contained 14·37 per cent. by volume. The extractives amounted to only 1·61 per cent., the volatile acidity to 0·10 per cent., and the fixed acidity to 0·54 per cent. As to Cape brandies, those known as V.S.O.P. and fine old liqueur are excellent. They have the characters of a well-matured wine spirit, and analysis shows a remarkably high proportion of ethers. The amounts as a matter of fact varied from 200 to 212 parts per 100,000 parts of alcohol present. The quantity of furfural was comparatively small. The V.S.O.P. showed greater age than the other samples and was really an excellent brandy. The three star brandy was less classic in character and compared with the others possessed a flavour and odour which indicated youth rather than age. On the whole, the wine products of Cape Colony are developing along satisfactory lines and their quality and characters are improving so obviously that before long they may dare to compete with the similar products of historic countries.

LACTOBACILLINE.

(LA SOCIÉTÉ "LE FERMENT," 77, RUE DENERT-ROCHEREAU, PARIS.)

We have received from the above Société "Le Ferment" samples of their compressed lactobacilline tablets which are said to contain two species of the lactic germ, one of Eastern and the other of European origin. In other words, lactobacilline is a pure culture of lactic organisms which may be employed in various forms—tablets, fluid, and so forth—in the treatment of gastro-intestinal affections. The preparations are the practical outcome of Metchnikoff's view that nascent lactic acid prevents a putrefactive action in the intestine and therefore wards off certain toxic effects which otherwise may arise. In a way, therefore, lactobacilline may be said to have an antiseptic action, inasmuch as the lactic organisms contained in it develop lactic acid which is antagonistic to the putrefactive organisms of the colon. We found the tablet to be active, for on cultivating some of it crushed in milk, the transformation of the milk sugar into lactic acid was abundantly proved.

AMBORA SOAPS.

(THE AMBORA SOAP WORKS, 101, FINSBURY-PAVEMENT, LONDON, E.C.)

The presence of free ammonia in soap is certain to assist very materially its action as a detergent and is especially applicable in cases where coarse dirt is required to be removed. Ambora, according to our examination, is a white soap paste, giving off a strong smell of ammonia. It acts most effectually in removing greasy impurities however gross. We also examined a toilet ambora soap which is particularly applicable for use in hard water. The list also includes an ordinary bar soap conspicuous for its grease-removing qualities, and a disinfectant soap containing an agreeable antiseptic oil. The products are all excellent hygienic agents.

THE HERCULES PATENT MEAT JUICE PRESS.

(AGENTS, 85, QUEEN VICTORIA-STREET, LONDON, E.C.)

This handy little press, while compact, is also, we find, most effective. It consists of a small screw press, the pressure being exerted upon a series of corrugated discs, between which small pieces of raw meat are placed. The

2, 6, and 9 were identical in all their reactions. Despite this the vaccine employed for Case 1 with complete success was quite inefficient when used upon Case 9. Before injection with 300,000,000 dead organisms the index stood at 1·45, a week later it was only 1·0, yet a week later it was only 1·36. This might, of course, have indicated a very long negative phase, but a repetition of the injection with a like dose of a vaccine prepared from the patient's own organism gave a quite satisfactory result.

(d) *The results of vaccine therapy.*—(1) In chronic colds; (2) in acute colds. 15 of the cases underwent vaccine therapy. Chronic colds: Cases 1, 16, 31, 34, and 42. Acute colds: Cases 8, 9, 17, 19, 29, 30, 32, 37, 38, and 41. The results may be tabulated thus.

1. *Chronic Colds.*

CASE 1.—

Description.—Chronic nasal catarrh for 12 years with about 20 acute exacerbations every year.

Duration of treatment.—21 months.

Number of injections.—Eight.

Result.—There was disappearance of the bacillus of Friedländer after three injections. Complete immunity from acute attacks secured for 15 months by means of injections of the vaccines of the several "cold" organisms, then one acute attack due to the micrococcus catarrhalis.

CASE 16.—

Description.—Chronic naso-pharyngeal and tracheal catarrh for 17

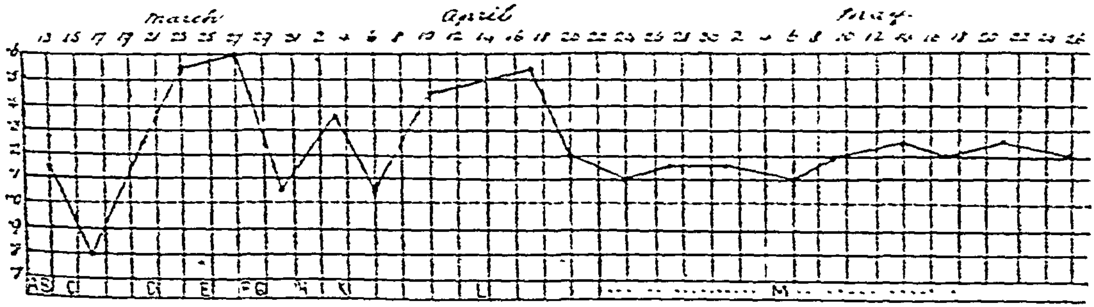
TABLE XIV.—*Sugar Reactions of Nine Strains of Friedländer's Bacillus.*

	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			No. 6.			No. 7.			No. 8.			No. 9.		
Days	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7
Glycerine	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—
Glucose...	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Levulose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Galactose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Mannite	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dulcite	AG	—	—	AG	—	—	A	—	—	—	—	A	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Saccharose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Lactose	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Maltose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Raffinose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dextrin	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Inulin	AG	—	—	AG	—	—	No change.			—	—	A	A	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—

A = Acid. G = Gas.

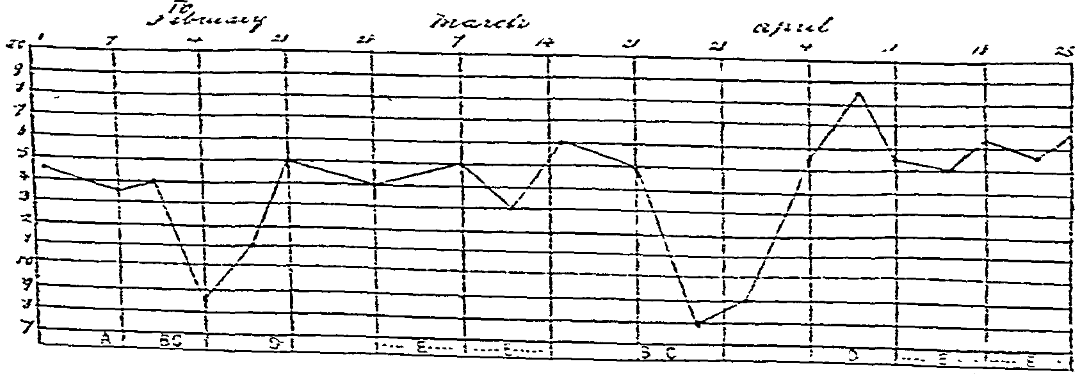
OBSERVATIONS UPON THE OPSONIC INDEX TOWARDS THE BACILLUS OF FRIEDLÄNDER OF TWO CASES OF CHRONIC NASAL CATARRH DUE TO THIS ORGANISM.

CHART 1 (CASE 1).



A, Free from acute attack. B, Acute attack came on. C, Negative phase. D, Positive phase. E, Chronic cold. F G, Acute attack with negative phase. H, Better. K, Another acute attack. L, Much better. M, Truly chronic condition of nasal catarrh.

CHART 2 (CASE 16).



A, Chronic cold. B, Acute attack. C, Negative phase. D, Positive phase. E, Chronic cold.

minimum, while avoiding any heating effects, as would be unavoidable in the case of a continued operation. The self-induction coil is directly coupled to a resonance coil R, tuned to the former, and from the terminals of which the current is supplied to eight x ray bulbs, which are made to give out a uniform and steady radiation, generating at two metres' distance, in accordance with Dr. Holzknecht's experiences, a homogeneously penetrative field of radiation of very high intensity. As seen from Fig. 2 each of the x ray bulbs constructed by Bauer comprises two cathodes and a double anti-cathode so as to give out two beams of rays and to cause in the case of an eight-fold operation, as represented in the figure, an aggregate of 16 beams to act on the body. The apparatus, as constructed by a well-known German electrical company, comprises a closed under-frame supporting the two coils R and S, and from which part of the induction coil is allowed to project. The point of the resonance coil during operation gives out electrical discharges of extraordinary intensity, being 1·5 metres in length and of the thickness of an arm. The operator obviously is able to increase the evolution of energy by adding further Leyden jars. The results so far obtained seem to be uniformly satisfactory, and though a definite judgment cannot yet be formed the new process seems to justify the most sanguine hopes.

Berlin. ALFRED GRADENWITZ.

MEDICINE AND THE LAW.

The Engagement of Nurses for Confinements.

IN the Bristol county court a few weeks ago a case was decided by his honour Judge Austin which is of considerable importance to nurses. The facts of the case were as follows. In January last the defendant's wife wrote to the plaintiff, a certificated monthly nurse, that she was expecting to have a baby about the beginning of June and asking her if she would be free at that time. Correspondence passed by which the date at which the plaintiff would be wanted was fixed as "about the last week in May, or the beginning of June," and the plaintiff was definitely engaged for a month commencing at that period. In April the defendant's wife suffered from kidney trouble, and on the advice of a specialist labour was induced on April 28th and the baby was born on May 2nd. At that date the plaintiff was engaged on another case and another nurse had to be engaged. On May 4th the defendant wrote to the plaintiff informing her of the premature birth of the child and telling her "that her services would not be required next month." To this the plaintiff replied that she would see what could be arranged and would try to obtain another case. She was, however, unable to do so, and at the end of June wrote to the defendant informing him of the fact and claiming her agreed fees for the month. As the defendant would not pay the plaintiff brought an action against him, claiming as damages for the breach of her contract the amount of her fees. At the hearing it was argued on her behalf that the contract was an absolute contract for the nurse to keep herself free to render certain services for a month from the agreed time and that she had fulfilled her part of the contract by keeping herself free. It was further argued that the happening of the birth of the child at an earlier date was not such an occurrence as would render the performance of the contract impossible, and that the contract being a positive one there could not be imported into it a condition that because of the birth not happening at the exact date expected the defendant was freed from his liability to pay. The case of Heine Bay Company *v.* Hutton was quoted in furtherance of this argument. This was a case arising out of the postponement of the naval review at Spithead in 1902 owing to the illness of the King. In this case the plaintiffs agreed to let the defendant a pleasure steamer "for the purpose of viewing the naval review and for a day's cruise round the fleet," and it was held that the plaintiffs were able to recover, as the risk was the defendant's alone, and, secondly, the happening of the naval review was not the sole basis of the contract, so that there had not been a total failure of consideration or a total destruction of the subject matter of the contract. Another argument was that if nurses are going to be placed in the position of being liable to lose the whole of their fees through the happening of events over which they have no control it will work a very great and serious hardship and make it almost impossible for them to earn a living at all. The judge, however, held that the basis of such contracts must be taken to be the birth of the child about the calculated time, and that as in this case this had taken place beforehand, owing to no fault of either party, the contract was off at the date of the birth, and he gave judgment for the defendant with costs. It is submitted that his honour was correct in this view for the following reasons. First, as regards the happening of the birth being the basis of the contract, this must be so, since but for the mutual expectation of the birth of the child at the calculated time there would have been no contract whatever made. Once this is admitted the rest follows, for the law relating to contracts of an executory nature has been settled by a well-known case, Taylor *v.* Caldwell, the principle of which is that where the performance of a contract becomes impossible from some cause for which neither party is responsible and the party sued has not warranted that the event, the non-occurrence of which has caused the contract not to be capable of performance, should take place, then both parties are relieved from the performance of the contract. This has been extended by recent cases, notably Krell *v.* Henry, a case arising out of the failure of the procession in London to take place on the advertised date in June, 1902, owing to the King's illness. In this case the defendant had agreed in writing to take rooms in Pall Mall for the dates on which the procession had been fixed, but no express reference to the procession was made, though both parties were aware of the reason for the rooms being taken on those dates and a deposit was paid by the defendant. As the procession did not take place the defendant refused to pay the balance for the rooms, and it was decided in the Court of Appeal by Lords Justices Vaughan Williams, Romer, and Stirling that the plaintiff was not entitled to receive the balance. In the course of his judgment Lord Justice Vaughan Williams said: "I think you have to ascertain, not necessarily from the terms of the contract, but, if required, from necessary inferences drawn from surrounding circumstances recognised by both contracting parties, what is the subject of the contract and then to ask the question whether that substantial contract needs for its foundation the assumption of the existence of a particular state of things. If it does this will limit the operation of the general words, and in such case, if the contract becomes impossible of performance by reason of the non-existence of the state of things assumed by both contracting parties as the foundation of the contract, there will be no breach of the contract thus limited." Also it was decided that "each party must rest in the position in which he is found to be when the event occurs which makes the contract impossible of performance, unless there is something special in the terms of the contract which gives one or other of the parties a different right." On these grounds therefore it must be taken to be correct law that in the event of the birth of a baby at a time other than that arrived at by calculation, then, subject to the following qualifications, the nurse will not be able to recover by action any fees at all unless she is free and able to render the usual services. The qualifications are, first, that if the happening of the birth of the child at a wrong date was the direct result of some serious act of carelessness, wrongful behaviour, or negligence on the part of the patient, or probably also of the patient's husband, the nurse would be able to recover her fees; secondly, she would also be able to recover her fees if she had specially contracted that she was to have her fees unless prevented from attending to the case through some fault of her own. This last appears to be the only way out of a difficulty which certainly does entail hardship on nurses, and the suggestion put forward is that on being engaged for a case the nurse should write a letter to the prospective patient containing a clause on the following lines:—

> I wish to say, also, that as it is impossible to be certain in these cases of freedom from accidents I shall expect, as is usual, to receive my fees (or part of them) if from any cause the baby is born at a different time from that which we expect, and I am thereby prevented from coming to you.

This would protect nurses from losing all their fees in cases of accidents to their patients, miscarriages, or miscalculations of dates, but would not cover acts of negligence on their parts or help them if they choose to take overlapping cases. Their only other remedy is to rely upon their patients' generosity.

B. In chronic colds.—Of the four cases of truly chronic colds the treatment of one was recognised at the beginning as likely to prove very difficult from the presence of complications and probable secondary infections. It is still under treatment, and I am hopeful of ultimate success. One has been absolutely cured, a second practically so, and the third greatly benefited, and in all acute exacerbations have been obviated. Injections in the case of chronic colds should, I think, be controlled by determinations wherever possible of the opsonic index; if the condition be one of chronic tracheitis this can hardly be done as the infection is usually a mixed one, unless the index be taken towards the micrococcus catarrhalis alone. Doses of 500 millions of a vaccine of the mixed organisms obtained from a 12-hours' culture on blood-agar of the tracheal mucus may be employed in cases of chronic tracheitis.

In chronic nasal catarrh secondary infection may be present, but the first thing to be done is to get rid of the bacillus of Friedländer by injections controlled by the index and then to deal with the secondary infection.

It may here be remarked parenthetically that it is quite possible that in certain cases of chronic nasal catarrh with involvement of the various accessory sinuses the bacillus of Friedländer may have disappeared by the time the case is seen and secondary infection by staphylococci, streptococci, pneumococci, &c., alone be present. I have not yet met with such a case, but am quite prepared to do so.

SUMMARY.

1. It has been shown that there are at least five organisms capable of the production of an attack of acute nasal catarrh —viz.: (1) the bacillus influenzæ; (2) the bacillus septus; (3) the bacillus of Friedländer; (4) the micrococcus catarrhalis; and (5) the micrococcus paratetragenus. 2. These may be present in the naso-pharyngeal space in a certain percentage of cases which exhibit no pathological features; increase of virulence and lowered resistance of the tissues may then light them up into activity. In other cases the infection is one from without. 3. Each organism produces its own type of cold and a differential diagnosis of the organism is possible from a consideration of the clinical features; this is more difficult should the infection be à multiple one. 4. This differential diagnosis is of considerable value both in prognosis and in treatment. 5. Chronic nasal catarrh is probably always due to infection by the bacillus of Friedländer, unless the Eustachian tube and middle ear be involved by the micrococcus catarrhalis; chronic tracheal catarrh to infection by the micrococcus catarrhalis or micrococcus paratetragenus to which secondary infection by staphylococci, streptococci, pneumococci, and other pathogenic organisms may be superadded. 6. For infection local defect of opsonin and for cure increase of opsonin are probably necessary conditions. 7. By means of the injection of the corresponding bacterial vaccines an attack of acute cold due to any given organism or organisms can be considerably shortened and complications be probably prevented. 8. In a similar manner chronic infections may be cured. 9. By injection of the vaccines of the several organisms in appropriate doses and at appropriate intervals considerable if not complete immunity against future attacks of acute cold may be secured. In those who are very susceptible and fall victims to every epidemic that may occur, the best procedure probably is systematic immunisation every four to six months against all the "cold" organisms and special immunisation against the particular organism or organisms which may be responsible for the appearance of subsequent epidemics against which protection is desired.

Wimpole-street, W.

THE ROYAL DEVON AND EXETER HOSPITAL, EXETER: ALTERATION OF RULES.—At a special meeting of the court of governors of the Royal Devon and Exeter Hospital held on Nov. 26th it was decided to alter the statutes of the institution so as to enable the anæsthetists, on their retirement at the expiration of their five years' service, to be eligible for re-appointment up to the age of 50 years. It was further determined that "the medical registrar and pathologist shall retire at the expiration of five years from the date of his appointment but shall be eligible for re-election up to the age of 50 years."

PROPHYLAXIS IN ACIDOSIS FOLLOWING ANÆSTHESIA.

BY F. HERBERT WALLACE, M.R.C.S. ENG., L.R.C.P. LOND.,
ANÆSTHETIST TO THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM;

AND

E. GILLESPIE, M.B. GLASG., F.R.C.S. ENG.,
SURGICAL REGISTRAR, PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM.

OWING to the prominence which has been given lately to the condition of acidosis occurring after the administration of anæsthetics, we have during the last six months carried out an investigation, thanks to the generosity of our surgical colleagues, with a view to ascertain the value of the two remedies suggested—sodium bicarbonate by Beesley and glucose by Beddard. The first series of cases (127) was taken in order to found a basis for comparison with the treated cases and also with a view of establishing the personal equation, both in the administration of anæsthetics and in the examination of the urine. The hospital routine method of preparation—1 ounce of castor oil the night before and a soap enema on the morning of the operation—was followed. The urine, before, in each case was that passed just before operation, and in the case of the women it was removed by catheter. The after specimen was the first passed after the operation, the women being again catheterised. The urine was examined 18 hours later. The anæsthetic, duration of operation, and after-results, especially vomiting, were noted. The method of determining the presence of acetone was that described by Jackson Taylor and confirmed by Weyl's reaction.

Vomiting.—The terms primary and secondary vomiting are intended to convey—primary, any sickness occurring in the first 12 hours after operation, and secondary, any sickness occurring later. Marked vomiting means sickness lasting more than 24 hours.

First Series:—

	No. of cases.	Per cent.
Total number	127	—
Cases showing acetone in urine—		
Before operation	32	25·2
After operation	78	60·4
Cases of primary vomiting	69	54·3
Cases of secondary vomiting	49	30·0
Of which acetone was present in	39	89·0
Marked vomiting lasting over 24 hours	17	13·4
The acetone reaction was obtained in	15	89·0

The two cases in which no reaction was obtained were both of pyonephrosis—one case was of nephrectomy and the other cystoscopy; the sickness in each case lasted 30 hours. 42 per cent. of the patients with albumin in their urine after operation passed acetone. 15·8 per cent. of these had secondary vomiting—in one case of cataract in a boy lasting 72 hours, assuming a typical case of acid poisoning (details will be found in Case 3). There were 10 cases of secondary vomiting without acetone in the urine. Only 2 of these were marked—the aforementioned cases of pyonephrosis. Cases in which acetone was present in the urine after operation without any symptoms were 49, or 30 per cent. There were 47 septic cases; of these, 30 had traces of acetone after operation and *10* passed acetone before and after operation. Of the malignant cases, 8 had acetone after operation and 4 passed acetone before and after operation.

Second series.—These patients were treated with half-drachm doses of sodium bicarbonate at four-hourly intervals —in all half an ounce—the last dose being given four hours before operation.

	No. of cases.	Per cent.
Total number	73	—
Cases showing acetone in urine—		
Before operation	15	25·4
After operation	39	53·4
Cases of primary vomiting	49	67·0
Cases of secondary vomiting	25	34·2
Acetone was present	22	88·0
Marked vomiting	9	12·0
Acetone reaction obtained in	8	88·0

(The single exception being a case of varicose veins.)

minimum, while avoiding any heating effects, as would be unavoidable in the case of a continued operation. The self-induction coil is directly coupled to a resonance coil R, tuned to the former, and from the terminals of which the current is supplied to eight x ray bulbs, which are made to give out a uniform and steady radiation, generating at two metres' distance, in accordance with Dr. Holzknecht's experiences, a homogeneously penetrative field of radiation of very high intensity. As seen from Fig. 2 each of the x ray bulbs constructed by Bauer comprises two cathodes and a double anti-cathode so as to give out two beams of rays and to cause in the case of an eight-fold operation, as represented in the figure, an aggregate of 16 beams to act on the body. The apparatus, as constructed by a well-known German electrical company, comprises a closed under-frame supporting the two coils R and S, and from which part of the induction coil is allowed to project. The point of the resonance coil during operation gives out electrical discharges of extraordinary intensity, being 1·5 metres in length and of the thickness of an arm. The operator obviously is able to increase the evolution of energy by adding further Leyden jars. The results so far obtained seem to be uniformly satisfactory, and though a definite judgment cannot yet be formed the new process seems to justify the most sanguine hopes.

Berlin. ALFRED GRADENWITZ.

MEDICINE AND THE LAW.

The Engagement of Nurses for Confinements.

IN the Bristol county court a few weeks ago a case was decided by his honour Judge Austin which is of considerable importance to nurses. The facts of the case were as follows. In January last the defendant's wife wrote to the plaintiff, a certificated monthly nurse, that she was expecting to have a baby about the beginning of June and asking her if she would be free at that time. Correspondence passed by which the date at which the plaintiff would be wanted was fixed as "about the last week in May, or the beginning of June," and the plaintiff was definitely engaged for a month commencing at that period. In April the defendant's wife suffered from kidney trouble, and on the advice of a specialist labour was induced on April 28th and the baby was born on May 2nd. At that date the plaintiff was engaged on another case and another nurse had to be engaged. On May 4th the defendant wrote to the plaintiff informing her of the premature birth of the child and telling her "that her services would not be required next month." To this the plaintiff replied that she would see what could be arranged and would try to obtain another case. She was, however, unable to do so, and at the end of June wrote to the defendant informing him of the fact and claiming her agreed fees for the month. As the defendant would not pay the plaintiff brought an action against him, claiming as damages for the breach of her contract the amount of her fees. At the hearing it was argued on her behalf that the contract was an absolute contract for the nurse to keep herself free to render certain services for a month from the agreed time and that she had fulfilled her part of the contract by keeping herself free. It was further argued that the happening of the birth of the child at an earlier date was not such an occurrence as would render the performance of the contract impossible, and that the contract being a positive one there could not be imported into it a condition that because of the birth not happening at the exact date expected the defendant was freed from his liability to pay. The case of Herne Bay Company *v.* Hutton was quoted in furtherance of this argument. This was a case arising out of the postponement of the naval review at Spithead in 1902 owing to the illness of the King. In this case the plaintiffs agreed to let the defendant a pleasure steamer "for the purpose of viewing the naval review and for a day's cruise round the fleet," and it was held that the plaintiffs were able to recover, as the risk was the defendant's alone, and, secondly, the happening of the naval review was not the sole basis of the contract, so that there had not been a total failure of consideration or a total destruction of the subject matter of the contract. Another argument was that if nurses are going to be placed in the position of being liable to lose the whole of their fees through the happening of events over which they have no control it will work a very great and serious hardship and make it almost impossible for them to earn a living at all. The judge, however, held that the basis of such contracts must be taken to be the birth of the child about the calculated time, and that as in this case this had taken place beforehand, owing to no fault of either party, the contract was off at the date of the birth, and he gave judgment for the defendant with costs. It is submitted that his honour was correct in this view for the following reasons. First, as regards the happening of the birth being the basis of the contract, this must be so, since but for the mutual expectation of the birth of the child at the calculated time there would have been no contract whatever made. Once this is admitted the rest follows, for the law relating to contracts of an executory nature has been settled by a well-known case, Taylor *v.* Caldwell, the principle of which is that where the performance of a contract becomes impossible from some cause for which neither party is responsible and the party sued has not warranted that the event, the non-occurrence of which has caused the contract not to be capable of performance, should take place, then both parties are relieved from the performance of the contract. This has been extended by recent cases, notably Krell *v.* Henry, a case arising out of the failure of the procession in London to take place on the advertised date in June, 1902, owing to the King's illness. In this case the defendant had agreed in writing to take rooms in Pall Mall for the dates on which the procession had been fixed, but no express reference to the procession was made, though both parties were aware of the reason for the rooms being taken on those dates and a deposit was paid by the defendant. As the procession did not take place the defendant refused to pay the balance for the rooms, and it was decided in the Court of Appeal by Lords Justices Vaughan Williams, Romer, and Stirling that the plaintiff was not entitled to receive the balance. In the course of his judgment Lord Justice Vaughan Williams said: "I think you have to ascertain, not necessarily from the terms of the contract, but, if required, from necessary inferences drawn from surrounding circumstances recognised by both contracting parties, what is the subject of the contract and then to ask the question whether that substantial contract needs for its foundation the assumption of the existence of a particular state of things. If it does this will limit the operation of the general words, and in such case, if the contract becomes impossible of performance by reason of the non-existence of the state of things assumed by both contracting parties as the foundation of the contract, there will be no breach of the contract thus limited." Also it was decided that "each party must rest in the position in which he is found to be when the event occurs which makes the contract impossible of performance, unless there is something special in the terms of the contract which gives one or other of the parties a different right." On these grounds therefore it must be taken to be correct law that in the event of the birth of a baby at a time other than that arrived at by calculation, then, subject to the following qualifications, the nurse will not be able to recover by action any fees at all unless she is free and able to render the usual services. The qualifications are, first, that if the happening of the birth of the child at a wrong date was the direct result of some serious act of carelessness, wrongful behaviour, or negligence on the part of the patient, or probably also of the patient's husband, the nurse would be able to recover her fees; secondly, she would also be able to recover her fees if she had specially contracted that she was to have her fees unless prevented from attending to the case through some fault of her own. This last appears to be the only way out of a difficulty which certainly does entail hardship on nurses, and the suggestion put forward is that on being engaged for a case the nurse should write a letter to the prospective patient containing a clause on the following lines:—

> I wish to say, also, that as it is impossible to be certain in these cases of freedom from accidents I shall expect, as is usual, to receive my fees (or part of them) if from any cause the baby is born at a different time from that which we expect, and I am thereby prevented from coming to you.

This would protect nurses from losing all their fees in cases of accidents to their patients, miscarriages, or miscalculations of dates, but would not cover acts of negligence on their parts or help them if they choose to take overlapping cases. Their only other remedy is to rely upon their patients' generosity.

that organ a solution of salts of sodium magnesium and calcium; and also to relieve the liver with calomel in small repeated doses.

Previous investigation in prophylaxis.—Ladd and Osgood showed that with ether given in a cone 88½ per cent. of the cases showed acetone; with ether given by the open drop method the figures were 26 per cent. Young and Williams found that with ether in a cone 75 per cent. gave acetone, and that with ether by the drop method 47½ per cent. gave acetone. Beesley recommended giving the patients sodium bicarbonate before operation. Beddard suggested giving glucose prior to operation.

Conclusions.—1. That so far as prophylaxis by drugs glucose has a much greater power in controlling the acetonuria than sodium bicarbonate. 2. That the secondary vomiting is in direct relation to the amount of acetone produced. 3. Anæsthetics should be given by an open method. 4. That in all cases of vomiting lasting over 12 hours the stomach should be washed out with a solution of sodium bicarbonate leaving some fluid in that organ.

Bibliography.—Ladd and Osgood: Annals of Surgery, September 1907. Young and Williams: Boston Medical and Surgical Journal, January, 1903. Beesley: Brit. Med. Jour., p. 142, 1906. Beddard: THE LANCET, March 14th, 1908, p. 782.

A CASE OF ANEURYSM OF THE ANTERIOR CEREBRAL ARTERY.

BY A. SALUSBURY MACNALTY, B.A., M.B., B.CH. OXON.,
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THE patient, aged 28 years, was admitted to University College Hospital on May 7th, 1908. He gave the following history, which was supplemented in some of its details by his relatives. On April 27th he was at work when he was suddenly attacked with severe headache. The headache was across the top of the head and soon after its onset the patient vomited. He was given some brandy and was sick again. He thereupon left off work, walked home, and went straight to bed. The time occupied in walking home was about eight minutes. When in bed he vomited again and immediately lost consciousness. He remained insensible for 20 minutes, becoming quite rigid; he had no twitchings and no incontinence of urine or fæces during the attack. While unconscious he vomited once. He was seen by a medical man on the 29th and he continued to vomit several times during the day irrespectively of the occasions following the taking of food. On the 30th he vomited a little after each meal. Subsequently to this he had no further sickness. There was intense headache at the back of the head after the recovery of consciousness; this lasted for three days and then it disappeared. The patient never lost the power of movement in the limbs, but after the seizure he experienced a numb feeling in the arms and the legs. On May 1st he had apparently recovered to such a degree that he went out for a short walk. The effort, however, made him very fatigued and he went back to bed again. For the last week before admission to hospital the patient had been losing sight in the right eye and had been seeing double out of that eye. This dimness of vision gradually passed into complete blindness. He experienced a gradual but increasing weakness in the upper and lower limbs. There was a history of gonorrhœa three months previously but no definite specific history could be elicited.

On admission at 6.30 P.M. the patient was somewhat drowsy and his speech was rather slurring in character. He was quite rational and was able to give a history. The axillary temperature was 98·8° F. and the pulse was 96, irregular in force and rhythm, and of poor tension and small volume; there were no missed beats. Nothing abnormal was detected in the cardiac, respiratory, or abdominal systems. There was some scarring of the penis. The urine, which was of a dark amber colour and had a specific gravity of 1024, gave a thick cloud of albumin but no sugar was deposited. The pupils were equal and they reacted to accommodation. The left pupil reacted to light; the right pupil did not react to direct, but did to indirect, stimulation. The patient was blind in the right eye. Visual perception was normal in the left eye. There was no nystagmus. With regard to the cranial nerves there was slight weakness of the masseter on the left side. Both external recti were paralysed, the left more than the right. There were marked ptosis of both eyelids, weakness of the left orbicularis palpebrarum, and obvious facial weakness on the left side. Hearing appeared to be diminished on both sides. The other cranial nerves were normal. Ophthalmoscopic examination revealed marked optic neuritis in the left eye with hæmorrhages in the disc. The right fundus was normal. The motor power was weak in the arms and the legs. There was no anæsthesia, analgesia, or atopognosis. The patient was unable to touch accurately the tip of the nose with his forefinger and could not feed himself. The superficial reflexes were normal, as were also the deep reflexes of the arm and the wrist-jerks. The knee-jerks were absent, a condition which persisted throughout the illness. No murmur was heard on auscultation of the head. The diagnosis was that of cerebral aneurysm. The patient was kept in bed and was given antispecific treatment. The albumin disappeared from the urine on the third day after admission.

There is nothing of note to record until May 16th, when the patient was found to have atopognosis (being unable to localise accurately the position of things touched) and astereognosis. Both superior oblique muscles of the eyeball appeared to be paralysed. Occasionally the patient showed athetoid movements (tabetic type) in the hands. His other physical signs were unchanged, but his general condition had much improved and he took his food well. On the 18th he appeared to have regained more power in his limbs. On the 20th the end came with dramatic suddenness. When examined at 11 A.M. the patient was quite rational and announced that he was feeling much better. The temperature was 96°, the pulse was 84, and the respirations were 20. At 11.30 A.M. he suddenly called out. On coming to the bedside he was found to be unconscious; his breathing was stertorous and his face was deeply cyanosed. There was some twitching of the left side of the face and of the right upper eyelid. The knee-jerks were unaltered and there was no rigidity of the body or the limbs. The patient had a stool just previously to the attack. Oxygen was administered and five minims of solution of strychnine were given hypodermically. Death ensued within ten minutes from the onset of the seizure. On auscultation the heart was heard to beat feebly for a short time after the cessation of respiration.

At the post-mortem examination, 26 hours after death, the body was found to be well nourished and the heart was normal. The aorta throughout its course contained numerous non-calcareous patches of atheroma, while the coronary vessels displayed patches of thickening. The mesenteric vessels were practically unaffected. The lungs showed superficial collapse at the bases with hypostatic congestion. The kidneys and other abdominal organs were quite normal. The convolutions of the brain were flattened and contained brownish patches of staining, especially in the frontal region. The meninges were not thickened. At the base of the brain there was a blood clot extending from the optic chiasma over the floor of the third ventricle to the pons and medulla and extending between the cerebellum and the cerebrum. There was blood in both lateral ventricles. The hæmorrhage extended downwards along the cord as far as the third cervical root. Irregular patches of cartilaginous thickening were present in the arteries at the base of the brain and the internal carotids were much dilated and thickened. On dissection a thin-walled saccular aneurysm was found in the left anterior cerebral artery occurring in its course just after it had given off the anterior communicating branch. The aneurysm was of about the size of a small cherry; it had exercised so much pressure upon the brain substance that it could be seen bulging into one end of the left lateral ventricle, the small mass of blood clots that it contained showing up through the thin wall of the aneurysmal sac. In this region it had caused a certain amount of disorganisation of the adjacent brain substance and the inner wall of the left ventricle showed much ploughing-up. On the other hand, it had crossed the middle line to exert pressure on the right optic nerve. All round the optic nerves the brain showed a considerable amount of brown staining. The blood from the aneurysm took the path usually pursued by it in aneurysms rupturing at the base of the brain. Instead

Dental Committee thereon does not judge him guilty of infamous or disgraceful conduct in a professional respect.

The next case was one against Mr. Charles Morgan. The complaint against him was referred to the Dental Committee and the committee found that the following facts were established by the evidence:—

The said Charles Morgan is on the Dentists' Register as in practice before July 22nd, 1878, and his address in the Register is 56, Queen-street, Cardiff. The said [illegible] edly advertised in the public press by mean [illegible] statements of an objectionable character, [illegible] containing laudatory commendations of his own skill and methods, and by implication claiming superiority over other practitioners. The said Charles Morgan alleges that his advertisements were inserted in self-defence against certain quack advertisements which he put in evidence. The said Charles Morgan has, since the service of the notice of inquiry, stopped his advertisements, tenders an apology, and undertakes not to offend again.

Mr. MORGAN appeared and was accompanied by Mr. POLEY, his counsel. The complainants, the British Dental Association, were represented by Mr. R. W. Turner, instructed by Messrs. Bowman and Curtis-Hayward, solicitors to the Association.

Mr. POLEY made a statement on behalf of Mr. Morgan. He said that his client had apologised and was willing to give any further apology the Council might desire. Mr. Morgan inserted the advertisements in self-defence against certain quack advertisements. He promised on no account to advertise again.

Mr. TURNER asked that the promise should be accompanied by an undertaking to conduct his practice in a professional manner.

Mr. POLEY: That is what my client desires to do.

Mr. TURNER: If he undertakes that I have nothing more to say.

The PRESIDENT announced the decision of the Council in the following terms: Mr. Morgan, the Council has given careful consideration to the report of the Dental Committee and has deferred the further consideration of your case until May next, when you will require to be present and to offer satisfactory evidence as to your professional conduct in the interval with particular reference to your promise to discontinue the issue of all advertisements.

The Council then considered the report of the Dental Committee on the charge against Alfred Davis Rogers and Lionel Cartwright Davis. The committee found that the following facts were established by the evidence:—

1. The said A. D. Rogers and L. C. Davis are both on the Dentists Register as in practice before July 22nd, 1878, and their address in the Register is 140, Edgware-road, Hyde Park, London, W.

2. The said A. D. Rogers is a brother of the said L. C. Davis, having changed his name for professional purposes.

3. Both the said A. D. Rogers and the said L. C. Davis deny that the said A. D. Rogers was a partner in, or had any connexion with, the firm of Rogers and Davis at the date of the matter complained of, and the complainant has produced no evidence to refute this.

4. The said L. C. Davis admits that he carries on practice as a dentist in the name of Rogers and Davis at 140, Edgware-road, and also at 34, Liverpool-street, and 174, Victoria-street, S.W., and that he is a sole partner in the firm responsible for what is done at these three places in the name of the firm.

5. A certain Mr. Bonham, an unqualified person, at the time of the offence alleged acted as assistant to the said L. C. Davis at the Liverpool-street branch, and on Oct. 23rd last the said Mr. Bonham scaled the teeth of a Mr. Bridge, who called there with Mr. Maitland, and charged and was paid 5*s*. for doing this. It is in evidence that the said Mr. Bonham stated to these two witnesses that he was in the habit of performing dental operations there for Messrs. Rogers and Davis and that he took entire charge of the dental practice carried on there, but no other evidence was given in support of the charge. The said L. C. Davis denied that the said Mr. Bonham performed dental operations and stated that he had instructions not to do so. Mr. Bonham, however, was not called.

[illegible] the committee are unable to find [illegible] the charge of the said L. C. Davis [illegible] the said Mr. Bonham to attend [illegible] n them, and to practise dentistry on his behalf in the name of his firm—are proved to their satisfaction, and as above stated there is no evidence to show that the said A. D. Rogers was at the time in any way connected with the practice.

Mr. Rogers and Mr. Davis attended in person.

Mr. DAVIS said that if he had inadvertently done anything wrong he would not do it in future. Further, the premises had been closed and Mr. Bonham was no longer in his service.

The PRESIDENT said: In this case the Dental Committee were unable to find on the evidence that the facts alleged had been proved and therefore there is no motion. I have, however, to put it to you formally and I think it will be your wish that the facts alleged against these two practitioners at the Dental Committee have not been proved.

The Council assented and it was intimated to Mr. Rogers and Mr. Davis that the allegations against these two practitioners had not been proved.

This finished the consideration of charges.

The Council deliberated on certain matters *in camerâ* and when the public were re-admitted the PRESIDENT announced that the Council had directed the Registrar to restore to the Dentists' Register the names of Samuel Foley and Algernon Frederick Green.

The Council then adjourned.

SATURDAY, NOV. 28TH.

The Council resumed its sittings at 299, Oxford-street, W., Sir DONALD MACALISTER, the President, being in the chair.

Miscellaneous Business.

The PRESIDENT moved, and it was agreed, that the judgment of the High Court in the dentist case should be placed on the minutes.

A communication was conveyed to the Council through the PRESIDENT from the Secretary of State for the Colonies, asking for a memorandum on penal procedure for the information of Colonial Governments. It was agreed that the President, together with the legal advisers, should draw up a statement of the kind desired and forward it to the Earl of Crewe.

The Administration of Anæsthetics.

The Council then considered a resolution adopted by the Executive Committee in regard to the administration of anæsthetics and instruction in that subject.

The PRESIDENT said that the Privy Council had forwarded a copy of the proposed General Anæsthetics Bill with a memorandum explaining it. The Lord President of the Privy Council desired an expression of opinion with regard to the provisions in the Bill, which was not a Government measure. He had sent to the Lord President the following communication:—

Sept. 3rd, 1908.

SIR,—With reference to your communication of August 24th, 1908, I have to say that it will give me pleasure to lay it before the next meeting of the Executive Committee. As this, however, will not take place before November next I should like to point out to the Lords of the Council that Clause 2 of the proposed Bill appears to involve a virtual supersession of the General Medical Council and ultimately of the Privy Council. By Section 3 (2) of the Medical Act of 1886, the qualifying examinations for medical diplomas are to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery and midwifery. It is the duty of the General Council to secure the maintenance of this standard of proficiency. By Section 4, any examining body which fails to maintain it may, on the representation of the General Council, be, by order of the Privy Council, removed from the list of recognised bodies. And lastly, by Section 19, if the General Council fails of its duty the Privy Council may exercise the functions of the General Council and remedy its defects.

Clause 2 of the proposed Bill ignores the whole of this legislation, so far as one particular branch of the efficient practice of medicine, surgery and midwifery is concerned. It legislates directly for examining bodies, "recognised by the General Council" (which term by the way includes bodies in the Colonies, in Italy and in Japan, as well as in the United Kingdom), without reference to the General Council or the Privy Council; and it provides no machinery for ascertaining that the examining bodies fulfil the proposed law, nor any penalty for their breach of it.

As President, I have littl [illegible] think that such legislation [illegible] effective in practice. No su [illegible] obstetrical operation for [illegible] ne antiseptic precautions [illegible] These are all included under the term "efficient practice" used in the Medical Act.

I do not anticipate any difficulty in securing, through the existing machinery, i.e. the "recommendation" of the Council, aided by the pressure of "inspection," and if necessary "report to the Privy Council," that all licensing bodies shall make explicit in their regulations, as it is to all intents in their practice, a requirement that their candidates shall have received efficient instruction in anæsthetics. Without specific legislation *ab extra* they have already done so in respect of such special branches as vaccination, surgical dressing, and the like.

Clause 1 of the proposed Bill appears to me to contain what is essential for the protection of the public in this department of practice. It would indeed be well if it could be extended to all departments of practice by which life or limb is endangered.

I am, Sir, &c.,
DONALD MACALISTER, President.

That answer had been considered by the Executive Committee which had arrived at the following resolution:—

(*a*) That the memorandum and proposed Bill be reported to the General Council with the statement that the Executive Committee approve the terms of the President's reply dated Sept. 3rd, 1908, addressed to the clerk of the Privy Counci [illegible] that the Council should inform the Lord [illegible] approve the principle of first clause of the [illegible] to support the provisions to which objection [illegible] letter. (*b*) That the Registrar be directed to c

The covered milk—Sample D—looked and smelt quite fresh.] The bacteriological condition was as follows:—

Sample.	Number of aerobic organisms capable of growth on gelatin at room temper-ture after 40 hours.	Growth in peptone broth at 37° C. 0·0001 c.c.	Glucose broth at 37° C. 0·0001 c.c.		Lactose broth at 37° C. 0·0001 c.c.		Agar slope at 37° C. 0·0001 c.c.	Litmus whey at 37° C.
			Acid.	Gas.	Acid.	Gas.		Acid.
C (exposed milk).	72,600,000	Growth + scum.	+	No note.	+	+	70 colonies.	+
D (covered milk).	24,640,000	Growth + scum.	+	No note.	++	+	7 colonies.	No note.

These results again prove a marked and rapid deterioration of milk exposed to flies, there being in the course of 24 hours no fewer than approximately 40,000,000 more bacteria per cubic centimetre in the exposed milk, and ten times as many organisms capable of growing on agar at the body temperature (37° C.). In round numbers the exposed milk showed 700,000 bacteria per cubic centimetre capable of growing at 37° C. against only 70,000 bacteria in the case of the milk protected from flies.

A further experiment showed that under anaerobic conditions the exposed milk (C) contained spores which on development in milk produced both gas and clot, while the covered milk (D) showed clot alone but no gas.

Remarks.—The importance of protecting milk from flies is illustrated by these experiments. It can readily be understood that the larger the number of flies the greater would be the pollution. It is not difficult to realise how in a fly-ridden district diarrhœal diseases may be in excess unless care is taken to see that food-supplies (especially milk) are protected from the contaminating attentions of flies.

The experiments were undertaken on the lines of natural conditions obtaining in houses, so as to include the natural factors of symbiosis or antagonism of bacteria already existing in an ordinary milk-supply. A point I wish to make is that the number of putrefactive bacteria in milk is of great importance. The chemical changes produced in milk by, say, *thousands* of putrefactive bacteria may perhaps not be sufficient to cause serions diarrhœa, while the chemical changes produced by *millions* of such bacteria may conceivably be very prejudicial and excite acute diarrhœa.

A word as to treatment.—The facts indicate the wisdom of early expulsion of the bacteria and their toxic products by a large dose of castor oil which should, in my judgment, be followed by small doses—say, ten grains—of sulphate of soda every two hours dissolved in sterilised (boiled) water. No food should be given for six or eight hours, and then only *sterilised whey*, commencing with small quantities, gradually increasing same. The utmost care should be taken that all milk used for artificially fed infants should at all times be scrupulously protected from fly contamination, especially in dealing with an infant suffering from or convalescent from epidemic diarrhœa.

Norwich.

A CASE OF TRAUMATIC EXOPHTHALMOS.

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THE patient was brought to the Royal Victoria Infirmary, Newcastle-on-Tyne, on August 13th last, with the following history. He was driving a waggon whilst sitting on the shaft when the horse, which happened to be young and restive, lashed out suddenly with one of its hind legs, striking him in the face and knocking him over. His left eye was immediately dislocated forward beyond the lids, and directly afterwards he lost consciousness. About a quarter of an hour afterwards he came to himself and was sick, but felt no pain. The eye still remained protruding from the orbital cavity. Within the next hour he was brought to the hospital and whilst being examined again vomited.

On admission the patient was quite conscious and was able to answer questions intelligently. His pulse was good. There was epistaxis from both nostrils. On the left cheek there were several gashes, one extending into the ala of the nose, and obviously produced by the horse's hoof. The left eyeball protruded well beyond the lids. There was hyphæmia and the bulbar conjunctiva was torn all round in a neat circle quite close to the corneal margin. The sclera was intensely injected and the lids were swollen but not lacerated. No sight whatever remained in the eye. The left cheek was painful to the touch and one was unable to make out by palpation the normal outline of the left side of the face. Crepitus of the nasal bone and the nasal process of the superior maxilla was present. The patient had great pain and difficulty on attempting to open his mouth. The teeth outline was normal and there was no hæmorrhage either from the mouth or ears. Attempts to replace the eye were desisted from because of the pain they caused.

Under chloroform the eye could be easily replaced in the orbital cavity, but slight pressure on the lids was sufficient to luxate it forwards again. One was able to detect with the finger in the left nostril great comminution of the inner wall of the antrum of Highmore. The outline of the orbital plate of the superior maxilla on the face was lost. It was decided to remove the eye, and the recti muscles were divided in the ordinary way. On exposing the optic nerve it was found to be loose, and after dividing the rest of the structures connecting the eyeball with the orbital cavity one was able to draw out exactly two inches of nerve, still firmly connected with the eyeball, but with the cranial end severed as if with a sharp knife. Very little bleeding ensued. The wounds in the cheek were sutured with horse-hair, a sponge was left over the left eyelids, and the nostrils were loosely packed with gauze wrung out of a perchloride of mercury solution.

Recovery was uninterrupted. There was some serous oozing from the eye and nostrils during the next few days. Ten days later the patient left the hospital. He was seen eight weeks after the operation when he stated that he had been working then for some weeks past. The wounds in his cheek were quite healed, his left orbital cavity presented the appearance as after an ordinary excision, and he could open his mouth quite wide.

Fracture of the anterior fossa of the skull with severance of the optic nerve is not a common accident, but when complicated with complete exophthalmos becomes one of extreme rarity. The average length of the optic nerve is 5 centimetres, or about two inches, and hence it must have been severed in this case just at its origin from the optic chiasma, in all probability when passing through the optic foramen. The fracture of the superior maxilla on that side was an additional complication.

This case was under the care of Mr. J. D. Wardale, ophthalmic surgeon to the hospital, and I am indebted to him for permission to publish these notes.

Newcastle-on-Tyne.

EXTENSION OF A PLEURAL EFFUSION TOWARDS THE SOUND SIDE IN A STILL-BORN CHILD

CORRESPONDING TO GROCCO'S PARAVERTEBRAL TRIANGLE.

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AND
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CONSERVATOR OF MUSEUM, ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE subject of this note was a still-born child, probably of Chinese parentage, found in the streets of Singapore and investigated by us with a view of discovering the cause of the anasarcous condition of its tissues. In this we were not successful; the ductus venosus which was found absent in a similar case was here present; the heart also was normally formed; the tissues of the body, especially the kidneys, were extensively invaded with leucocytes.

Our main reason for recording the case is that it supports those who regard Grocco's paravertebral triangle of dulness as due to a direct extension of the pleural fluid or contents from the diseased towards the sound side. A reference to is that the first period is [illegible] while the second is only [illegible] majority of the students [illegible] examination continue the [illegible] good in whole or in part in the later years the time lost in the earlier portion of the curriculum. Thus there arises in all the bodies an overlapping of studies not due to the conditions of the curriculum, but dependent upon failure on the part of individual students.

With regard to the statistics the committee had collected, he said he had been surprised to see that there was not so much encroachment upon the Final Examination by the earlier examinations as at first sight seemed likely, and in a great many bodies there was no encroachment at all. But a close examination of the tables would reveal the fact that the Final Examination had not received its fair proportion of additional months of study. That was the state of matters with which they had to deal. What was the remedy? One proposal was that the whole course should be lengthened, but the committee failed to find any justification for recommending this extreme step. Not one of the licensing bodies appeared to be in favour of lengthening the course and there was no opinion in the profession pointing towards lengthening the course as a whole. The feeling seemed to be that the best men could get through the work in the prescribed time and that no barrier should be put in their way. Another suggestion was that the preliminary sciences should be cut out of the medical curriculum, thereby giving more time for the study of the later work. That question was recently debated by the Council and the decision was that it was not necessary at the present moment to cut the preliminary sciences out of the curriculum. The Education Committee therefore did not bring forward any proposal for excluding from the curriculum the preliminary sciences. The committee recommended the following proposal for the approval of the Council:—

> That the regulations of the licensing bodies should be so framed that not less than 18 months of undivided study, or a period equivalent in time-value thereto, where overlapping study obtains (half value being allowed for periods of overlapping study), should be set aside for the first period of the course, extending to the completion of the examinatio [illegible] and that not less than the equivalent in [illegible], of 27 months of undivided study be set [illegible] he course.

Personally he thought that there was nothing objectionable in overlapping. What was important was to see that adequate time was given to each of the great groups. There was only one solution of the difficulty—that they should suggest that a reasonable limiting period should be set for the study of each group of subjects. As would be seen by the proposal submitted, the committee had divided the course into two periods. The first (18 months) would extend to the completion of the examination in anatomy and physiology and the second period should never fall below an equivalent of 27 months of undivided study. The recommendation of the committee was to set a limit to the earlier studies. The limit of 18 months which was proposed was at first sight a small one. What had been done was to take the limit which was in existence at present amongst the licensing bodies. No doubt in the course of time it might happen that the preliminary sciences would be dropped out of the curriculum and would be put in a period before the actual medical studies. At this moment it stood as part of the regulation of the Council that the preliminary sciences should be counted as part of the medical curriculum. 18 months was a small limit for these subjects and the subjects of anatomy and physiology. Therefore this recommendation would interfere with no body in the present circumstances, but it would prevent any limitation in the amount of time given to the earlier subjects. He did not think that they would have any special difficulty in that, because they were making no alteration. There was another point. He had been asked by a member of the Council to say something on the practical working of the proposal with regard to exemption. There were a number of colonial students who came over and took their degrees after having given a requisite attendance. This proposal would in no way affect the situation. In every case where exemption was granted by the licensing body the student had to show that he had taken a course equivalent to the course of the licensing body. If his proposal was adopted in the future the licensing body would just ask the student the details of his course. If he had done something less he would not be accepted. The Examination Committee had suggested the very least possible interference with the present distribution of the curriculum. They could not possibly have suggested a lesser degree of interference. He thought the Council should take an interest not only in the examination but in the teaching of the medical sciences. It would be an important step if the Council adopted the conclusions of the committee. In conclusion, he moved the adoption of the proposal recommended by the committee for the approval of the Council.

Sir C. NIXON seconded the motion.

Dr. SAUNDBY expressed dislike of any further limitations of the curriculum by any hard-and-fast rules. Supposing a student passed in anatomy at the end of his third year and had on the previous two years been attending hospital how much longer would his course be?

Dr. MACKAY: He has two years more to go.

Dr. SAUNDBY did not think this would cause any harm but the Council must have time to consider the subject. It would better give time for consideration if they were to postpone the matter.

Sir C. NIXON was understood to say that not all the licensing bodies would consent to any arrangement which would prevent a medical student attending the hospital earlier than his third year.

Sir JOHN MOORE, speaking as a clinical teacher, observed that although it might be a counsel of perfection to postpone the attendance at hospitals until the third year, it would be a good thing for the medical profession when such a regulation was made compulsory. The sooner the student was able to master his chemistry, physics, and biology, and so give his undivided attention to sickness and surgery, the better for the medical profession.

Mr. THOMSON did not think the report had gone to the root of the matter. He thought that at present sufficient conditions and restrictions were imposed on the unfortunate medical student.

Sir CHARLES BALL could not quite see what machinery could be introduced by the licensing bodies actually to comply with the recommendations as they were now brought forward. He would give one case as an example. Supposing that a student was rejected in anatomy and physiology at the beginning of his third year or the end of his third year. There was nothing which would prevent that man taking an additional course of anatomy at the beginning of his fourth year. How were they to prevent him taking the final subjects in the fourth year? The only measure the Council could have would be to require him to pass his examinations in anatomy and physiology before proceeding with his final subjects. He thought the resolutions of the Examination Committee as they appeared at present were colourless and ineffective. The Council should not take a vote upon them as being recommendations to the licensing bodies as more time was required for their consideration than could be devoted to them now.

Sir THOMAS MYLES was understood to say that the general tendency of opinion in Dublin was as indicated by Sir John Moore, which was that the medical student would be more fit for clinical instruction if he had two years' preliminary study before proceeding to it. He laid before the Council various considerations as to the relative capacities of different students to obtain a knowledge of subjects. If a system of "watertight compartments" were adopted in the curriculum they would exclude a large number of men from the medical profession. He also thought that further time should be given for the consideration of the subject.

Dr. NORMAN MOORE thought that the idea of the Examination Committee in bringing forward the subject of its recommendation at this stage was not that a decision should be come to at once. Its object, it seemed to him, was to make the result of the committee's work known to the Council and through the Council to the public at large, and thus to encourage preliminary discussion. Everyone must admit that such an end was useful. The only way in which the Council could get on in the maze of medical education was by educating itself to the mysteries of the subject. With regard to the very first part of the curriculum, the Royal College of Physicians, with a view to a very serious effort to induce the student to get instruction before he entered his medical course, had at great expense inspected schools and laboratories and had laid down regulations as to the precise amount of instruction to be given before they gave a certificate. They had undertaken to examine in these subjects at the beginning of the student's career. It took a long time to bring any change into operation. As a clinical teacher in a medical school in about 93 mm. Hg, and that outside was gradually raised until the flow through the artery ceased. The difference between the external and the internal pressure was taken as the measure of arterial resistance. The arteries experimented with were the common carotid, the external iliac, and the brachial. 49 male cases were thus examined, and in 36 of these the brachials were tested. In five of the 36 both brachials were tested, making 41 arteries in all. Of the 36, seven were under 30, eight were under 40, 13 were under 50, seven were under and 12 were over 60 years of age. The results showed that the resistance did not vary with age, that at every age exceptional cases occurred, that the extremes varied greatly and irregularly, and that the two brachials might differ by as much as 10 mm. Hg. The same was found to be true of the carotids and iliacs. Moreover, in 21 carotids the resistance to internal pressure was measured as well as that to external. It might be expected that an artery which dilated easily when its internal pressure was raised could also be easily compressed from outside. It was not so. The two forms of resistance did not vary together. The same was true for the iliacs. No connexion could be made out between the fatal disease and the resistance. The conclusions were that when using the sphygmomanometer they must bear in mind that the resistance of the wall of the brachial artery might vary from 4 mm. to 34 mm. Hg; that the readings of the instrument represented the sum of the blood pressure, together with the resistance of the artery; and that they had as yet no clue which would enable them to analyse this total into its two component parts.—Dr. LEONARD E. HILL related the results of some experiments carried out at the London Hospital Medical College by Mr. Martin Flack and himself on the question under discussion. Their method was to investigate the condition of the arteries in the living person. Some experiments by that method had been done by Mr. Charles Martin and it was found that the amount of pressure required to obliterate the wall of an artery was equal to only a few millimetres of mercury. He (Dr. Hill) also referred to the work of MacWilliam in the same direction recorded in the Transactions of the Royal Society. Dr. Hill then fitted up before the members of the section his laboratory assistant with two armlets connected to two independent manometers and demonstrated the blood pressure by independent readings. He stated that there was high pressure in the veins, very high pressure in the arteries, and an exceedingly low pressure in the capillary system.—Dr. GEORGE OLIVER, in the course of his remarks, admitted that cases did occur sometimes in which differences of from 15 to 20 mm. Hg were observed between the two brachial arteries after the greatest precautions had been taken to avoid disturbing factors.—Sir LAUDER BRUNTON said that it was just possible that rigor mortis in the muscular coats of the arteries might have something to do with the differences observed in the pressure.—Mr. J. P. L. MUMMERY thought that it was dangerous to draw conclusions from arteries removed from the body.—Sir T. CLIFFORD ALLBUTT said that the disease from which a subject died and the time of death might render the experiments fallacious.—Dr. HERRINGHAM in the course of his reply said that what he wanted to do was to take some more of these post-mortem arteries, to relax them with sodium chloride, and then to try again and see if the anomalies recorded took place.

Dr. C. J. MACALISTER and Mr. H. C. ROSS of the Royal Southern Hospital, Liverpool, communicated a paper on an Excitant for the Leucocytes of Healthy Persons in the Blood Plasma of Patients Suffering from Carcinoma. They suggested that carcinoma was due to a change in the blood and evidence was given in favour of this view. Cancer frequently appeared in "tidal" organs such as the breast, uterus, &c., and its frequency after irritation and trauma was noted with the fact that all of these conditions were associated with an increased blood-supply to the parts. Since all persons who received injury or suffered from chronic local irritative conditions did not get cancer, the supposition was advanced that another factor, a metabolic change in the blood, was necessary for its production. Reference was made to the works of Loeb and Moore respecting the effects of altered chemistry upon the growth and reproduction of cells. Heredity in cancer would be well explained by a theory which involved a chemical change in the blood and there was a probability that nervous influences and perhaps some antecedent disease might lead to similar changes. Moore said that the blood of all cancer patients was more alkaline than normal, and symptoms resembling those of an alkaloid-like toxæmia were referred to as occurring in cancer patients. While a recently discovered stimulant for leucocytes was being demonstrated, a discussion arose as to the nature of this artificial stimulant. It was pointed out that, in the presence of an alkali, an alkaloid such as atropine must be added to methylene blue to produce stimulation. The connexion between this fact and the alkaloid-like toxæmia, with increase of alkalinity of the plasma of cancer patients, was striking. It was therefore suggested that there might be in cancer a stimulant in the plasma which might play a part in the causation of the disease. After giving evidence that cancer was not an infective disease, experiments were referred to by which it was ascertained that the plasmata of a series of cancer patients stimulated the leucocytes of healthy persons when mixed in certain proportions. This stimulation appeared to be identical with that caused by the artificial stimulant. A large number of control experiments gave negative results except in two patients who had been taking quinine. Attention was directed to the fact that the constituents of the artificial stimulant were coal-tar derivatives and to the incidence of cancer among coal-tar workers. Reference was made to the work of other observers which showed that asymmetrical mitoses, identical with those seen in cancer, could be produced in some epithelial cells by certain alkaloids and coal-tar derivatives.—After Mr. ROBERT JONES (Liverpool) had given an instance showing the value of the method for the purpose of diagnosis, Mr. ROSS described the details of the methods of the investigation.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Elephantiasis treated by Lymphangioplasty.—Bilharziasis.—The Sigmoid Flexure and Rectum in Post-Dysenteric Cases.

A MEETING of this society was held on Nov. 20th, Sir PATRICK MANSON, the President, being in the chair.

Mr. W. S. HANDLEY showed a case of Elephantiasis of the Left Leg treated by Lymphangioplasty, an account of which will be published in THE LANCET.

Dr. F. M. SANDWITH demonstrated a small exhibit of Bilharziasis preparations, mostly from Egypt. Dr. S. Kartulis of Alexandria had lately sent to him a valuable specimen of kidney, ureters, and bladder, together with a rectum showing well-marked papillomata from another case. Dr. Sandwith drew attention to the fact that the ureters were affected with multiple excrescences throughout their whole length, though it was usually only the lower half of the ureters which showed great bilharzial change. Another bladder, presented to the museum of the London School of Tropical Medicine by Professor A. R. Ferguson (Cairo), showed very advanced disease with great thickening and distortion of the organ, while the condition both clinically and histologically was locally malignant. Another of Professor Ferguson's gifts was a section of liver showing bilharzial cirrhosis; the new formation of connective tissue was practically confined to the neighbourhood of the portal veins, while a large tributary of the hepatic vein was seen unaffected by the change. The cut surface of the liver looked somewhat as if the stems of some white clay pipes had been thrust through it at various angles. There was no prominence of the liver lobules or retraction of the capsule as seen in other forms of cirrhosis of the liver. Microscopically the liver showed an increase of the peri-portal connective tissue of the sub-lobular and larger portal canals, some of the fibres of which were arranged concentrically round the eggs of the parasite. Eggs found in the liver often consisted only of the shell with lateral spine, and no eggs were seen lying free among the hepatic cells, or usually in the larger blood-vessels which traverse the cirrhotic tissue. Under the microscope were placed the eggs of the schistosomum hæmatobium from the bladder, ureter, and lung; the eggs in the lung were shown to illustrate the rarity of eggs being found in this organ. When eggs were found they were few in number and appeared to result from a couple of worms which had accidentally lost their way in trying to reach the bladder or rectum. Under break down the system which the Council was endeavouring to set up.

The report was then adopted.

Public Health Rules.

Mr. THOMSON moved:—

That it be referred to the Public Health Committee to consider the advisability of substituting in Rule I. of the resolutions and rules relating to public health, the words "nine months" in place of the words "twelve months," as at present.

Owing to the conditions laid down in Rule I. he said that a period of not less than 12 months had to elapse between registered qualification and the admission of any candidate to any examination. That added three months to the curriculum of nine months, during which the candidate might be doing nothing. That was a hardship, especially in cases where graduates might wish to proceed with all possible haste to the colonies, but before doing so wished to obtain this special qualification.

Dr. WALKER seconded the motion which was agreed to.

The Report of the Pharmacopœia Committee.

On the motion of Dr. NORMAN MOORE the report of the Pharmacopœia Committee was received. This report, which is signed by Sir Donald MacAlister, the President, states that from May 25th to Nov. 21st, 1908, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 537. The total number of copies sold in the year beginning Nov. 18th, 1907, was 1125. Up to the present time 40,306 copies of the Pharmacopœia and 4447 copies of the Indian and Colonial Addendum have been sold. The stock of the Pharmacopœia now on hand consists of 2724 copies, together with 1887 copies of the Addendum. A third interim report from the Committee of Reference in Pharmacy has been received, containing suggestions for the revision of certain monographs of the Pharmacopœia (1898), with proposals respecting the official tests for lead, and the articles to which these tests should be applied. It is proposed to publish the three reports now presented in order that the Pharmacopœia Committee may have the advantage of noting the criticisms or other comments which may be publicly made upon the suggestions therein contained. A tabular analysis of the suggestions made by the medical licensing bodies of the United Kingdom, for the inclusion or omission of articles in the next Pharmacopœia, has been prepared by the secretary, Dr. N. Tirard. Similar suggestions are now being received from the various British medical authorities outside the United Kingdom. When the whole of the information from these sources is ready for consideration the committee will be in possession of a body of material which will be of great value to it in its task of adapting the new Pharmacopœia to the needs of the Empire at large.

No discussion took place on this report.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR, the report of the Students' Registration Committee was approved.

Unqualified Practice Prevention Committee.

Dr. LANGLEY BROWNE submitted the report of the Unqualified Practice Prevention Committee. He explained that the committee was appointed to ascertain what legal provisions existed in the colonies and dependencies of the Empire and in foreign countries for the prevention of medical practice by other than legally qualified persons, and to consider what steps should be taken to procure effective legislation for the same purpose in the United Kingdom of Great Britain and Ireland. In the end of 1907 the Registrar, by the direction of the President, forwarded a communication to the Privy Council, asking that the Lord President would be so good as to communicate with the Foreign Secretary, the Secretary of State for India, and the Colonial Secretary, in order that the information desired by the Council should be obtained through the proper channels. The Lord President did so and the information obtained was most voluminous. The information had been digested and tabulated as an appendix to the report. This digest of all laws in force within the British Empire and in foreign countries showed what provisions existed for the prevention of medical practice by other than legally qualified persons. It had been drawn up by the officers of the Council and had given them a large amount of extra work. He did not know what the committee would have done without the aid of the President and the office staff. The President, indeed, with his great knowledge of languages was able to give them invaluable assistance, and indeed he believed that almost every language in which the information was received was known to him. The information now brought together by the committee was very complete and valuable and it contained much information not hitherto published. As members of the Council would see from the report, it contained official information from all countries except the United States. The Registrar had applied to the Embassy of the United States with a request for the same kind of information as to the laws in the several States of the American Union and its Territories, but no answer had yet been received. The digest had therefore been supplemented by a statement drawn up by Dr. Bateman from the Medical Acts of the different Federal States and from the Provincial Acts in the Dominion of Canada. Every member of the committee, continued Dr. Langley Browne, was aware of the injury done to the public by the practice of unqualified persons and companies, which is carried on with immunity in this country. As the report further showed, the committee believed that sufficient protection against such injury was not afforded to the public by the present Medical Acts; that the injury was grave and was increasing; and that a remedy must be found in legislation such as existed in most civilised countries. The committee, however, recognised that, before remedial legislation could be looked for, it was necessary that the public should be made more fully aware of the dangerous abuses which existed under present conditions. To this end it was desirable that full inquiry should be made by the authority of His Majesty's Government and the committee was prepared to assist in the production of evidence should such an inquiry be instituted. The Council would see by the report that the committee recommended that the Government should be asked to appoint a Royal Commission to investigate the subject and he thought that they had a fair chance of getting a commission appointed. In conclusion he moved that the Council should adopt the following motion recommended by the committee and transmit it to the Lord President of the Privy Council:—

That the General Medical Council, [illegible] hat medical and surgical practice should be carried on with impunity by persons holding no recognised qualifications, requests the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects produced by the unrestricted practice of medicine and surgery by unqualified persons.

Dr. LATIMER, in seconding the motion, joined in expressing the gratitude of the Council to the President for his valuable services to the committee. He considered that the time was propitious for applying to the Government for the appointment of a Royal Commission. The nation was, he thought, becoming more and more willing to restrict the practice of unqualified persons in various departments of the healing art. There had been a sympathetic response in such matters as the question of midwives. That the legislature had done something to suppress the unqualified midwife was a very encouraging sign. There had been an appreciation of the necessity of dealing with infantile mortality. In his opinion there had been no falling off in the favour shown to measures of this kind. He believed that they were going to the Government at a very proper time to ask its help, and he thought that they would get a sympathetic response. He commented on the steps taken in the colonies and abroad to check unqualified practice. The tendency had been in this country to regard the title as the sign of qualification, but in some countries the law went much further. In Natal, for example, the law penalised any person who being unqualified exercised the functions of a physician. He feared that the medical profession could not yet hope to get comprehensive measures of that kind carried in this country.

Dr. NORMAN MOORE regarded the report of the committee as most valuable. The only part of it which appeared not perfect was that relating to the United Kingdom, but a little research might be given to this part of the subject.

The motion was agreed to.

The Apothecaries' Society of London.

On the motion of Sir HUGH BEEVOR Mr. Charles Stonham, C.M.G., F.R.C.S. Eng., was appointed assistant examiner in surgery to the Apothecaries' Society of London for a period of two years from June 16th, 1908.

followed by recurrence of unhealthy mucous stools. In all such cases a strictured state of the bowel at the sigmo-rectal pylorus would be found, and to cure it the stricture must be treated; this was accomplished by passing the tube of the sigmoidoscope up to the seat of the lesion and introducing an indiarubber bougie or œsophageal tube through the strictured portion. That must be repeated at first twice weekly for, say, three weeks and subsequently once a fortnight for some two or three months. In the intervals between the passage of the rectal tube warm sea-water injections in quantity from one pint to three pints should be thrown up the bowel once or twice weekly.—Sir HAVELOCK CHARLES observed that the size of the intestine varied greatly in different individuals, and even in healthy persons there was great variation in the resistance that was offered to the passage of instruments.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Malignant Disease of the Uterus.—Fibroid Uterus.—The late Sir Arthur V. Macan.—Ectopia Vesicæ complicating Pregnancy.—Myoma and Pregnancy.—Exhibition of Specimens.

A MEETING of this section was held on Nov. 13th, Mr. E. H. TWEEDY, the President, being in the chair.

The PRESIDENT exhibited specimens from 12 cases of Malignant Disease of the Uterus, eight of which had been operated on by Wertheim's method since the last meeting of the section. The cases were not all that he had done, but they made a sad and suggestive exhibit. He had done as large a total extirpation as possible, but some of the cases were obviously not cases in which Wertheim's operation could be performed. He held that they should operate on every possible case that gave the least hope of immediate recovery, even if the immunity were only for six months.—Dr. R. D. PUREFOY agreed that operation should be attempted where there was reasonable hope of survival. Where recurrence took place it was attended with less distress and with almost absence of discharge.—The PRESIDENT, in reply, said that he had a good many more cases tabulated, but he thought it better to defer a paper for some time in order that he might be able to follow them up and see how much good had been done. He now merely recorded the present cases to show that a serious attempt was being made in the country to grapple with the awful disease of cancer of the uterus.

Dr. PUREFOY exhibited a Fibroid Uterus removed along with Hernial Sac for the relief of recurrent peritonitis. The patient, an unmarried woman, about 40 years of age, was in anything but good health at the time of the operation. She had previously undergone ovariotomy, and the cicatrix had yielded, and the case was complicated with a ventral hernia. She sought relief because she suffered from menorrhagia with recurrent peritonitis. The uterus had a layer of lymph on its anterior surface. The point of interest in the case was what had given rise to the peritonitis. Was it the presence of the hernia and the dragging on it caused by adhesions between it and the uterus?—The PRESIDENT said that ovariotomy a few years ago was usually attended with peritonitis. He believed that the suffering was caused by the wound not uniting.

At the conclusion of the exhibits Sir WILLIAM J. SMYLY proposed the following motion in graceful and sympathetic terms:—

> The Obstetrical Section of the Royal Academy of Medicine in Ireland at their first meeting for the present session desire to place on record their regret at the great loss which this Academy, and especially this section, has sustained by the death of Sir Arthur Macan.

—Dr. PUREFOY, endorsing to the full everything that had fallen from Sir William Smyly, said that Sir Arthur Macan had won for himself a foremost position amongst the authorities and exponents of obstetrics and gynæcology in the United Kingdom by assiduous hard work and thoroughness, and the profession had sustained a severe loss in his death.—The PRESIDENT desired to add his personal sorrow at the loss of Sir Arthur Macan to the Rotunda Hospital. The whole world had gained by the life of Sir Arthur Macan and he hoped that they would all keep abreast of the times to the last as he had done.—This motion was carried in silence, all present standing.

Dr. A. N. HOLMES read a paper on a case of Ectopia Vesicæ complicating Pregnancy. The patient, aged 33 years, was admitted to the Rotunda Hospital six and a half months pregnant, suffering from ectopia vesicæ. The separation of the pelvic bones was very marked, as much as six inches. The external genitalia were represented by poorly formed labia majora which diverged upwards, the nymphæ and clitoris by a small band of skin which traversed the introitus vaginæ, the latter being a narrow transverse slit situated very far forward, thus making the perineum very long. At the seventh month labour set in spontaneously. The head was driven down into the long perineum, which was divided, and the head easily delivered. During the puerperium prolapse occurred, as there was no anterior support. The patient left the hospital well, but the infant was stillborn.—Mr. J. SPENCER SHEILL asked how Dr. Holmes had arrived at the conclusion that the separation of the bones was six inches by the x rays, which were not accurate for measurement of the pelvis, but the PRESIDENT thought that the pelvis could now be measured very accurately by their means.—Dr. HOLMES, in reply, said the measurements made as felt with the measure practically coincided with those obtained by the photograph. There had been only 14 similar cases recorded.

Sir WILLIAM SMYLY read a paper on Myoma and Pregnancy. Having briefly referred to the subject in general he detailed a case in which serious complications during childbirth and the puerperium were caused by a myoma as large as an adult fist growing from the lower segment of the uterus and developed between the layers of the left broad ligament. These complications included tedious labour, malpresentation, version and extraction of a dead fœtus, post-partum hæmorrhage, retention of the lochia, followed by putrefaction and septic fever. The removal of the tumour by an abdominal operation was succeeded by a pregnancy which ended in the birth of a living child after a normal labour.—Dr. G. FITZGIBBON cited a case in which a fibroid occupied the entire fundus. It flattened out over the fœtus until in the later months it was difficult to differentiate the tumour from the uterine contents. The case was watched and allowed to go to full term and the woman was delivered of a living child without difficulty.—Dr. PUREFOY said that the difficulty of diagnosing pregnancy in the first few months in fibroid uterus was a matter of great importance and should be constantly present to their minds when dealing with such cases. Sir William Smyly's paper illustrated the fact that a woman having a fibroid uterus often passed through several years of married life before pregnancy occurred. In some cases the tumour remained stationary in pregnancy. In some it diminished, as in a case where several small fibroids were palpated at the first pregnancy, while in a second and third pregnancy their presence was difficult to recognise. On the other hand, in some cases the tumour grew very rapidly. His own observations bore out Sir William Smyly's statement that in some cases they removed fibroid uterus without suspecting it to be gravid. The presence of one or more fibroids would chiefly give them trouble in the third stage. Some observers in England advised patients to avoid matrimony, as pregnancy was fraught with great risk in the circumstances, but that was not their experience in Ireland.—Dr. HOLMES, Dr. R. J. ROWLETTE, Dr. HENRY JELLETT, and Mr. J. S. ASHE discussed the case, and the PRESIDENT said that so far as he knew this case was the first reported in Dublin of myomectomy with subsequent pregnancy. Myomectomy at full term without the removal of the uterus seemed to him an impossible operation in the majority of cases. The hæmorrhage that followed the enucleation of a myoma in a pregnant uterus would be greater than he would like to face. In young married women they would all operate if they were sure they could remove the tumours by myomectomy, but that was what they were not sure of. He therefore always let a young married woman keep the myoma in the hope that she would become pregnant. He thought their resources were quite adequate to deal with the myomatous condition, no matter where situate. It was not always easy to diagnose pregnancy when it occurred in a myomatous uterus.—Sir WILLIAM SMYLY, in reply, said that the tumour was attached to the lower uterine segment. When he opened the broad

On a vote the amendment was rejected by 17 votes to 3. The motion was then agreed to.

Proposed Additional Member of Council.

Dr. Langley Browne had the following motion on the agenda:—

> That representations be made to the Privy Council that it is expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member to the General Council.

With the consent of the Council he postponed the motion till next session owing to the shortness of the time available at the present session for its consideration.

Methods of Clinical Teaching.

For the same reason this course was also adopted by Dr. Lindsay Steven who had intended to propose the following motion:—

> That the Education Committee be instructed to obtain information as to the methods of clinical teaching in medicine and surgery in operation at the various medical schools of the United Kingdom, and to report to a future meeting of the Council.

An Application for Registration.

The Council then considered an application for registration by Mr. CHARLES REGINALD EDWARDS, Mem. R. Coll. Surg. Eng., 1884, Lic. R. Coll. Phys. Edin., 1884, a medical practitioner entitled to be registered under the Medical Act (1858), but who neglected to effect such registration until after the "appointed day" (June 30th, 1887) under the Medical Act (1886). The application was duly considered by the English Branch Council on Nov. 25th, 1908, when the following resolution was passed:—

> That the Branch Council recommends to the General Council that Mr. Charles Reginald Edwards be registered.

This was agreed to.

Dr. NORMAN MOORE moved a vote of thanks to the President for his able services in the chair and this having been heartily accorded the business of the session ended.

THE REPORT OF THE INSPECTOR UNDER THE INEBRIATES ACTS FOR THE YEAR 1907.

Dr. R. Welsh Branthwaite, the inspector for England under the Inebriates Acts, in presenting his report for the year 1907, restricts himself to little more than the publication of figures on the ground that as he is a member of the Departmental Committee which was recently appointed to inquire into the working of the Inebriates Acts he must avoid comment upon those matters of policy which may presumably be considered *sub judice*. The institutions which are under his inspection are (1) State inebriate reformatories; (2) certified inebriate reformatories; and (3) inebriate retreats; and it may be well to define the scope of the work done under these three sections, so that the figures quoted may assume their real significance.

1. *State inebriate reformatories* are two in number—one for males at Warwick and one for females at Aylesbury. In these the worst cases are dealt with—those who prove too refractory for further control in certified institutions. They may be regarded as being more of a penal than of a reformatory character. During the year 30 men and 32 women were admitted on transfer from certified reformatories and one man and three women directly from courts.

2. *Certified inebriate reformatories* are 11 in number, one, Abbotswood House, Cinderford, Gloucester, being maintained exclusively for males, while the following eight are for females: Royal Victoria Home, Horfield, near Bristol; Duxhurst, near Reigate; Farmfield, Charlwood, Horley, Surrey; Midland Counties Inebriate Reformatory, near Chesterfield, Derbyshire; Southern Counties Inebriate Reformatory, Lewes, Sussex; North Midlands Inebriate Reformatory, Ackworth, Pontefract; Lancashire Inebriate Reformatory, Langho, Blackburn; Eastern Counties Inebriate Reformatory, East Harling, Norfolk; and at Brentry Inebriate Reformatory, Bristol, and the Yorkshire Inebriate Reformatory, Cattal, near York, both sexes are received. Some of these reformatories are maintained by counties or groups of counties and others are charitable institutions where cases are received on the payment of a small maintenance charge. They are altogether certified for the reception of 165 males and 1021 females. Under Section I. of the Inebriates Act, 1898, drunkards who are convicted on indictment of an offence punishable with imprisonment or penal servitude may at the discretion of the court be committed either to a State or to a certified reformatory. To the certified reformatory also may be committed under Section 2 any person who when drunk has been guilty of certain offences (scheduled in the Act) and who also has been convicted three times in the preceding 12 months of drunkenness. To neither reformatory—i.e., State or certified—may the term of committal exceed three years, and under certain conditions the person may be granted a licence to be at large before the committal period has expired. Of the 493 persons who were sentenced during the year under the Inebriates Acts and who were duly admitted (and this number is markedly in excess of that recorded during previous years) 428 were women. The increase in committals is due to the greater number of women dealt with under Section 2 of the Act—for drunkenness and disorder in the streets. There has been a decrease in the number of male admissions owing to a regrettable lack of accommodation. At Brentry alone 80 men were refused admission. This lack of accommodation is partly due to the fact that during the first few years of the working of the Act magistrates made but little use of it so far as men were concerned, and as a consequence one reformatory where men were received had to be closed.

It is not stated in the report why so many more women than men are committed, but one reason for the disproportionate number of female committals may also be due to the reluctance of magistrates to "put away" for a long time the man who, drunkard though he be, is still not always out of work and who when working is the support of his family. Notwithstanding this general increase in the number of admissions fewer persons have proved sufficiently refractory to necessitate a transfer from certified to State reformatories. The conclusion formed from this is that the reformatory officials are becoming more accustomed to the work and are therefore better able to control their inmates with the ordinary means at their command, while it is found that men are less amenable to strict discipline and loss of liberty than women. Reference has been made to the class of cases received at State reformatories. A large number of these persons are mentally defective, although not certifiable under the present lunacy laws, and Dr. Branthwaite points out that "there is no power to detain the most hopelessly defective person after sentence has expired, notwithstanding the recognised condition, certainty of relapse into drunken and disorderly habits, and possible danger to other persons from sudden passionate violence." The community would benefit if the reformatory authorities were to be given power, under proper safeguards, to detain such cases until in the opinion of the medical officers there would be a reasonable hope that further relapses would be improbable.

3. *Inebriate retreats.*—These are 22 licensed inebriate retreats, eight for males, 12 for females, and two for both males and females. Some of these are more or less self-supporting charitable institutions, others are conducted for profit. In these retreats are received habitual drunkards who place themselves under control voluntarily. Some enter under the Act for a period not exceeding two years, others are admitted by private arrangement with the licensees. The number of persons admitted during the year was 595. Of these, 210 were admitted under the Act; the remainder entered without any attestation before a magistrate. Dr. Branthwaite reports that in 68 instances during the year leave of absence from a retreat was obtained for patients, but that in only eight of these was leave granted for ill-health. The remainder obtained leave on account of domestic complications, business exigencies, and as a reward for good conduct. Under Section 19 of the Habitual Drunkards Act, 1879, leave of absence can only be obtained on account of benefit to health. It is, however, a step in the right direction to widen the scope of this section and to enable licensees to obtain leave of absence for patients by making the statutory application to a magistrate in other and reasonable circumstances.

We have already referred to the fact that the report is largely statistical. There are numerous and most useful tables incorporated in, and attached as indices to, the report. To complete the publication we should be glad to see a table giving results of detention and especially to be informed as to the percentage of good results obtained. It is, however, easy to realise that there are great difficulties in the way of obtaining such information.

ependymal epithelium is described at length. Section III., devoted to the cerebro-spinal axis, opens with an account of the gross anatomy of the spinal cord. This is followed by descriptions of its internal structure and of its microscopic structure and is completed by a chapter on the conducting tracts of the cord and the degenerations resulting from lesions. The medulla and pons, the cerebellum, the mesencephalon, the thalamencephalon, and the cerebral hemispheres are all treated in a similar manner, the gross anatomy being followed by an account of the microscopic structure in each instance. In describing the naked-eye anatomy of the cerebral hemispheres the authors acknowledge their indebtedness to Professor Retzius whose work, "Das Menschenhirn," has been freely consulted in the preparation of the present volume. A very useful and instructive chapter on the cerebral hemispheres of the primates, together with a comparison between the human and anthropoid brains, is included in this portion of the work. The remaining chapters of the book are devoted to the minute structure of the cortex, the membranes and the blood-vessels of the brain and the spinal cord, and cranio-cerebral topography.

The book, printed in clear type on good paper, is profusely illustrated with beautiful drawings which are faithfully reproduced and in many instances the text is further elucidated by the clearest of outline diagrams. We cannot speak too highly of the volume which is undoubtedly the best of its kind published within recent years.

Injuries of Nerves and their Treatment. By JAMES SHERREN, F.R.C.S. Eng., Assistant Surgeon to the London Hospital; Surgeon to the Poplar Hospital for Accidents; late Erasmus Wilson Lecturer, Royal College of Surgeons of England. London: James Nisbet and Co., Limited. 1908. Pp. 310. Price 5*s.* net.

THE surgery of the injuries of nerves is of comparatively recent date; much work has been done, both experimental and surgical, and now it may be said that we possess fairly exact knowledge of the subject. This book does not claim to contain an exhaustive account of the surgery of the injuries of nerves but it omits little that is of any importance. Mr. Sherren prefers to discard the expressions "concussion," "contusion," and "laceration of nerves," which describe rather the method of injury of the nerve than the actual damage to the conducting portion of the nerve. They omit the only really important fact for prognosis and treatment, and this is whether the separation from the central nervous system is complete or incomplete; therefore Mr. Sherren divides injuries of the nerves into those with (*a*) complete and (*b*) incomplete division. Further, each of these classes is divisible into two, in one of which the naked-eye continuity of the nerve is intact, and this he terms physiological, and in the other there is a visible solution of continuity or "anatomical division." A good account is given of "plexus-injuries" and of the injuries of individual nerves. The ways in which nerves are damaged are also described, and the causes may be divided in three classes: first, wounds, accidental or operative; secondly, pressure; and thirdly, traction. These various causes affect the individual nerves with different frequency. For instance, the median and ulnar nerves are most commonly injured by penetrating wounds, the musculo-spiral nerve as the result of pressure, and the brachial plexus as the result of traction. The signs and symptoms of the complete division of a peripheral nerve are discussed, the method of examination is described, and the diagnosis is considered. The diagnosis of injury of nerve is perhaps most difficult from hysterical affections coming on after some form of injury.

The treatment is discussed fully and Mr. Sherren points out the need for great care in the treatment of the case after the operation has been performed. The operation of primary suture of a divided nerve is comparatively modern, though it was performed by Baudens so long ago as 1836, yet it was not a recognised method of treatment until 1864 when Nélaton reintroduced it. The author says emphatically that scissors should not be used to pare the ends of a nerve as bruising results. Sterile catgut he considers to be the best suture and one stitch is sufficient in nearly all cases. Chromicised Cargile membrane is used to surround the junction so as to prevent the ingrowth of fibrous tissue and adhesions to surrounding parts. The membrane resists absorption for five weeks and does not cause irritation. What is to be done if in secondary suture of a nerve it is not possible to bring the ends together? Transplantation of nerve is valuable, especially when the nerve employed is taken from the patient or another human being, and Mr. Sherren considers this the method of election; when auto- or homo-transplantation is not possible then either nerve anastomosis or tubular suture may be employed. As to the length of time before recovery of sensation and motion after secondary suture the author considers that it is too irregular for any definite statement to be made. He does not consider that it bears any relation to the time of the secondary suture unless that has been delayed beyond three years. The remaining chapters of the book deal with the lesions of individual nerves and of groups of nerves.

The book is excellent and contains a very good account of the injuries of nerves and their treatment. It is fully abreast of our present knowledge both in the theoretical and in the practical portions.

Human Personality and its Survival of Bodily Death. By FREDERIC W. H. MYERS. Edited and abridged by his son, LEOPOLD HAMILTON MYERS. London: Longmans, Green, and Co. 1907. Pp. 470. Price 10*s.* 6*d.*

THE original edition of this truly remarkable work, which we reviewed in THE LANCET[1] at the time of its appearance, was published in two volumes at the price of two guineas. The editor states that his father before his death indicated the lines upon which an abridgement could be made, and in producing the present abridged edition he has endeavoured to keep as closely as possible to the original scheme and construction of the book. It is now of a size more convenient for the inquirer into the interesting departments of which it treats and it affords a stimulating and instructive record of the experiments and speculations of a highly original mind working in fields of singular difficulty along paths previously almost unexplored. The fundamental object to which it is devoted is the endeavour to answer that most momentous of questions—as to whether the personality of man involves any element which can survive bodily death. The general conclusion to which Mr. Myers's long study of this problem brought him may best be given in his own words: "'The conscious Self' of each of us, as we call it, the empirical, the supraliminal self, as I should prefer to say, does not comprise the whole of the consciousness or of the faculty within us. There exists a more comprehensive consciousness, a profounder faculty, which for the most part remains potential only so far as regards the life of earth, but from which the consciousness and the faculty of earth-life are mere selections and which reasserts itself in its plenitude after the liberating change of death." He adopted the conception of a "subliminal consciousness" and extended it so as to include all the psychical processes which occur beneath the threshold or beyond the margin of that ordinary play of conscious activity, which we commonly call consciousness and which may for descriptive purposes for the Council to agree to such a measure while asking for a Royal Commission to inquire into the evils of unqualified practice is somewhat inconsistent. This section of the medical profession will find it inexpedient that the General Medical Council should be represented on any nursing council to be created by a new Act of Parliament, and the attitude has a logical reason. Others, and we find among them Dr. LANGLEY BROWNE, Dr. L. S. MCMANUS, and Dr. H. A. LATIMER, the three English Direct Representatives on the Council, believe that the medical profession is greatly in favour of the registration of nurses and that a proper registration of nurses can only be for the good of the public by insuring to the public efficient aid to medical services. We are not ourselves so sure that the latter is the view taken by the medical profession at large; at any rate, we have at different times received many communications of an opposite sense, but we think that none the less the question has reached a stage at which it can hardly be further debated. The recent creation of a Central Midwives Board made it almost certain that a similar scheme for the control of general nursing would come into existence, while the General Medical Council has already passed a resolution recommending the registration of nurses. For ourselves we should have liked to hear this very important question debated at greater length by the General Medical Council, but the Council, as the President reminded the members, cannot very well go against its former resolution, while the only argument that ought to be effective to induce them to do so would be the knowledge that the feeling of the medical profession had changed—and this they learn from the evidence of the Direct Representatives is not the case.

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[1] THE LANCET, May 2nd, 1903, p. 1241.

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The Health of the Royal Navy during 1907.

THE report on the health of the Royal Navy for the year 1907 has been published. It is satisfactory to record that a diminished ratio of sickness is reported, probably due to the greater concentration of the total force in home and Atlantic waters. The Channel Fleet shows the lowest and the Irregular List the highest sick list, the latter perhaps due to the fact that under this heading are included the crews of men-of-war proceeding to foreign stations, many of whom, especially young stokers, succumb temporarily to their first experiences of the heat of the tropics. In comparison with the last five years the China station showed an increase of disease, especially as regards venereal diseases, the entries and invaliding ratios of which indicated marked and unsatisfactory additions. As regards malarial fevers it is of importance to note that "the river gunboats all report favourably on the value of mosquito nets and of the prophylactic value of quinine when used systematically." The Australian station "again shows the highest case ratio" as regards venereal diseases. From the North American and West Indian station there are reported seven cases of yellow fever with three deaths. This is the first time any cases of this disease have been reported since 1904; they all occurred on board H.M.S. *Indefatigable* at Barbadoes. The incubation period varied from one to 12 days. The disease was contracted on shore in every instance, each individual attacked had slept in the same locality, and all had been freely bitten by mosquitoes.

From the Mediterranean station there are returned only 14 cases of Malta fever and the origin of every other case reported was traced to the Mediterranean. The following figures may be quoted as a triumph of scientific medicine: "In comparison with the average ratios for the last five years, the case ratio has fallen from 3·47 per 1000 to 0·26, the final invaliding from 0·13 to 0·04 per 1000, and the death from 0·06 to 0·01." From the East Indian station is returned the largest number of cases of malarial fever, Bombay being the commonest place of origin. The returns from the "Home station" under the heading "Diseases of Other Organs of Special Sense" are noteworthy. There are 291 cases noted, with 72 invalidings and one death. Diseases of the ear were responsible for the great majority of the invaliding cases and for the one fatal case. The report informs the public that a careful investigation had been made into all cases under treatment for ear trouble and that in the vast majority of these no connexion with gun-firing could be traced. It is, however, fairly well established that although actual disability rarely follows even continuous exposure to gun-fire, yet a certain degree of deafness and decrease in acuteness of hearing, especially in a crowd, is very liable to be noticed amongst officers and men who have been exposed to the shock of gun-fire, and this liability becomes greater the more continuous the exposure. "It is," concludes the report, "very necessary, therefore, that all officers and men exposed to gun-fire should as far as is practicable take advantage of one of the methods of ear protection now in use." As a review of the health of the whole fleet the report makes cheerful reading but the condition in one respect is, we consider, very unsatisfactory. Venereal disease is still far too common. The total number of cases recorded in 1907 was 13,522. The total number of days loss of service was 329,936, while the average daily number of men ineffective from these diseases was 903·9. These figures should be sufficient to convince the most sceptical of the grave deterioration of the national health implied and to remind them that the mischief may reach generations yet unborn.

We much regret to see the brevity of the appendix to the report, which consists of the laboratory report of the Royal Naval Hospital, Malta, by Staff-Surgeon H. C. WHITESIDE, R.N., and some "analyses of air in double bottoms of iron ships" by Staff-Surgeon OSWALD REES, R.N. Both these are valuable contributions to exact knowledge but when we remember the immense field of work of the medical officers attached to the Royal Navy and Marines "Per mare, per terram" and their opportunities for observing the types and forms of disease amongst all nations of the earth, plus the effects of geographical position, climate, and epidemic and endemic influences in determining and modifying their characters, there can be obviously no want of material for observation and research. As we recently indicated, we wish to look on the medical officers of the navy and army as a body of highly trained organised observers; dealing to such an extent as they must with the manhood of the nation, from their entry as recruits

Chambers's house and used to try experiments on "the girls" in electro-biology, otherwise hypnotism. These experiments were, however, says Lady Priestley, nothing to those which Simpson used to try with chloroform. Simpson, "with some of the liquid simply poured on a handkerchief would have half a dozen of us lying about in various stages of sleep. Our mother feared nothing." Later in life the Priestleys became very intimate with Pasteur and his wife and they had a considerable share in making his work appreciated in this country.

Among other interesting people with whom Lady Priestley came in contact was Mrs. Loudon, the widow of J. C. Loudon, the botanist and writer on agriculture. He must have been a man of iron will, for Lady Priestley relates how owing to rheumatic ankylosis and a subsequent fracture of the humerus which did not unite he found the affected arm so in the way that he determined to have it amputated. When the day came the arm was amputated (there were no anæsthetics in those days), and after the stump had been dressed "he was about to step downstairs, as a matter of course, to go on with his business." He was only persuaded with great difficulty to go to bed.

Loudon was the hero of the delightful story of the Waterloo Beeches, which as Lady Priestley does not mention it, we will, to quote the immortal Mr. Barlow, "now proceed to narrate." One day when Wellington was sitting in the House of Lords he received a note from Loudon to the following effect:—

> MY LORD DUKE,—It would gratify me extremely if you would permit me to visit Strathfieldsaye at any time convenient to your Grace, and to inspect the "Waterloo Beeches."
>
> Your Grace's faithful servant,
> J. C. LOUDON.

The "Waterloo Beeches," we may add, were those planted just after the battle as a memorial. Wellington read the letter twice over and misread the signature as C. J. London. He then replied as follows:—

> MY DEAR BISHOP OF LONDON,—It will always give me great pleasure to see you at Strathfieldsaye. Pray come there whenever it suits your convenience, whether I am at home or not. My servant will receive orders to show you as many pairs of breeches of mine as you wish; but why you should wish to inspect those that I wore at the battle of Waterloo is quite beyond the comprehension of
>
> Yours most truly,
> WELLINGTON.

When "My Dear Bishop of London" (C. J. Blomfield) received this epistle he was not unnaturally somewhat astonished. He showed it to the Archbishop of Canterbury and the other Bishops, who were as much exercised by it as if it had been an Education Bill. The Bishop of London said that he had not written to the Duke for two years. However, explanations eventually came about and the mystery was cleared up.

We will take our leave of Lady Priestley's book by saying that if anyone is tired of the burning questions of the day he will find relief and mental refreshment in reading this pleasantly told chronicle of an age which has gone for ever.

LIBRARY TABLE.

The Truth and Error of Christian Science. By M. CARTA STURGE. London: John Murray. 1908. Pp. 185. Price 2s. 6d. net.—The general nature of the claims of "Christian Science," more especially in regard to the efficacy of mental healing, is fairly well known, but the reasoning or philosophy on which these claims are based, as set forth in the writings of Mrs. Eddy, is probably less familiar. Miss Sturge, after long, sympathetic, and patient study of the published books on the subject, and after association with some of the genuine followers of the cult, has subjected the statements and views of "Christian Scientists" to a logical analysis and to a temperate and unbiassed criticism. The labour involved must have been considerable, since she has been at special pains to discover the general principles and to express them clearly; whereas the writings of Mrs. Eddy abound in contradictions and are generally lacking in sequence. Miss Sturge points out that those statements of the "Christian Scientists" which are true present no novelty, but are such as are generally taught in Christian doctrines or are affirmed by philosophers. The inconsequential character of Mrs. Eddy's deductions is well illustrated by Miss Sturge in a brief epitome of the chief doctrines of "Christian Science." From the main principle that All is God is reduced the generalisation that All is Mind, and further that mind alone is real. Matter is therefore regarded as non-existent, and the entire material world is the creation of what Mrs. Eddy calls Mortal Mind, whatever that may be, for Miss Sturge is unable to find a coherent definition of it. Since the material world is a delusion our bodies are non-existent and disease is therefore equally a delusion, although, curiously enough, as Miss Sturge points out, there must be a condition of bodily health, since Mrs. Eddy's book, "Science and Health," has for its object to teach us how to maintain it. The subject of "mental healing" is considered at some length and in this connexion the importance of suggestion as a therapeutic agent in appealing to some of the subconscious or subliminal activities of mind is emphasised, although Miss Sturge indicates that she does not mean to imply that "Christian Scientists" may not draw power from some higher or spiritual planes, as they claim to do, but the onus certainly lies with them to establish the proof of this. We can commend this small book as a thoroughly temperate and critical exposure of the glaring inconsistencies and exaggerated claims of this strange modern form of mysticism.

Landmarks and Surface Markings of the Human Body. By LOUIS BATHE RAWLING, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Surgeon, Demonstrator of Practical and Operative Surgery, late Senior Demonstrator of Anatomy, at St. Bartholomew's Hospital; late Assistant Surgeon to the German Hospital, Dalston; late Hunterian Professor, Royal College of Surgeons of England, &c. Third edition. London: H. K. Lewis. 1908. With 31 illustrations. Pp. 96. Price 5s. net.—The demand for this little book having necessitated the publication of a third edition the author has taken the opportunity of increasing its value by the addition of several illustrations. He has wisely refrained from altering the text which therefore remains the same as in the previous edition. The new illustrations besides being well conceived are beautifully executed and materially assist in elucidating the text. The book as it stands fills a long-felt want and we wish it a continuance of the success which it has so deservedly gained.

A Synopsis of Surgery. By ERNEST W. HEY GROVES, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at the University College, Bristol. Bristol: J. Wright and Sons, Limited. 1908. Pp. 486. Price 7s. 6d. net.—Nearly every student who has read a text-book of surgery feels the need as his examination draws near for some way of revising his knowledge, and for such a one this book should prove useful. It appears to contain all that is necessary in a synopsis and the phraseology is not too condensed. No synopsis should be used in place of a treatise on surgery, for the explanations are necessarily omitted or very brief, but such a book as this may legitimately be employed for revising knowledge. So far as we have examined it, it is accurate, but a few misprints occur, such as "bácillus coli commune." The final chapter on Surface Markings is likely to prove useful.

of Lucca, BRUNUS of Calabria, WILLIAM of Salicet, and his eminent pupil LANFRANC of Milan. The new movement spread to France, its chief centres being established at Montpellier about the beginning of the thirteeenth century and in Paris a little later. Towards the end of the thirteenth century LANFRANC was exiled from Milan; he stayed for a time at Lyons, where he wrote his "Chirurgia Parva," and thence he went to Paris where he was invited by the Faculty of Medicine to give a course of lectures on surgery, and the outcome of these lectures was his "Chirurgia Magna" which was completed in 1296. LANFRANC'S influence was personal and fleeting, though his work was carried on for a few years by HENRY of MONDEVILLE, under whom JOHN of GADDESDEN studied. After GUY DE CHAULIAC, who flourished about 1340, surgery suffered in France a fresh eclipse, this becoming almost total when the ecclesiastical authorities of Paris in 1350 forbade the members of the University to practise surgery which, as a mere handicraft, was despised by the cleric physicians. In England, after JOHN ARDERNE, there was no surgeon of great repute for over 200 years.

Throughout the Middle Ages the whole character of thought was ecclesiastical; nearly all the teaching was in the hands of the monks and there was scarcely any learning outside the monasteries. The care of the sick was one of the duties of the monks and from the eighth to the fourteenth century the practice of medicine fell into the hands of the monastic orders. So eagerly did some of the monks pursue the study and practice of medicine that they neglected their religious duties and the study of theology. They left their monasteries in order to attend lectures on medicine and to seek for patients. To stop the evils and scandals to which these absences eventually gave rise many decrees were promulgated by the several Councils of the Church and by the Pope in the twelfth century forbidding monks to practise medicine outside their monasteries. The higher clergy were forbidden to engage in any part of the art of medicine, but the lower clergy were allowed to practise medicine; no surgical operations, however, were permitted to them. The "regular clergy" did abstain, as a rule, from practising surgery, but they were often present at the operations performed by their assistants, directing what should be done. Universities were founded where medicine was taught and practised, but gradually surgery became divorced from medicine and was abandoned to laymen, a few of whom were fairly educated in surgery for the time. Some of these were probably the scanty representatives of the Græco-Roman schools but the greater number of those who performed surgical operations in those days were barbers. Most of these acquired their knowledge not by attendance at professional lectures but by tradition and practice, as indeed was the case with many medical practitioners in this country less than a century ago.

As the barbers grew in knowledge and skill they gradually secured official recognition. A corporation of barbers existed at Montpellier in 1252. In Paris as early as 1301 they had taken the title of "barber-surgeons" and were recognised by the Masters of Surgery who a few years earlier had formed themselves into a fraternity under the invocation of ST. COSMAS and ST. DAMIAN, the patron saints of surgery. The barbers of London were certainly a company at the beginning of the fourteenth century, for, as we have already mentioned, in 1308 a Master was appointed, and even then we find that there were two classes of the members of the company, the barbers proper and those "exercising the faculty of surgery."

The claims of barbers to practise surgery were everywhere countenanced by the cleric physicians, especially in Paris where the latter maintained a hostile attitude towards the regular surgeons. By the end of the thirteenth century the barbers had so extended their domain that they performed most of the ordinary surgical operations, except those for stone, cataract, and hernia, which were left in the hands of specialists, many of whom were itinerant. Under the patronage and protection of the physicians, the barbers continued to rise in status and importance and soon obtained almost a monopoly of surgical practice; and at Montpellier and at Paris the physicians both arranged for lectures on surgery and anatomy for the barbers. By educating the barbers the physicians enabled them to triumph over the regular surgeons, both in numbers and in the extent of their practice. In 1348 the Chancellor of the University of Oxford incorporated the barber-surgeons of that city and they enjoyed the privileges of the University of Oxford. In 1505 the surgeons and barbers of Edinburgh presented a petition to the magistrates and town council that their society might be recognised as one of the guilds with exclusive privilege of exercising their craft. This event was celebrated three years ago as the fourth centenary of the Royal College of Surgeons of Edinburgh. In 1446 HENRY VI. established a Guild of Barbers in Dublin and in 1572 ELIZABETH granted a charter, confirming a much older one, to the barber-surgeons of Dublin, uniting the barber-surgeons and the surgeons.

In London, as at Montpellier and Paris, there were three classes of medical practitioners—the cleric physicians, the lay surgeons, and the barbers practising surgery. Between the surgeons and the barbers there was for many years a keen rivalry and jealousy, and not seldom displays of ill-feeling. Each tried in turn to obtain supremacy over the other. In 1369 the Fraternity of Surgeons obtained from the mayor and aldermen of London an ordinance investing them with the power of presenting the defaults of unskilful surgeons, but seven years later the barbers complained to the court against unskilled practitioners in surgery and obtained an ordinance that two Masters should be appointed annually to direct and to rule the craft, to inspect instruments, and to see that none should be admitted to the franchise of the City without attestation of their skill by examination. In 1390, however, four Masters of the Surgeons' Guild obtained authority to present defaults among persons practising surgery. But in 1410 the barbers obtained from the Court of Aldermen confirmation of the privileges granted in 1376, with the significant addition that they should be enjoyed "without the scrutiny of any person or persons of any other craft or trade whatsoever." In 1423 the surgeons attempted to unite with the physicians to form a commonalty of physicians and surgeons, but the attempt failed, and in 1424 the surgical privileges of the barbers were confirmed. In 1462 the barbers received a charter of incorporation from EDWARD the FOURTH in the first year of his reign This charter, from which the Royal College of Surgeons discs and meat are contained in a strong metal vessel provided at the foot with a spout through which the juice escapes. We found that as much as 2½ fluid ounces of juice was obtained by submitting to pressure 4½ ounces of lean beef, which is a yield of well over 50 per cent., a result which may be regarded as the maximum possible. All the parts are accessible for cleaning. This handy little apparatus should find a strong appreciation in the hospital and in the sick room, as by its use a very nourishing fluid may be readily and almost instantly obtained directly from raw meat.

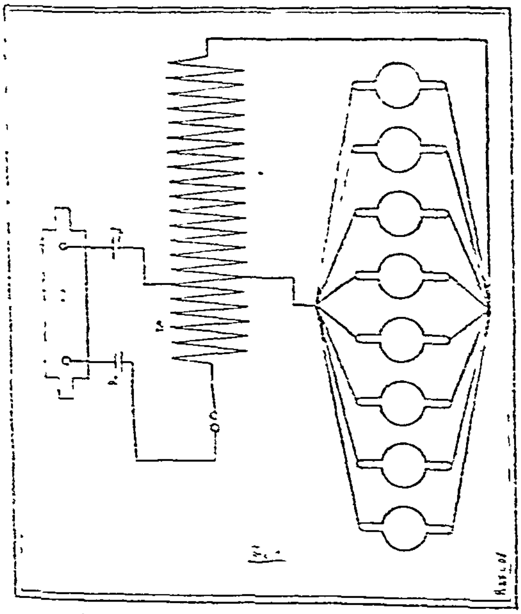
New Inventions.

X RAY TREATMENT OF INTERNAL PROCESSES.

THE different kinds of radiation used to an ever-increasing extent in modern medicine, and most of all Roentgen rays, are known not only to exert a curative effect on morbid tissues but at the same time to affect sound parts in a disadvantageous manner. They require, therefore, in order to avert any harmful secondary effects, the most careful measures of precaution.

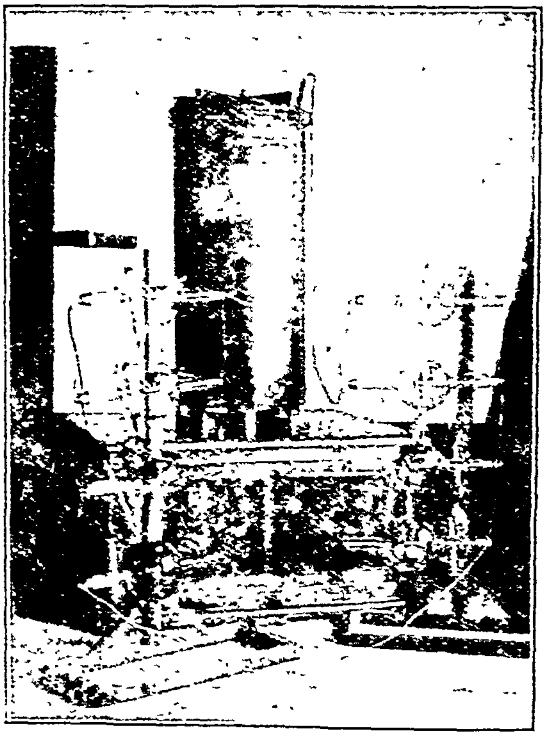
Now, of these two effects, that exerted on the morbid tissues is by far the stronger, and to this fortunate circumstance are due the curative effects insured by x ray radiation. It may be said fairly that in the application of x ray treatment medical men have so far been mainly limited to the surface of the body, there being no means available of generating a radiation of a sufficiently constant penetrative power to reach the deeper parts of the body without any damage to the skin. Owing to fluctuations in electro-tension the x ray bulb in fact gives out cathode rays of different speeds, which in turn produce x rays of a penetrative power differing in proportion, and all "hard" radiations hitherto obtained have been invariably mixed with "soft" (or less penetrating) rays which, being absorbed by the skin, resulted in severe injury to the latter. Now, Dr. G. Holzknecht of Vienna, by ingeniously combining different factors, recently suggested a process of generating a uniformly penetrative Roentgen radiation, by means of which internal processes, such as cancerous tumours or seats of tuberculous affections, would seem to be susceptible of most efficient treatment. This radiation is absorbed by the internal parts of the body at least as strongly as at its surface, and as any morbid parts are acted on far more rapidly and intensely than the sound tissues, the curative effects exerted in the interior of the body are attended by no injury to the skin. The factors utilised by Dr. Holzknecht are: (1) a considerable distance between the x ray bulb and the body; (2) filtration of the radiation; (3) production of specially penetrating rays; and (4) radiation in all directions. It may be truly said that the practical utilisation of the process was at first made difficult by the lengthening of the time of treatment due to each of those factors. Owing to the great distance the intensity of radiation in fact decreases (proportionally to its square, that is, by four times for a double distance); filtration results in part of the radiation being lost by absorption, and "hardness" of radiation is accompanied by another loss of energy, while the distribution over several directions in its turn results in a loss of intensity. The lengthening in the time of treatment was at first so considerable as to require from 50 to 100 hours to cause the same amount of radiation to act on the body as could be applied to the skin by a 15 minutes' treatment. By the use of several bulbs and the simultaneous treatment of several patients a relative shortening of the treatment could, it is true, be obtained. Now, Herr H. Bauer of Berlin, according to a communication to the recent X Ray Congress, has been able to design, on the basis of the principles suggested by Dr. Holzknecht, a really practicable apparatus, by the aid of which the time of treatment is reduced to quite normal limits, thus making the process accessible to a general application.

FIG. 1.



Schema showing arrangement of coil-lamps, &c.

FIG. 2.



General view of apparatus.

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HEALTH AND SANITATION IN MAURITIUS.

REPORTING on the Blue Book of Mauritius for the year 1907, Sir J. Graham Bower, K.C.M.G., R.N. (retired), Colonial Secretary, puts the present estimated total population at 383,408, there having been an increase both in the Indian and general population. The public health was much better than in 1906, the death-rate decreasing from 40·0 per 1000 in 1906 to 34·7 in 1907, whilst the birth-rate increased from 33·5 to 37·7. An unsatisfactory feature is to be found in the high infantile mortality, and a very high proportion of stillbirths—8·5 per cent.—has at the same time to be recorded. Mauritius lies close to the edge of the southern tropic, and has the climate which is to be expected in such a latitude. It is also in the direct line of the track of the cyclones of the Southern Indian Ocean. But the climate at the lower levels, though unfavourable to man, is very favourable to vegetation; even a hurricane may prove to be a blessing in disguise, and the heat and rain of the summer months, though they fill the hospitals, push the growth of the sugar cane and thus help also to fill the pockets of the sugar planters. The high levels, though damp owing to the condensation of the trade winds, are not unhealthy; and it is poverty rather than climate which should bear the responsibility of the sickness and mortality amongst the population in the higher levels. There are in the colony 14 hospitals and asylums, including those attached to the jails. The admissions during the year numbered 23,355, an increase of 2984 over the previous year's figures, though the case-mortality—5·34 per cent.—was lower than that of 1906 by 0·51. Malarial fever accounted for 4272 admissions, against 3674 in 1906. Dysentery was answerable for 1286 admissions, as against 794 in the previous year. This higher incidence of dysentery was attributable principally to the prolonged drought which was experienced, notably from July to November, and the consequent great stagnation and pollution of the streams and rivers from which a great proportion of the population derive their water-supply. Influenza gave 1264 admissions, against 1768 in 1906, when the disease prevailed epidemically. 1114 admissions were registered for tuberculosis—an increase of 142. Only one case of pertussis came under notice, the epidemic of that complaint having come to an end in 1906. The number of cases of enteric fever notified in accordance with the Contagious Diseases Ordinance was 145, showing an increase of 64. This increase, however, was more apparent than real, being explained by the greater facility now afforded for the differentiation of the existing fevers by the creation of the bacteriological laboratory. Diphtheria was answerable for 60 notifications, against 33 in the previous year. Here again the increase was probably only apparent and indicated the influence of the bacteriological laboratory in determining the final diagnosis in doubtful cases. An epidemic of measles broke out in August. In spite of early precautionary measures the infection spread rapidly, 347 cases having been notified between August and December. Beri-beri, which is not endemic in the island, broke out simultaneously in three out of the four prisons of the colony in February. The source of the infection was traced to the use of a decorticated unstoved white rice from the East, which had been supplied to the prisons for some time. The epidemic at once subsided after the change of diet—from the rice in question to bread at first and to ordinary Indian rice later—had been prescribed and carried into effect. The yearly incidence of plague since 1898 has been as follows:—1899, 1416 cases, 1117 deaths, or 78·9 per cent.; 1900, 796 cases, 593 deaths, or 74·5; 1901, 1093 cases, 805 deaths, or 73·6; 1902, 506 cases, 386 deaths, or 76·3; 1903, 1395 cases, 1035 deaths, or 74·2; 1904, 568 cases, 449 deaths, or 79·0; 1905, 308 cases, 251 deaths, or 81·5; 1906, 434 cases, 344 deaths, or 79·3; and 1907, 224 cases, 178 deaths, or 79·5. It will probably be of interest to compare the alternations of malaria with those of plague; it will be noticed that both favour alternate years:—Malaria: number of cases, 1899, 4152; 1900, 2848; 1901, 4182; 1902, 3360; 1903, 4788; 1904, 3039; 1905, 5123; 1906, 3674; and 1907, 4272. The campaign against rats was carried on with increased vigour during the year under report, 125,558 of these vermin having been destroyed by the rat-catchers employed by the department. This figure compares very favourably with that for 1906, which was only 105,567. Surra continued throughout the year, though with less virulence. Its existence was detected, however, in the southern part of Black River, which had at first escaped contamination. A bacteriological laboratory was established in temporary buildings at Moka pending the construction of a more permanent home at Réduit. Much good research work has been done, but it is too early yet to speak of definite results. Nevertheless, the work in regard to surra is most hopeful. Good work has been done also by assisting the medical profession in cases of doubtful diagnosis.

ST. BARTHOLOMEW THE GREAT.

A MEETING was held on Nov. 27th in the Great Hall of St. Bartholomew's Hospital to support the effort which is now on foot to preserve the ancient gateway of St. Bartholomew the Great. The gate dates from the thirteenth century and originally gave entrance to the church. It is now mixed up with various secular buildings and the whole mass forms part of a property the trustees of which are desirous of modernising by pulling down the old houses. If this is carried into effect the gate would be left as little more than a dilapidated ruin. A letter was read by Sir Aston Webb, the architect of the church, in which it was stated that the trustees offered to sell the freehold of such houses and land as affected the gateway for £1875, the offer to be open to Jan. 1st, 1909. Some £200 more would be required for putting the premises into a habitable condition. Dr. Norman Moore moved:

> That in the opinion of this meeting it is desirable for the preservation of Smithfield Arch that the property over it and six feet to the side of it be secured, and that this meeting pledges itself to use its best endeavours to raise the sum of £1875 and a further £200 to put the house in a habitable state of repair.

Sir F. D. Dixon-Hartland, M.P., Mr. St. John Hope, and Canon Benham spoke in support of the motion which was unanimously adopted. It was announced that promises of support had been received amounting to £600. It is much to be hoped that the needful £1400 will be forthcoming. The city authorities will we are sure not be backward in preserving one of the few remnants of mediæval London which discs and meat are contained in a strong metal vessel provided at the foot with a spout through which the juice escapes. We found that as much as 2½ fluid ounces of juice was obtained by submitting to pressure 4½ ounces of lean beef, which is a yield of well over 50 per cent., a result which may be regarded as the maximum possible. All the parts are accessible for cleaning. This handy little apparatus should find a strong appreciation in the hospital and in the sick room, as by its use a very nourishing fluid may be readily and almost instantly obtained directly from raw meat.

New Inventions.

X RAY TREATMENT OF INTERNAL PROCESSES.

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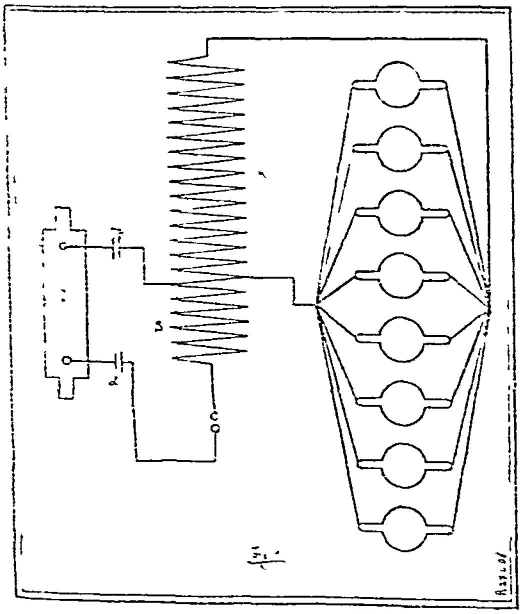

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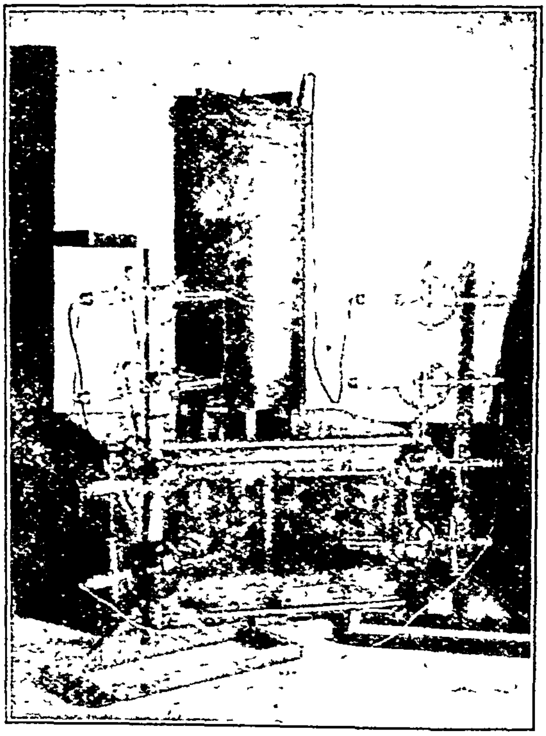

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Swallowing of solids became difficult. Radioscopy showed an aneurysm of the ascending part of the arch of the aorta of the size of the fœtal head. The aneurysm progressed until it extended three or four centimetres above the right clavicle and inspiration was attended by sub-costal and epigastric retraction. The displacement of the larynx increased; not only was it dragged downwards and backwards by traction of the trachea which was pushed backwards and to the left by the aneurysm but it was directly pushed to the left and backwards by the supraclavicular and suprasternal part of the sac which was in direct relation with the right side of the thyroid and cricoid cartilages. A movement of lateral torsion of the larynx was also produced. The upper part of the larynx projected forwards while the cricoid cartilage and upper part of the trachea, pushed backwards and to the left, lay deep in the neck and were no longer accessible to operation, which, however, the compression of the lower part of the trachea would have rendered useless. The dyspnœa increased and the patient died from asphyxia on July 8th, 1907. The necropsy showed an aneurysm of the size of an infant's head involving the whole of the ascending and transverse portions of the arch of the aorta. It compressed the superior vena cava, the innominate veins, and both pneumogastric and recurrent laryngeal nerves. The trachea was flattened and bent into a curve with concavity to the right. As the lower end of the trachea was fixed beneath the arch of the aorta by the left bronchus the pressure exercised by the aneurysm dragged its upper end with the larynx downwards, backwards, and to the left and at the same time lateral torsion of the larynx to the left was produced. The latter was all the greater as the upper part of the aneurysm pressed the right lateral surface of the larynx to the left and backwards. This condition of lowering, immobilisation, and torsion of the larynx M. Boinet describes as a new sign of aneurysm of the arch of the aorta ("*signe du larynx*"). The regurgitant waves in the right external jugular vein were explained by the obstruction of the superior cava and innominate veins, which distended the jugular veins and rendered their valves insufficient. Compression of both recurrent laryngeal nerves is rare in aortic aneurysm. M. Boinet thinks that the attack of influenza, the only infectious disease revealed by the history, played an important part in the development of the aneurysm.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the National Committee for Great Britain and Ireland of the Sixteenth International Congress of Medicine was held at the rooms of the Medical Society of London on Nov. 25th to consider the necessary organisation for Budapest at the Congress of 1909 (August 29th to Sept. 4th). There were present, among others, Dr. F. W. Pavy (in the chair), Sir William S. Church, Sir Dyce Duckworth, Sir Thornley Stoker, Sir Felix Semon, Dr. D. Ferrier, Mr. Walter H. H. Jessop, Dr. F. W. Hewitt, Mr. James Berry, Mr. Hunter F Tod, and the honorary secretaries (Dr. Clive Riviere and Mr. D'Arcy Power). After the minutes of the last meeting had been read and confirmed and letters of apology from absent members had been received, a list of new members of the National Committee for Great Britain and Ireland was read to the meeting. Then the honorary secretaries announced that all the hotel and lodging arrangements at Budapest had been placed by the executive committee of the Congress in the hands of the International Sleeping Car Company. The London offices of the company are situated in Cockspur-street, Charing Cross, and members intending to visit Budapest next year were desired to make early application for rooms to the manager of the London branch. It was also announced that the South Eastern and Chatham and Dover Railway Companies were considering facilities for travelling by through trains to the Congress. The amount of reduction in the fare which would be conceded had not yet been made known but details would be published in due course. A communication from the executive committee at Budapest was then considered in reference to the formation of a permanent international commission to secure the continuity of policy in the international congresses. The general principle was approved and the draft rules were read and discussed. Some amendments were agreed to and it was decided that the Commission should consist of the presidents and general secretaries of the previous and forthcoming congresses and of a delegate from each national committee, the total number of members not to exceed 50. The Commission would appoint its own bureau, the *personnel* of which would be a president, two vice-presidents, a general secretary, and another secretary who, in the opinion of the British National Committee, should be a permanent and paid official residing at some convenient centre in one of the neutral European countries —e.g., at the Hague, Brussels, or Geneva. A letter from the general secretary was then discussed as to the most convenient intervals between the congresses. The National Committee passed a resolution, after a vote had been taken, recommending that the international medical congresses should be held every four years instead of every three years, as had been the custom heretofore. The meeting ended with a vote of thanks to the Medical Society of London for placing its rooms at the disposal of the National Committee.

URBAN AND RURAL INFANTILE DIARRHŒA.

THAT fatal infantile diarrhœa in summer is essentially an urban disease is very generally recognised, but the striking contrast between the summer rates of infant mortality in urban and rural populations, mainly due to difference in the fatality of diarrhœa, is not sufficiently realised. The recently issued quarterly return of the Registrar-General, relating to the three months ending with September last, affords some means for contrasting the recorded infant and diarrhœa mortality in town and country during the past summer. The mean rate of infant mortality during the third quarter of this year was equal to 145 per 1000 births registered in the 76 largest English towns for which the Registrar-General issues weekly returns; and to 130 per 1000 in 142 other smaller towns having populations ranging between 20,000 and 50,000. In England and Wales, exclusive of these 218 large towns, but including all the urban districts with populations under 20,000, the rate of infant mortality did not exceed 102 per 1000. In the six mainly rural counties of Bedford, Bucks, Herts, Suffolk, Wilts, and Dorset, with an aggregate population exceeding a million and a half, the mean rate of infant mortality last quarter was only 63 per 1000, and ranged from 58 in Berkshire to 66 in Buckinghamshire and in Dorsetshire. Even these low rural rates of infant mortality are somewhat overstated, as the Registrar-General's statistics do not afford the means for calculating the rates of infant mortality in the rural sanitary districts within those counties exclusive of the urban sanitary districts. So long, unfortunately, as the Registrar-General's statistics are based upon Poor-law unions, making up what are called registration counties, and not upon sanitary districts and administrative counties, the Registrar-General's statistics will fail to exert their full influence on sanitary authorities. Without the desirable correction for the urban districts in these six rural counties the mean rate of infant mortality therein was very considerably less than half the mean recorded rate in the 218 towns, having an aggregate population exceeding

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 24TH (*continued*)

The Reading of the Minutes

A MOTION was agreed to to the effect that the minutes of the Council which had been printed and circulated should be taken as read instead of being read in extenso by the Registrar

Mr. HENRY MORRIS, in commenting on the motion, remarked that in this way the time and the finances of the Council would be economised, as the reading of the minutes usually took about 15 minutes.

The Apothecaries' Hall of Ireland.

The Council then resumed consideration of a motion with respect to the Apothecaries' Hall of Ireland, proposed during its last session by the PRESIDENT. The terms of the motion ran thus:—

> That the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical part of these examinations, and, in addition, to supervise the medical and obstetrical portions with the object of securing that at each qualifying examination the required standard of proficiency is maintained.

When the discussion was broken off six months ago an amendment, moved by SIR THOMAS MYLES and seconded by DR R. SAUNDBY, was under consideration, and it was in the following terms "That the motion be amended by inserting after the words 'held by' the words 'the Society of Apothecaries of London and the.'"

DR F G ADYE-CURRAN (continuing the discussion on the amendment) said that he was in hopes that the Executive Committee might have seen its way after what passed last session to let this matter drop entirely, but he was afraid that he had rather over-estimated its generosity in that respect He held that the duties of the assistant examiners were entirely confined to the examination proper, and when the examination was done their duties were finished also It was incompetent that they should also act as inspectors There was a further inconsistency The assistant examiners were adepts in surgery, but they were called upon to report what sort of examination was conducted by midwifery experts. The treatment to which the Apothecaries' Hall had been subjected had scared away candidates from it. It had damaged its reputation and injured it from the financial point of view He would now ask the Council to let bygones be bygones and to allow the examinations of the Apothecaries' Hall to be conducted in the same way as those of other licensing bodies.

At the suggestion of DR SAUNDBY the amendment was withdrawn at this stage

SIR THOMAS MYLES then moved as an amendment

> That the assistant examiners in surgery appointed by this Council be instructed to report to the Council on the character and conduct of the various qualifying examinations at which they may be present and acting

He said that this amendment would place all bodies to which assistant examiners were sent on the same footing

DR. J LINDSAY STEVEN asked whether this modification of the first amendment was in order

SIR C NIXON said that it might be well to point out that it was only in the case of corporations that were unable to enter into combination that assistant examiners were appointed.

The PRESIDENT ruled the amendment in order.

SIR THOMAS MYLES (continuing his speech) said that the terms of his new amendment took away the sting There was a widespread feeling that the same justice was not meted out to the Irish Apothecaries' Hall as had been meted out in the case of the English institution. Unfortunately, there had been a good deal of hostility to the Apothecaries' Hall. The examinations had been subjected to a course of microscopic examination. His amendment, however, would help the Council to attain to a uniformity of standard throughout the United Kingdom.

DR. L. S. MCMANUS seconded the amendment.

SIR C. NIXON said that he was in sympathy with the amendment to this extent that the same regulations which had been made with regard to the Apothecaries' Hall of Ireland should apply equally to the examinations conducted by the Society of Apothecaries in London At the same time surely the Council should have power to ask its officers who assisted at the examinations to report how they carried out their trust. These examiners were appointed to secure a certain uniformity of standard—a certain proficiency of the way in which the examination was conducted.

SIR HUGH BEEVOR said that it was with the intention of producing a uniformity of standard that the special examinations had been going on in connexion with the Apothecaries' Hall of Ireland In the ordinary course of things they would expect that this result would be attained. Sir Thomas Myles now recommended that they should change their scheme in favour of one of which they had no experience. It did not seem to him logical that because John Smith must be under legal supervision, therefore Tom Smith must also be under legal supervision

MR A THOMSON asked why the Council did not appoint assistant examiners in medicine and midwifery

The PRESIDENT pointed out that the Council could only appoint these assistant examiners when the bodies applied for them

DR NORMAN P WALKER asked whether the inspection of examinations extended to the Apothecaries' Hall of Ireland.

The PRESIDENT replied that inspection had been uniformly applied to the Apothecaries' Hall of Ireland when its turn came, quite irrespectively of supervision.

DR D C MCVAIL said that he could not support the view taken by Sir Thomas Myles Because there was another body in London which had also assistant examiners it did not follow that there should be a like examination

The amendment was lost on a show of hands.

The original motion was carried by 15 votes to 4. Eight members of the Council did not vote.

The PRESIDENT moved further —

> That the examiners be instructed to report fully, for the information of the Council, as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by section 5 of the Medical Act, 1886

DR. NORMAN MOORE seconded the motion.

DR ADYE-CURRAN moved as an amendment

> That the reports by the assistant examiners in surgery at the Apothecaries' Hall of Ireland be discontinued for the present

He urged that the time had come when the Council might allow the examinations to be conducted in the same way as the examinations of other licensing bodies.

DR MCMANUS seconded the amendment, which was defeated by 18 votes to 6, and the motion was then carried by 21 votes to 3

The Council adjourned

WEDNESDAY, NOV 25TH

The Council resumed its sittings at its offices 299, Oxford-street, W. SIR DONALD MACALISTER, the President, was in the chair

Penal Cases

The Council took up the consideration of penal cases and during the whole of Wednesday, Nov. 25th, and Thursday, Nov 26th, was engaged in hearing charges against a medical man of infamous conduct towards female patients The charges, some of which were old ones, were found not proved and were accordingly dismissed

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FRIDAY, NOV. 27TH

The Council resumed its sittings at its offices, 299, Oxford-street, W, SIR DONALD MACALISTER, the President, being in the chair.

The Council then took up the consideration (adjourned from May 28th, 1908) of the facts proved against Mr. Arthur Ward The Dental Committee drew up a further report on this case in which the following passage occurred —

> The committee find that Arthur Ward has since the date of the hearing of this case withdrawn the pamphlet complained of and has not since issued, and undertaken in the future not to issue, any pamphlet or advertisement of any kind

The PRESIDENT (after the Council had briefly deliberated *in camera*) announced the decision. He said I have to announce that the Council having further considered the charge proved against Mr. Ward and the reports of the giving the results of the application of diverse methods of resuscitation, cannot be made available for study. The committee also found that its inquiry was greatly handicapped by the fact that post-mortem examinations on the drowned are so imperfectly performed and recorded.

THE PROPOSED EASTBOURNE CENSUS.

THE consent of the Local Government Board to the application of the municipal borough of Eastbourne for a census enumeration of the present population of that borough is full of interest for those who have long advocated the urgent desirability of an intermediate enumeration of the population of this country between the decennial censuses. The borough of Eastbourne had in 1891 an enumerated population of 34,969, which had increased to 43,344 at the last census in 1901. Based upon the rate of increase of population during this intercensal period, the Registrar-General estimates the population of the borough at the middle of this year to be 49,789. The Eastbourne municipal authority appears to be anxious to attain the dignity of a county borough, for which a population of 50,000, as determined by a census, is a necessary condition. Hence the local desire for an immediate census instead of awaiting the next national census in 1911. We believe that the consent of the Local Government Board is conditional upon the census being effected by the local superintendent registrar, the local registrars, and necessary enumerators, under the control of the Registrar-General; the whole of the cost of this exceptional census is, moreover, to be borne by the borough council. We shall watch with interest the result of this local census but the experiment is not entirely free from objection. In the first place it seems doubtful whether the desire of Eastbourne to be created a county borough is an adequate ground for holding an intermediate census almost within two years of the next national census; and the consent to the application of Eastbourne will make it difficult to refuse similar requests from other boroughs with a similar object which could now reasonably await the result of the next census in 1911. There appears, moreover, in view of the strong local desire to prove the claim to a population of 50,000, to be some danger of an attempt to falsify the returns with a view to overstate the population, more especially as in the absence of statutory provision for the enumeration there will be no legal penalty for false returns.

THE PERILS OF BOVINE TUBERCULOSIS.

THE danger to the community from the unsuspected but tuberculous cow, to which we called attention last week, is ably dealt with by Dr. E. C. Schroeder, of the United States Bureau of Animal Industry, in Circular 118, issued by the United States Department of Agriculture. He clearly demonstrates the danger to public health through the consumption of milk or butter from cows which react to the tuberculin test. A series of excellent photographic reproductions is given of dairy cows in apparently splendid condition, all of which were found to be tuberculous. 40 per cent. of these animals were expelling tubercle bacilli in the fæces and consequently were liable to contaminate accidentally the milk during the process of milking as well as the butter prepared from the milk. The prevalence of tuberculosis among dairy cows has been variously estimated at from 10 to 90 per cent., and confirmatory evidence is afforded by the claim made by some dairymen that a milk famine would result from the condemnation of all tuberculous cows for dairy purposes. It is urgently necessary, therefore, that dairy herds should be free from diseased animals. The work of Dr. Albin Burkhardt showed that of 1452 human cadavers 91 per cent. showed tuberculous lesions, irrespectively of the cause of death, and other investigators have placed the figure at 66 to 96 per cent. It would appear that few persons entirely escape the disease, though the majority die from other causes and many are not conscious during life that they are affected. When it is considered that milk has also been shown to contain the germs of enteric fever, diphtheria, scarlet fever, and other diseases, and the poisons that cause the high death-rate from abdominal diseases among young children it does not seem to be possible to exaggerate the need for strenuous action to be taken with the object of securing a permanently pure supply of milk. Dr. Schroeder considers that dairy herds can be rendered free from tuberculosis by the proper application of the tuberculin test and the segregation of all reacting animals.

THE RESEARCH HOSPITAL AT CAMBRIDGE.

AT the latter end of the year 1905 a small hospital of only five beds was opened at Cambridge. It was founded for the study of special diseases and in particular of those diseases which are at present chronic, which disable the patient, for which no cure is at present known, and for which no satisfactory treatment has up to now been found. Cases of such diseases are not for the most part, and rightly so, accepted by ordinary hospitals, simply because so little can be done for them. It was for the study of such diseases that a number of medical men in Cambridge formed a committee and opened the above-mentioned hospital. The first disease to be studied was "rheumatoid arthritis," one which is perhaps less amenable to treatment and more crippling to those whom it attacks than any other. The course of study is as follows: a clinical study of certain new methods of treatment; the bacteriology of certain chronic infections associated with rheumatoid arthritis; a systematic examination of patients in order to discover the seats of such infection; observations on changes in the nervous system associated with rheumatoid arthritis; and a study of the morbid anatomy and histology of cases of rheumatoid arthritis and gout. So far no public appeal has been made for funds, the expenses having been met by the staff, by Cambridge medical students and by various friends, and by the fact that those engaged in the research take no fees and receive no remuneration. The annual expense of keeping the hospital open is £250, and it has been decided to make an appeal for help. The appeal is signed by Sir Clifford Allbutt, Regius professor of physic in the University of Cambridge; Dr. William Osler, Regius professor of medicine in the University of Oxford; and Sir Thomas Barlow, Sir W. Watson Cheyne, Sir William S. Church, Sir Victor Horsley, Sir Jonathan Hutchinson, Sir Donald MacAlister, Professor Howard Marsh, Mr. Henry Morris, and Sir R. Douglas Powell. The work of the committee is fourfold: (1) to give relief to the individual patient; (2) to benefit others suffering from similar diseases by throwing light on their origin and treatment; (3) to discover means of preventing their onset in those at present healthy; and (4) to impart the knowledge thus gained to others. This is a great work and we earnestly hope that the appeal, backed as it is by names of weight, will be successful. The hospital has recently been closed for want of funds. A sum of £8000 would enable it to be kept open permanently. The amount is not large but the benefits would be.

THE Society for the Study of Disease in Children having joined the Royal Society of Medicine as the Section for the Study of Disease in Children, Mr. R. Clement Lucas, the honorary treasurer of the late society, has handed over to the Royal Society of Medicine a cheque for £261 4*s.* 6*d.*, licensing bodies calling their attention to the recommendation of the Council of May 30th, 1907, and inquiring how far they had given effect to this recommendation by requiring students to produce evidence of having received practical instruction in the administration of anæsthetics.

In explanation, said the PRESIDENT, it ought to be said that the first clause of the Bill practically prohibited under a penalty any person who was not a legally qualified medical practitioner administering a general anæsthetic for any surgical or medical operation, act, or procedure, or during childbirth. The Executive Committee desired the Council to approve that principle. The other proposal was contained in Clause 2, which provided that "all examining bodies recognised by the General Council of Medical Education and Registration of the United Kingdom shall require that all candidates before presenting themselves for their final examination shall have received thorough theoretical and practical instruction in anæsthetics, and shall have personally administered anæsthetics under the supervision and to the complete satisfaction of their respective teachers." The objection to that was that it would override the functions of the General Medical Council. Such an enactment had not been found necessary in regard to other branches of medicine, surgery, and midwifery, and as the clause provided no penalty for its infringement it would be practically valueless.

It was then agreed that the first part of the Executive Committee's recommendation should be approved.

The PRESIDENT said that with regard to the second part of the committee's recommendation they felt that the resolution of the General Medical Council transmitted to the licensing bodies within the last year was one to which their special attention should be called in view of the interest taken in the subject in high quarters and of its importance, and that it might serve to emphasise the force of their recommendation if they communicated with all licensing bodies asking what steps they had taken to give effect to it. Accordingly, the committee recommended that the Registrar should be directed to communicate with licensing bodies calling attention to the recommendation of the Council of May 30th, 1907, and asking how far they had given effect to the recommendation by requiring students to produce evidence of having received practical instruction in the administration of anæsthetics.

On the motion of the PRESIDENT this recommendation of the Executive Committee was also adopted.

Advertising by Dentists.

The consideration of a resolution adopted by the Executive Committee in regard to a communication from the British Dental Association was the next business before the Council. This communication inclosed the following resolution passed at the annual general meeting of the association:—

> That in the opinion of this association advertising by certain registered dentists has contributed greatly to the growth of illegal practice by misleading a large proportion of the public, who, for this reason, fail to distinguish between the registered and unregistered practitioner. That the General Medical Council be earnestly requested to take immediate action to suppress as infamous conduct in a professional sense all advertising by registered dentists.

The committee also had before it a communication from Mr. A. H. HIGGS on behalf of himself and other registered dentists objecting to the resolution

> Because it goes far beyond the terms of the resolution of your Council on the same subject passed in 1894, which was decided upon after mature consideration of the statutory conditions regulating the practice of dentistry.

The communication also set forth that

> The Dentists Act itself contains no provisions specifically dealing with advertising, and certainly is far from prohibiting advertising altogether. Advertising was, in fact, practised before 1878 by dentists; at any rate, by the majority of the class who were registered by virtue of their being then in actual practice, so that any alteration in this respect would be an alteration in the conditions under which registered dentists were entitled to remain on the Register after they had once obtained registration. We feel that such an alteration would be unfair.

On this matter the Executive Committee submitted the following resolution:—

> The Executive Committee desire to point out that the General Council have no power to legislate or to issue resolutions binding upon the profession and having absolute prohibitive effect. And in view of their judicial functions in particular cases of professional misconduct, it is not desirable to pass a resolution condemning any practice in general terms until a series of cases decided before them has so clearly demonstrated the prevalence of that practice as to call, in the opinion of the Council, for a warning notice to the profession.

Mr. TOMES thought the existing resolution, the gist of which was that the issue of advertisements of an objectionable character might be carried so far as to constitute infamous and disgraceful conduct in a professional respect, was strong enough for the Council to act upon if necessary. He proposed to move the committee's recommendation in the following modified form:—

> The General Council desire to state that they have no power to legislate or to issue resolutions binding upon the profession and having absolute prohibitive effect, and in view of their judicial functions in particular cases of professional misconduct it is not at present desirable to pass any further resolution.

Sir THOMAS MYLES seconded the proposal.

Dr. SAUNDBY said the resolutions passed by the Council had had a prohibitive effect, and if the Council now declared they had no binding effect and might be disregarded they would do a great deal of harm. He suggested that the resolution should read:—

> The General Council desire to state that in view of their judicial functions in particular cases of professional misconduct it is not at present desirable to pass any further resolution on the subject of advertising by dentists.

Mr. TOMES accepted this form of the resolution and it was then agreed to.

Report of the Education Committee.

Dr. MACKAY, who was indistinctly heard, submitted a report on the curriculum in medicine from the Education Committee. Of recent years, he said, the whole question of the curriculum had been repeatedly raised before the Council and proposals had been remitted to the committee. The argument put forward by those gentlemen whose motion was remitted to the committee was that they were finding the subjects for study for the Final Examination apt to be neglected, particularly by those who had spent too long over the earlier examinations of their course and who had been retarded to such an extent that they had to make good the time lost on the earlier subjects at the expense of the later ones. There should be nothing of that kind. The tendency would be to spoil the work for the Final Examination, for which many would prepare by cramming and not educating themselves. That appeared to constitute a great danger and it was to that that the Education Committee had turned its attention. It was necessary to find out whether men were devoting less time to the Final than they should and whether the Final was being shirked in any way. The committee had collected statistics from all the licensing bodies on the subject. Their report said:—

> An examination of the figures makes it evident that there is wide divergence among the licensing bodies in respect of the periods allotted to the study of the subjects pertaining to the several professional examinations. Each body has what may be called a possible minimum course, which in most cases is clearly expressed in the regulations, and in the others, although not absolutely defined, may readily be deduced from the statistics presented as that followed by the individual students who pass unchecked through the curriculum. To simplify comparison a division of the whole course into two periods has been adopted. The first includes the time spent in the study of the preliminary sciences and of anatomy and physiology and extends to the completion of the examination in these subjects. The second includes all the remainder of the curriculum. In the preparation of the statistics pharmacy has been left out entirely owing to the great diversity of the conditions among the licensing bodies under which it is examined upon. In respect of the main outlines of the curriculum the bodies may be divided generally into three classes, viz.:—
>
> Class 1, in which the first period of the course extends to two years, 21 or 24 months as the case may be. The arrangements in this class probably approach more closely than those of the others to the original intentions of the Council with reference to the subdivision of the curriculum. The class includes the University of Dublin, the University of Durham, the University of Birmingham, and the Conjoint Examining Board in Ireland.
>
> Class 2, in which the first period of the course occupies less than two years, practically 18 months, and in which the second period is correspondingly prolonged. This class includes the Conjoint Examining Board in England and the Conjoint Examining Board in Scotland.
>
> Class 3, in which more than two years are required for the first period. The remaining bodies, the statistics of which have been analysed, belong to this class.

It was evident from a consideration of the facts that in the case of all the bodies included within the third group there was of necessity a certain amount of what might be called normal overlapping study between the subjects of the first and second periods of the course. In every instance three years' hospital attendance was given and in most final subjects such as pathology and surgery claimed a portion of the student's attention in the third year. Dealing with retardation, Dr. Mackay said their report stated:—

> The course may be lengthened as a whole in individual instances, or the first period may be lengthened and the second correspondingly shortened, by failure or delay on the part of the student in passing the examinations. What happens most frequently, as the statistics show,

Motor Union Insurance Company under their special policy also cover certain mechanical breakdowns, and if a chauffeur is employed this risk is worth considering. Fire risks are with careful men very remote, and it is as well to remember that if they are covered it should be for the full value, for if a car worth £300 is only insured against fire for, say, £100 and is absolutely destroyed, the company would only pay £33 6*s*. 6*d*., their proportion of the value.

Servants such as chauffeurs come under the Compensation Act, so if one is employed it is as well to insure against his being injured. Under the Secret Commission Act they are not supposed to make a profit on goods, such as spares, petrol, lubricating oil, which they buy for their employer, so if they should fall down the motor pit or get a back fire they may make up for the "perks" they lose by putting in a big claim under the Employers' Liability and the Workmen's Compensation Acts.

The following are some particulars of first-class companies and I must express my thanks to the various secretaries for the information which I am now able to give, and with these facts any would-be insurer should be able to decide for himself as to which company will answer his requirements the best.

The Commercial Union Assurance Company, Limited, of 24, 25, and 26, Cornhill, London, E.C., issue a special composite policy for cars used either for private or professional use. This policy covers: *public liability*, that is claims by the public for personal injury and damage to property *anywhere* in the United Kingdom up to an *unlimited* amount, and includes law costs incurred with the company's consent; *accidental damage* to the car and lamps, including tyres and accessories when damaged by an accident, which at the same time causes damage to the car itself *anywhere* in the United Kingdom; accidental damage to car sustained during transit by road, rail, *sea*, or inland waterway anywhere in the United Kingdom of Great Britain and Ireland. *Fire and burglary* are included up to the full value of the car *at the time of the fire or loss*. Urgent repairs up to £5 may be executed without waiting for intimation of the company's consent. The following table gives the annual premium for the above-named benefits:—

The h.p. is the lower of the two stated by the maker.	6-h.p.	8-h.p.	10-h.p.	12-h.p.	16-h.p.	20-h.p.
	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*
Full indemnity	8 0	10 0	11 10	12 10	15 10	18 10
If insured bears the first £5 of each claim under each section...	7 0	8 15	10 5	11 5	14 5	17 0
If insured bears the first £10 of each claim under each section...	6 0	7 10	9 0	10 0	13 0	15 10
If insured bears the first £25 of each claim under each section...	4 0	5 0	6 0	7 0	9 10	11 10

For an additional premium of £1, the owner can insure his liability under the Fatal Accidents Act, 1846, the Employers' Liability Act, 1880, the Workmen's Compensation Act, 1906, and at Common Law, in respect of accidents to his chauffeur. Two cars belonging to the same owner (only one being out at a time) can be insured at a reduction of 20 per cent. on the total premiums for both cars. If both cars are out at one time, the reduction will be 10 per cent. For three or more cars special terms will be quoted. The above premiums are reduced by 5 per cent. if assured alone drives.

The Motor Union Insurance Company, Limited, of 1, Albemarle-street, Piccadilly, issue a special policy, which includes the subscription to and full membership of the Motor Union, and motorists who are already members of that body are entitled to deduct the sum of 1 guinea from the premium of the special policy of this company. This policy covers unlimited third-party risks, damage to car, the result of accident, to the full value insured, and repairs up to the value of £5 may be executed upon the authority of the assured, without waiting the sanction of the company, and by arrangement a replacement value of the car can be agreed upon. Special compensation if the repairs take longer than 20 working days, *after acceptance of estimate by the company;* lamps up to a limit of £10 are covered when damaged by an accident and so are tyres. For an extra premium of £5 5*s*. per cent. on the *full value* of the car the breaking or fracturing of any part of the motor, other than by accident or fire, can be covered, but only as far as the actual cost of dismantling and replacing of the broken part, and the owner has to bear the first 50*s*. of each breakdown—for example, the crank breaks, cost of repair and replacement £20, owner pays £2 10*s*. and carriage, the company pays £17 10*s*. The following is the premium chart, excluding charge for mechanical breakdowns:—

—	Value not exceeding—					
	£100	£200	£300	£400	£500	£600
	£	£ s.	£ s.	£ s.	£ s.	£ s.
Not exceeding 8 h.p.	9	10 0	11 0	12 0	—	—
" " 12 "	10	11 0	12 0	13 0	14 0	15 0
" " 16 "	12	13 0	14 0	15 0	16 0	17 0
" " 20 "	14	15 0	16 0	17 0	18 0	19 0

If owner carries first £5 of each claim, above premiums reduced by 15 per cent.; if £10, by 25 per cent.; if £25, by 40 per cent.

The United Legal Indemnity Insurance Society, Limited, of 222–225, Strand, London, whose policies are guaranteed by the Law Guarantee Trust and Accident Society, Limited, of Chancery-lane, a society with a capital of £2,250,000, issue a special policy for medical motorists. This gives unlimited indemnity against claims by the public, whether the result of injury to persons, animals, or property, and includes all law costs incurred with their consent. Accidental damage to the car is covered up to the full value, including lamps up to £5 each and tyres £8 each. Fire is also included up to the full value of the car, and the policy states the actual value of the car, which varies according to the age of the car. The society also pays for certain breakdowns, that is, for the following parts of the car, if fractured, though such fracture is not traceable to an accident, but to a defect: engine crank shaft, crank chamber, flywheel, front axle, rear axle (*but not the driving axle or shaft*), front or rear wheels, and springs. Immediate necessary repairs up to £5 may be executed without consulting the company, and I believe they are well known for the promptness and liberality of their settlement of claims, as well as lack of delay in having repairs executed. The premium varies from £12 10*s*. for a 6-h.p. car to £15 10*s*. for one of 16-h.p. The car may be driven by any competent and licensed person, and if the owner is his own driver they allow a deduction of 5 per cent.

The Ocean Accident and Guarantee Corporation, Limited, of Moorgate-street, London, E.C., issue a policy giving unlimited indemnity as far as claims by the public are concerned, and covering accidental damage to the car, including tyres and lamps up to full value, as well as fire up to full value. On receipt of the name of the maker of the car, date of make, horse power, original cost, and present value of car they will quote the premium chargeable for these risks, as it is their policy practically to make a rate for each and every risk as it comes before them, based upon the conditions under which the car is to be used.

The Car and General Insurance Corporation, Limited, of 1, Queen Victoria-street, London, E.C., issue a variety of benefits, as the following particulars will show:—

Mechanical breakdown.—Damage to car through (*a*) pre-ignition; (*b*) parts becoming slack or breaking adrift; (*c*) breakage of parts; (*d*) overheating; (*e*) freezing; (*f*) presence of any foreign substance; (*g*) defective lubrication; (*h*) chains riding off sprockets; (*i*) tyres, covers, or non-skidding devices coming off; (*j*) using too fierce a clutch, or engaging clutch too suddenly, will be covered anywhere in the United Kingdom up to full value [excluding fire, wear and tear, and depreciation, and the first £10 of each damage].

Accidental damage.—Damage to car by accidental and external means anywhere in the United Kingdom will be covered up to full value at time of damage [excluding fire, wear and tear, and depreciation.]

Tyres, lamps, accessories.—Damage to tyres, lamps, and accessories by accidental and external means whilst actually on insured car [whether car is damaged at same time or not] will be covered anywhere in the United Kingdom up to full value at time of damage [excluding punctures, fire, wear and tear, and depreciation].

Transit.—Damage to car by accidental and external means whilst being conveyed by road, rail, [illegible] United Kingdom, will be covered [illegible] [excluding fire, wear and tear, [illegible] sories].

Claims by the public.—Claims by the public for injury to persons [excluding passengers] or animals or damage to property caused by insured car, anywhere in the United Kingdom, including law costs incurred with the consent of the corporation, will be covered up to an unlimited amount.

London he could remember when there was no restriction on the student's course and when he might at any period of his studies go into the wards and pursue clinical studies while he had not done the first part of his course. The general custom of medical schools was now to prevent a man beginning his clinical studies before he had finished his preliminary studies. Of course, whether it would be wise to have a "watertight compartment" between the preliminary scientific studies and the clinical studies was a subject open to debate. He was certain that nothing whatever was gained by allowing students who had examinations in earlier subjects hanging over them to go on with the Final Examination. Therefore, he strongly approved of giving—and he thought the Council ought to give—every encouragement to the licensing bodies to insist on the period of clinical studies being invaded by no other studies whatever. If it was laid down that the period of clinical study should not be counted until a man had finished his anatomy and physiology, that would lead to an increase in the knowledge of clinical surgery on the part of practitioners when they were admitted to the Register. But the object of the chairman of the Education Committee at present was to bring about a general discussion on the subject.

Dr. NORMAN WALKER said that he had had an opportunity of discussing the subject of the report with three different licensing bodies. In each of these bodies there had been some difficulty in understanding the report. After thorough discussion each of these bodies had come to see that the report was a very reasonable one and the suggestion was one that could be given effect to. The particular proposal that two years and three months should at least be given to clinical work was a thing which would commend itself to every teacher. He thought that it should be made clear that it was clinical instruction that this report particularly dealt with and that the licensing bodies and the universities had in their discretion the regulation of the earlier education. They had in their own control the amount of anatomy and physiology to be taught. All that the members of the Council would like in the interests of the public was that the students should be well instructed in clinical surgery and medicine.

Mr. HODSDON considered that if the medical student knew that he was to have his second period lengthened unless he mastered the preliminary scientific subjects in the allotted time he would work more diligently during his first period. He was not clear with regard to the exemptions of Indian and colonial students.

Dr. LINDSAY STEVEN said that he agreed with the view expressed by Sir John Moore that anything which would permit of the student having his preliminary sciences and his anatomy and physiology over before he actually began hospital work would have a beneficial effect on medical education. With regard to the matters brought before the Council by Dr. Mackay the body which he represented had given careful consideration to the subject and it agreed that no regulation for lengthening the curriculum should be made by the Council. They were more in favour of what was called "the blocking system"—not allowing a student to proceed further until he had passed in his earlier subjects. He had been a clinical teacher for 25 years and from his experience he believed that it interfered with the practical instruction of the student if he was still reading for examinations in anatomy and physiology and it might be with earlier subjects. The body which he represented emphasised the need of devoting the fifth year entirely to clinical work.

The PRESIDENT said the complaint had been made that the earlier subjects were encroaching on the time given to the later subjects, and to verify whether that complaint was well founded required careful analysis of actual facts. That analysis had been made by Dr. Mackay, to whom the whole profession was profoundly indebted for the work he had done. No one could doubt that encroachment on the final stage of the curriculum did take place by reason of the undue extension of the earlier stage. That fact was ascertained for good and they had to face it. The remedy suggested by the Education Committee was that not less than a certain time should be allotted to the subjects in the final stage. He suggested that the issue should be concentrated on the single point of what was the minimum period which by regulations of the bodies should be devoted to the subjects of medicine, surgery, and midwifery. That would be intelligible to the public and the profession.

Mr. MACKAY said that he would be willing to withdraw the proposal and the Education Committee would consider the question again in the light of the debate which they had had that day. The subject caused considerable difference of opinion but he hoped that in time they would all get into one channel. The differences had chiefly been on the questions of overlapping and "watertight compartments." Some had said there should be no overlapping, but, on the other hand, a large number of the bodies at present countenanced overlapping to a large extent, and he thought the Council would find it difficult to put a stop to it. The committee in the interval would endeavour to find a solution of this and the other questions that had been raised.

The matter was then remitted to the Education Committee for further consideration.

The Apothecaries' Hall of Ireland.

The Education Committee submitted the following report:—

The Education Committee had under consideration the following communication:—

"Apothecaries' Hall, Ireland, 40, Mary-street, Dublin,
November 12, 1908.

"H. E. Allen, Esq., LL.B., Registrar, General Medical Council.

"DEAR SIR,—I beg to inclose for the information of the General Medical Council the following resolution which has been passed by my board at its last meeting.

"Yours faithfully,
"HENRY W. MASON, L.R.C.S.I., Secretary.

"Resolved:—'That after the 1st of April, 1909, the usual preliminary examination in general education which was held by this body for so many years be resumed.'"

This is an intimation, the report proceeds, that the authorities of the Apothecaries' Hall, Dublin, intend next year to revive the preliminary examination in arts which, in deference to the express wish of the Council, they have for many years discontinued. The committee are unaware of any circumstances which would justify so serious a reversal of the educational policy which, at the Council's instance, has been generally adopted by the licensing bodies, including the Apothecaries' Hall. The committee, therefore, strongly deprecate the proposed re-establishment of a preliminary examination conducted by a professional body which has no special relation to questions of general education. Should such an examination be notwithstanding instituted for candidates seeking the licence of the Dublin Apothecaries' Hall, it will rest with the Council to decide whether it should be recognised for the purpose of the registration of students in general. Such recognition would affect in a practical way the arrangements of other licensing bodies in regard to preliminary examination.

Accordingly the committee, in view of the grave educational issues involved, recommend that the Council's approval should not be given to the step contemplated by the Apothecaries' Hall, Dublin.

Dr. MACKAY moved the adoption of the report. Exactly the same intimation was received by the Council, he said, in 1903, when a motion was carried in certain definite terms. The committee saw no reason to change its mind and it had replied in the identical words of the resolution of 1903. The policy of the Education Committee had been to try to reduce the number of preliminary examinations and to insure that such examinations were only conducted by bodies which were general educational authorities.

Dr. LINDSAY STEVEN seconded the motion.

Dr. ADYE-CURRAN said that when some years ago the Apothecaries' Hall in deference to the Council ceased to hold preliminary examinations there was a condition that the Colleges of Physicians and Surgeons in Dublin should cease to examine also. That had not been done and for that reason the Apothecaries' Hall were working at a discount. In future the accommodation for students would not be sufficient and that was the reason why the body which he represented was anxious to resume its former examinations.

Sir C. NIXON said that the policy of the Council had been adverse to the conduct of preliminary examinations by bodies that conferred the licences. With regard to the examinations held by the joint Colleges of Physicians and Surgeons in Ireland a strong representation was made by the Education Committee to discontinue the examination. They acquiesced and sent a joint memorial to the Intermediate Education Board in Ireland, asking that body to hold special examinations at suitable times in the year for medical students. The Intermediate Board replied that the expense would be beyond what it could afford and in those exceptional circumstances the Council allowed the preliminary examinations by the joint Colleges to be retained. It would be a complete reversal of the policy of the Council to introduce a second body dealing with professional education to conduct preliminary examinations.

The PRESIDENT said that it would be extremely serious if the Apothecaries' Hall took any action which would tend to the predisposing condition, leucoplakia; and then he said probably he would not have had that leucoplakia if he had not smoked a good deal and if he had not had syphilis. Again, if he had been 25 instead of 45 he probably would not have had cancer. That man might have four brothers who would not show cancer because probably they had not had syphilis and had not smoked excessively. But there was no proof that those brothers were not susceptible to cancer. He had not collected any evidence on the question, but he was led to speak in the discussion because his name was mentioned in Mr. Bashford's paper, and he could not recollect why. Then he found that Dr. Bashford had unearthed a paper which he (Mr. Butlin) read 21 years ago, a report of the collective investigation of the committee of the British Medical Association, a reply to questions addressed to medical practitioners in different parts of the country. Although previously to that he had believed in the constitutional origin of cancer, when he commenced to examine those reports he was very much under the influence of Mr. Cripps's very clever paper. But when he finished with the report he had concluded that there was evidence of a very important kind which had never previously been referred to. The evidence so far did not afford sufficient ground on which to base a theory, but there were many facts which tended in the same direction, and in the absence of evidence to the contrary they must be held for the moment to have a very important place. The point which Dr. Bashford made with regard to the cases in his table concerning hæmophilia and night blindness was that the inheritance did not come down always through the males or always through the females, but sometimes through the male and sometimes through the female. But in Mr. Nettleship's pedigree it came down sometimes through the male and sometimes through the female.

Sir JOHN MCFADYEAN dealt with the question from the facts obtained from breeding and experimentation of cattle, horses, and other animals. With rare exceptions, newly-born calves did not react to tuberculin, and when newly-born non-reacting calves born of tuberculous parents were reared in circumstances which shielded them from infection they remained free from the disease. It had been alleged that tuberculosis was more prevalent in some breeds of cattle than in others—namely, chiefly in shorthorns and Jerseys, and especially also in the Ayrshire breeds. But a study of the question showed that this was not so much so as was generally thought. In forming such conclusions there was the obvious fallacy involved in any attempt to measure the resistance to tuberculosis by comparing the incidence of the disease amongst different groups and individuals without allowing weight to the fact that the disease was contagious, and that the opportunities for infection might have been widely different in the groups compared. The difference in degree of infection could be explained by dissimilarity of environment. Experiments had recently been carried out in which cattle had been infected with measured quantities of tubercle bacilli, and those researches showed that there was no single individual possessing powers of resistance much above or much below the average for animals of the same age and weight. So that in the case of bovines there seemed to be no varying degrees of susceptibility on the part of different breeds of animals. He thought the researches showed that it was not good advice to exhort the medical profession to provide statistical information necessary to establish the comparative incidence of tuberculosis in the descendants of tuberculous and non-tuberculous parents respectively. Such work as that must, he thought, be largely misdirected energy.

Dr. A. M. GOSSAGE desired to deal specially with the question of definite characters and abnormalities being handed down to descendants practically without alteration—i.e., the abnormality was found in the descendants in quite as severe a form as in the parent. That was joined on to another factor—namely, when the abnormal person crossed with a normal person, the result was that some of the children were abnormal and some normal. In order to explain those facts a theory was required, and the only one which covered the cases was that of Mendel. The facts with regard to human beings were not susceptible of confirmation by experiment and the information available was not sufficient to form a theory upon. But Mendel's theory was built up upon facts observed in plant life and lower animals. He proceeded to support the lines of argument already adduced by Professor Bateson of Cambridge in the first day of the debate and gave instances in conditions such as epidermolysis bullosa, diabetes insipidus, &c. With regard to hæmophilia, most of those subjects did not live long enough to beget offspring. Hæmophilia, however, had been found not to be a strictly sex limited disease, and it was not found to come out according to what one would expect according to Mendel's law.

Dr. F. C. SHRUBSALL showed a number of statistics obtained with regard to tuberculosis, chiefly from the records of Brompton Hospital, and viewing the matter from various standpoints. The action of direct heredity did not seem to have any effect in either lengthening or shortening the disease.

Mr. HOWELL T. EVANS showed a number of slides illustrating the perpetuation in successive generations of various abnormalities, such as cephalhæmatoma and cysts in the neck. He also showed photographs of peculiar instances in which an abnormality of the ear in a woman was perpetuated in her daughter, and helical fistula was illustrated in a similar manner. He expressed a strong view in favour of heredity of abnormalities.

Dr. G. A. HERON said that 35 years ago he was a member of the resident medical staff of one of the largest county lunatic asylums in the country, and he had continually noticed in the visitors who were closely related to the patients a low level of intelligence. One of the most striking features of those visitors was stupidity with marked slowness of comprehension. From that low stock had come many inmates of the asylum, and they illustrated various types of insanity, from the actual maniacal and the profoundly melancholic to that most pitiful of human beings, the drivelling idiot. Such observations concerning lunatics and their near relatives were so common that he felt justified in concluding that most of the types of insanity sprang from a stock which was characterised by a low grade of brain development, and that heredity had a no small measure of influence in the incidence of insanity. Whether the low grade brain was an indication of the survival of the unfit or the throwing back of an old time low-grade ancestry he did not know. And he reminded the meeting of the frequent occurrence of religious revivals and an accession of inmates to asylums, and a similar result was noticed in times of great excitement as during the Parliamentary election. When the cause of cancer was known it would be possible to speak with some authority on that subject, but it would be probably admitted that cancer attacked the individual chiefly through the alimentary tract—in other words, that it was an infective disease. The proneness of the body to become the seat of various infections, such as cholera, typhoid fever, small-pox, scarlet fever, relapsing fever, measles, ague, and rabies, was a well-known fact, and he submitted that the same applied to tuberculosis. Before Koch in 1882 demonstrated the true cause of tuberculosis practically every authority on medicine in this country and others believed that the disease was mainly dependent for its existence upon a peculiar hereditary tendency in certain families in consequence of which they fell easy victims to tuberculosis. It was now known that the influence of tuberculosis depended on the infection of the individual and not at all upon any hereditary taint or tendency in the person. And even if it were generally believed that tuberculosis was the expression of an inherited tendency, of what help would that fact be? He thought it probable that a person was to some extent protected from a second attack of tuberculosis by having had one attack, but that knowledge was not of much use in fighting a disease which killed about 50,000 people every year in England and Wales. But great strides were being made in the treatment of the disease, for the death-rate from tuberculosis had now dropped from 35 to 10 per 10,000 of the population.

At the concluding meeting on Dec. 2nd the following were the speakers: Mr. G. P. Mudge (biologist, London Hospital), Professor Karl Pearson, Dr. W. Bulloch, and Mr. N. Bishop Harman. Our account of this meeting will appear next week.

A GLOUCESTERSHIRE CENTENARIAN.—Mr. John Rogers of Tewkesbury celebrated the hundredth anniversary of his birthday on Nov. 20th and was the recipient of congratulations from the King, the Chancellor of the Exchequer, the Lord Mayor of Bristol, and many others.

Tuberculosis Prevention (Ireland) Bill.

The Council then took up consideration of a report of the Irish Branch Council with regard to a point in the Tuberculosis Prevention (Ireland) Bill now under consideration of the House of Commons. The report was in the following terms:—

> The Branch Council desires to bring under the notice of the General Medical Council that it is proposed by Clause 1, Sub-Clause 2, that "the Local Government Board, after consulting with the Irish Branch of the General Council of Medical Education and Registration of the United Kingdom, shall from time to time, by order, prescribe the forms and stages of tuberculosis to which, and the circumstances in which, this section shall apply." The Irish Branch Council, while quite willing to undertake the duty, is of opinion that it would be inequitable that the expenses incurred in discharging this duty should fall on the Irish Branch or on the General Council and desires an expression of the opinion of the General Medical Council on this subject.

Dr. LITTLE moved that the opinion of the Irish Branch Council should be adopted as the opinion of the General Medical Council. The Irish Branch suggested that its views should be brought to the notice of the Government and that the Government should introduce a clause providing for the necessary financial aid.

Dr. NORMAN MOORE asked whether the Royal College of Physicians and the Royal College of Surgeons in Ireland had been consulted in the matter.

Sir JOHN MOORE replied that even the Irish Branch Council had not been consulted.

Sir C. NIXON remarked that the Council should say that it expressed no opinion on the merits of the Bill. It was an extremely cumbrous one and it involved the expenditure of money. It was not likely to get the good results which were intended.

The PRESIDENT thought that it should be made clear that the duty imposed by the Bill on the Irish Branch Council was one involving expense on it and on the General Medical Council and neither was able to bear that expense.

After a short discussion the Council assented to the motion and the PRESIDENT intimated that he would write to the proper quarter expressing the view of the Council on the precise point before it, and expressing no opinion on any other part of the Bill.

Nurses' Registration Bill.

The PRESIDENT said that there was a motion on the notice paper with regard to the Nurses' Registration Bill, but before Sir John Moore moved it he might say a word or two in explanation. The General Medical Council was to have a representative on the council to be set up under the Bill. The rules to be issued by the Nursing Council were not to be submitted to the General Medical Council before they were approved of by the Privy Council as was the case with the rules of the Central Midwives Board. It had been thought by the promoters of the Bill that direct representation would be a more efficient way of proceeding than by submitting the rules to the General Medical Council.

Sir JOHN MOORE then moved:

> That it is expedient that the General Medical Council should stand in the same relation to the proposed General Council for the Registration of Nurses in the United Kingdom as the said General Medical Council does to the Central Midwives Board under Sections 3 and 16 of the Midwives Act, 1902.

He said that whilst this was not a Government Bill when it was introduced into the House of Lords, it was nevertheless adopted by the Earl of Crewe and the Government had given its support to it, even although only indirectly. The Council had had a very important say in the matter of the rules which were promoted by the Central Midwives Board, and these rules had been submitted to the English Branch Council acting for the General Medical Council. He did hold it was most desirable that some influential body like the General Medical Council should have some say in the rules which were to be adopted by the proposed Nursing Council. That council was to frame rules regulating its own procedure and setting out the course of training and other matters. It was most important that the medical profession should see that those rules did not in any way countenance the practice of medicine or surgery by the nurses who went on that Register. The only way to prevent that was to have the rules submitted to a medical body, such as the General Medical Council. The nurses should be placed in the same position as the midwives. He understood that the General Medical Council was to have a representative on the new council proposed by the Bill. It would be quite competent for him to report any rules to the General Medical Council to which he thought exception should be taken and it then could make representations. However, he would rather have the rules submitted to the General Medical Council.

Mr. MORRIS seconded the motion.

Dr. NORMAN MOORE thought that the Bill was a very serious matter. One effect of the Bill might be to establish an inferior but very powerful order of practitioners throughout the country. There were at the present time nurses who were consulted by families instead of a medical practitioner. The Bill, so far as one could judge, would tend in that direction. Therefore its working should be carefully watched.

Mr. MORRIS thought that the procedure adopted under the Midwives Act would be preferable to that now proposed.

Dr. LANGLEY BROWNE said that the medical profession was unanimously in favour of the registration of nurses. The Bill would be as great an advance to the nurses as the Medical Act was to the medical profession.

Sir C. NIXON said that it might be a great advance for nurses but would it be an advance to general practitioners? The proposals in the Bill would seriously interfere with the interests of general practitioners and he could not understand why they supported the Bill. The Bill ought to have been carefully considered by the Council to see what effect it would have on the medical profession.

Dr. LINDSAY STEVEN said the result of his experience was that he was on the whole opposed to the registration of nurses on the lines of the registration of medical men, because the Medical Register was the one which the nurses had always had in view in bringing forward the scheme which was in this Bill. The Council ought to have direct control over the registration of nurses and he would rather that the Council opposed the Bill altogether.

The PRESIDENT said that the Bill had passed the House of Lords and as it had now only to pass the House of Commons it might be law before the Council met again. Did the General Medical Council object to be represented on the Central Board? As the result of an informal vote the majority of the Council seemed to be in favour of the proposal made in the Midwives Act rather than the one in the present Bill.

Dr. McVAIL said that the Bill practically proposed to create an inferior department of the medical profession. A great deal that was done among the poor by medical men would be done by nurses who would soon begin to do medical work and surgery. The General Medical Council ought to look at this matter from the public point of view, and if the Council adopted this motion it would mean that it approved the whole Bill. He was not prepared without further consideration to approve the Bill even with the changes proposed to be made by Sir John Moore. He regarded it as injurious in the interests of the public if there was going to be founded another branch of the medical profession. He did not like this kind of thing being sprung upon the Council in this way.

Sir C. NIXON moved as an amendment that the Council having no opportunity of examining the provisions of the Bill should express no opinion as to whether it was desirable that it should be enacted by Parliament.

The PRESIDENT remarked that the Privy Council knew that the Council had recommended the registration of nurses. He read a resolution on the subject which had been passed. How could it go against its former resolution? It would be better if the members confined themselves to the points given to them for consideration and say that they had had no opportunity of discussing the other points in the Bill.

Sir C. NIXON said that they might be in favour of a certain measure of registration for nurses, but yet not in favour of a Bill which was to create an inferior order of practitioners in medicine. The Council should have an opportunity of discussing the Bill.

The PRESIDENT: That could scarcely be done unless the House of Commons put off the Bill.

Dr. McMANUS said that the vast majority of the practitioners were in favour of the registration of nurses. They wanted to know when they called in a nurse in a poor district that they would get a woman who had been properly trained and properly examined and of whom there was some guarantee about her responsibility and competence. Many a woman now of rather reprehensible character could put on a nurse's hat and cloak and call herself a nurse. If this Bill were passed medical men might be able to prevent this class coming forward.

Dr. LATIMER remarked that a qualified nurse was much more prone to call in a medical man than was the old unqualified woman.

12 in Glasgow, six in Dundee, three in Leith, and two each in Edinburgh and Aberdeen. The 16 fatal cases of whooping-cough corresponded with the number in the previous week; 11 occurred in Glasgow and two in Aberdeen. The nine deaths from scarlet fever showed a further slight increase upon recent weekly numbers and included four in Aberdeen and two in Glasgow. The five fatal cases of diphtheria, of which three were returned in Glasgow, showed a considerable decline from recent weekly numbers. The two deaths referred to "fever" (against seven and five in the two preceding weeks) were both returned in Glasgow; one was certified as enteric and the other as cerebro-spinal meningitis. The deaths referred to diseases of the respiratory organs in the eight towns, which had increased from 56 to 136 in the five preceding weeks, declined again to 133 in the week under notice, and were five below the number returned in these towns in the corresponding week of last year. The causes of 21, or 3·6 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·3 and 24·2 per 1000 in the two preceding weeks, declined again to 22·2 in the week ending Nov. 28th. During the first nine weeks of the current quarter the death-rate in the city averaged 19·7 per 1000, whereas the mean rate during the same period did not exceed 14·0 in London and 13·7 in Edinburgh. The 168 deaths of Dublin residents during the week under notice showed a decline of 15 from the high number in the previous week, and included 11 which were referred to the principal epidemic diseases, against eight and 21 in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·8 per 1000; the rate from these diseases in the same week did not exceed 1·3 in London and 0·6 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, six resulted from measles, two from diphtheria, two from whooping-cough, and one from scarlet fever, but not one either from "fever," diarrhœa, or small-pox. The six fatal cases of measles showed a decline of two from the number returned in the previous week; and the deaths from whooping-cough also showed a decline. The 168 deaths from all causes during the week included 41 of infants under one year of age and 33 of persons aged upwards of 60 years; the deaths of infants showed a considerable increase, while those of elderly persons had declined. Six inquest cases and six deaths from violence were registered, and 70, or 41·7 per cent., of the deaths occurred in public institutions. The causes of two, or 1·2 per cent., of the deaths in Dublin last week were not certified; the proportion of uncertified causes of death in Edinburgh last week was equal to 5·5 per cent., while in London the causes of all but two of the 1451 registered deaths were duly certified.

THE SERVICES.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel to be Colonel: William Adair Quayle (dated April 1st, 1908).

The King has approved of the retirement of the following officers: Colonel George Jerome Kellie (dated Oct. 15th, 1908); Colonel William George Hume Henderson (dated Nov. 14th, 1908); Lieutenant-Colonel Samuel John Thomson, C.I.E. (dated Jan. 17th, 1908); Lieutenant-Colonel James Barry Gibbons (dated Feb. 17th, 1908); and Lieutenant-Colonel William Henry Wilson Elliot, D.S.O. (dated Nov. 15th, 1908).

TERRITORIAL FORCE.

Yeomanry.

Nottinghamshire (Sherwood Rangers): Surgeon-Captain George Thomson, from the Nottinghamshire (Sherwood Rangers) Imperial Yeomanry, to be Surgeon-Captain, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Field Artillery.

1st Northumbrian Brigade: The undermentioned officers, from the 1st Northumberland Royal Garrison Artillery (Volunteers), are appointed to the brigade, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Major John Victor Walton Rutherford, Surgeon-Major (Honorary Captain in the Army) John Wreford, and Surgeon-Captain Robert Anderson Nesham (to be supernumerary).

Royal Engineers.

Headquarters, Welsh Divisional Engineers: Surgeon-Lieutenant James Herbert Dixon, from the 1st Cheshire Royal Engineers (Volunteers), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant James H. Dixon to be Surgeon-Captain (dated May 5th, 1908).

Infantry.

7th Battalion, The Prince of Wales's Own (West Yorkshire Regiment): The undermentioned officers from the 3rd Volunteer Battalion are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Reginald George Hann and Surgeon-Captain Alexander Mackenzie. 4th Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment): Surgeon-Captain Harry L. de Legh to be Surgeon-Major (dated Nov. 11th, 1908). 8th Battalion, The Worcestershire Regiment: Surgeon-Lieutenant Hubert R. R. Fowler to be Surgeon-Captain (dated July 14th, 1908). 5th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 1st Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Major Edmund Vaudrey, Surgeon-Captain Richard Arnold Johnston (since deceased). 6th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 2nd Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel Alfred Chawner and Surgeon-Lieutenant Arthur Wilson Shea. 7th (Robin Hood) Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officer, from the 1st Nottinghamshire (Robin Hood) Volunteer Rifle Corps, is appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant Alexander Tydd Mulhall. 8th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 4th (Nottinghamshire) Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Frederick William Johnson, Surgeon-Captain Arthur John Helm Montague, and Surgeon-Captain Harry Stallard (to be supernumerary). 5th Battalion, The King's Own (Royal Lancaster Regiment): Surgeon-Captain Bertram W. Hogarth resigns his commission (dated May 20th, 1908). Bertram Whewell Hogarth (late Surgeon-Captain, 5th Battalion) to be Captain (dated May 20th, 1908). 6th Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant William George Richardson, from the 3rd Volunteer Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1098). 4th Battalion, The Lincolnshire Regiment: Surgeon-Captain Arthur Stanley Green, from the 1st Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (to be supernumerary) (dated April 1st, 1908). 5th Battalion, The Lincolnshire Regiment: Surgeon-Captain John Williams Nicholson, from the 1st Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). The undermentioned officers, from the 3rd Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Francis John Walker and Surgeon-Captain James Matthews Duncan. 3rd Battalion, The Monmouthshire Regiment: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Samuel Butler Mason, from the 4th Volunteer Battalion, The South Wales Borderers, to be Surgeon-Lieutenant-Colonel with honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). 4th Battalion, The Welsh Regiment: Surgeon-Lieutenant William Starbuck Griffith, from the

THE LANCET.

LONDON: SATURDAY, DECEMBER 5, 1908.

The Session of the General Medical Council.

THE Jubilee meeting of the General Medical Council—that is to say, the eighty-eighth session—occurring rather more than 50 years after the foundation of the Council, came to an end on Saturday, Nov. 28th, the members having got through in five days a practical programme and having also touched upon large subjects which will at a later time undoubtedly engage their attention more fully. The economy of time displayed nowadays in the debates of the Council is very praiseworthy. The sessions thereby have become less costly, which means that the pecuniary affairs of the Council are placed upon a much better foundation, while there is also no encouragement given to the making of long speeches which repeat the obvious or to the embarking upon subjects which are not in a sufficiently ripe condition to be discussed by the Council in full conclave. The minutes of the Council are now taken as read, an economy of time which is fully justified by the fact that they are circulated in type, and there is a general desire on the part of everybody to do what has to be done as expeditiously as possible without sacrificing efficiency. The best endeavours of the Council, however, may be defeated because of the wide range of business before it, for there is one direction in which it will always be very difficult to save time. The hearing of the penal cases cannot be arbitrarily curtailed or adjourned from session to session without good ground and the time taken up by the duty of the Council may be very great. It may be remembered that last session one penal case alone occupied the time of the Council for more than three days. It would have been unfair to the practitioner concerned not to have given to the consideration of the case all necessary time, as upon its issue depended the whole professional position of the impeached man, but, on the other hand, no question of public or professional morality or ethics was concerned which in the smallest degree represented the amount of money spent upon the protracted hearing. At one period in the present session it looked as if the same position would occur again as discussion of one of the penal cases occupied a day and a half out of the short session. It was absolutely necessary that the case should be discussed thoroughly, for the whole future of a medical man was at stake, but had there been three such cases in the penal list the session must again have cost so much money as seriously to affect the balance-sheet of the Council. This is a position which must be very apparent to the General Medical Council which would probably much like to remedy it, but we confess that we do not see what can be done. It has a duty which it must perform and it is the essence of that duty that all important evidence should be admitted, regardless of the time occupied thereby.

Two of the debates in the recent session touched upon important medical politics and serve to show that the Council is alive to the material needs of the medical profession, as well as to the necessity of maintaining such a position between medicine and the public by Act of Parliament that the public may not unduly suffer by the ministrations of unqualified or ignorant persons. Quackery can never be put down by law, while the magnificent invasion by modern medicine of many outlying scientific provinces renders it harder and harder for any Act of Parliament to define what is and what is not a procedure that may with expediency be undertaken by other than a medical man. The debates upon the report of the Unqualified Practice Prevention Committee of the Council and upon the Bill recently read in the House of Lords for the Registration of Nurses proved that the members of the Council are aware of the difficulties, and proved them also to be not afraid to state opinions which are at variance with those held by many general practitioners. The report of the Unqualified Practice Prevention Committee contained information as to the provisions existing for the prevention of medical practice by other than legally qualified persons in all those foreign countries where the experience would have obvious bearing on conditions in Great Britain, and in the report is included a supplementary statement by Dr. A. G. BATEMAN, drawn up from the Medical Acts of the different provinces in the Dominion of Canada and of the different States of the United States of America, the whole making an admirable synopsis of the professional status of medicine in the civilised world. Dr. H. W. LANGLEY BROWNE, having submitted this report, moved that the General Medical Council should transmit to the Privy Council a motion stating that the present Medical Acts do not sufficiently enable "persons requiring medical aid to distinguish qualified from unqualified practitioners" (Medical Act, 1858, Preamble) and requesting the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects of unrestricted practice of medicine and surgery by unqualified persons. The motion was agreed to and for our part we sincerely hope that the Government will be able, and at an early date, to appoint the Royal Commission which is sought. We know perfectly well that there will be an outcry against such an action of the Government on the part of those persons who make a livelihood out of quackery, just as we know that other members of the public, often quite disinterested but almost always ignorant of the true aims of medicine, will set up a cry of medical priestcraft; but the sooner the views of serious and responsible persons upon the evils of unqualified medical practice are placed before the public in an authoritative shape the better it will be for the community. With this action of the General Medical Council we are in full accord and so will all our readers be.

Whether the general practitioners will quite approve the more or less qualified blessing bestowed by the Council upon the Bill for the Registration of Nurses is another matter. Some will say that a Bill for the Registration of Nurses implies the establishment of an inferior order of practitioners having no qualification to practise, and that

Alexander A. MacKeith, Frederick D. Woolley, George R. Livingstone, Vyner Graham, Samuel M. Sloan, Herbert E. Dalby, John R. Williams, Arthur R. Badger, James Bruce, Thomas Beard, Hugh W. Thomson, William J. Reid, Charles R. Browne, William R. Matthews, Frederick H. Gervis, George Thomson, William Ritchie, Ernest H. Tipper, Algernon E. L. Wear, Francis E. Fremantle, Leonard A. Avery, Montague S. W. Gunning, James N. Macmullan, Robert A. Draper, Reginald O. Gayer, Harry Stallard, Alan Y. Greenwood, Alexander MacKenzie, James C. Herbertson, Henry G. Smeeth, Paul J. O'Sullivan, James S. Warrack, Frederick E. Bissell, Hubert R. R. Fowler, and Surgeon-Lieutenant Herbert Meggitt.

UNITED STATES ARMY MEDICAL RESERVE.

The *Times* New York correspondent on Dec. 1st states:—"From an exclusive source it is learned that the leading surgeons in the United States have been formed into a medical reserve corps. ...... President Roosevelt has sent commissions as first lieutenants to numbers of the country's most famous doctors. ......"

Correspondence.

"Audi alteram partem."

THE DIFFICULTY OF DEALING WITH CASES OF SENILE INSANITY: WHERE ARE THEY TO BE ACCOMMODATED?

To the Editor of THE LANCET.

SIR,—In the recent report of the Royal Commission on the Care and Control of the Feeble Minded reference is made to the evidence given by some of the members and officials of the Metropolitan Asylums Board and London County Council that many cases of senile decay are unnecessarily certified as imbeciles and sent to their institutions from the metropolitan workhouses and infirmaries. The report has recently been considered by the Infirmary Medical Superintendents' Society and the members of it feel that it is a matter of regret that no opportunity was given to the medical officers of infirmaries or workhouses to rebut these accusations and to put the position of affairs from their point of view. The society feels that the Commission has been misled and that, if the members of the society had been requested to submit evidence, they would have been able to place before the Commission facts which throw a very different light on the problem of these cases of senile insanity.

The evidence to which the society takes the strongest exception is that of Mr. J. T. Helby, the chairman of the Metropolitan Asylums Board. He is quoted as having said: "The Boards of Guardians appear to send all the senile decay people to us certifying them as imbeciles—a most cruel thing. Our Tooting Bec Asylum is practically nearly full of what are termed imbeciles of that character—nothing less than old men and women suffering from senile decay. In my opinion the proper place for this class of patient would be an infirm ward in the workhouse infirmary where the relatives could visit them." Mr. Helby does not seem to realise that his statement is as grave an accusation against the Metropolitan Asylums Board and its officials as it is against the members and officials of boards of guardians, since it implies that not only are patients being sent to these asylums illegally but that they are also being detained there illegally. If these patients are not insane then they should not be detained but should be returned to the guardians as recovered or as improperly certified. Since this is not done it is to be presumed that, despite Mr. Helby's statement, these cases *are* proper subjects for certification and detention and the only point then in dispute is where they should be detained.

Now these cases of senile insanity are demented and frequently noisy and restless. They disturb and terrify the other old people by their incoherent chattering and by their frequent attacks of screaming and vituperation. At night they are especially troublesome owing to their noisy talking and restlessness. They wander about the ward and often frighten the other inmates by trying to get into their beds. This and their unclean habits, resulting from their demented condition, render them an offence and a most serious source of distress to the other aged sane inmates of the workhouse, and still more so to the sick in an infirmary ward. It is obvious, indeed, that it is impossible to retain such cases in the ordinary wards of a workhouse or infirmary. It is, in fact, illegal to detain them unless separate accommodation from the sane inmates has been provided. Such separate accommodation has not been provided in the workhouses and the reason lies in the existence of the Metropolitan Asylums Board.

Amongst the duties allotted to this Board at its formation were the reception and relief of such insane paupers of the chronic or imbecile class as could be lawfully retained in a workhouse. This definition obviously includes the cases of senile insanity above described, but the only accommodation the Board has provided for them are the asylums at Tooting Bec, Leavesden, and Caterham. The distance of these asylums from many parts of London is undoubtedly a source of great inconvenience to many of the patients' friends, but for this the Metropolitan Asylums Board must take the blame. Instead of providing the simple accommodation that was required in numerous small buildings in different parts of London the Board preferred to erect, at an enormous cost, Tooting Bec Asylum, a palatial institution entirely wasted upon the chronic and imbecile patients for whom it was intended. Thus the whole difficulty of dealing with these patients and the hardship undoubtedly inflicted upon their friends have arisen entirely from the failure of the Metropolitan Asylums Board to provide proper accommodation for the detention of these cases. It would have been far better that the duty of providing the necessary accommodation had been left to individual boards of guardians who would have built then, no doubt, proper wards in the workhouses and infirmaries and provided an adequate staff for them. But it is curious to find the Board, whose duty it is to provide proper accommodation for these cases, attacking the guardians and their officials for sending the very cases for whom it is their duty to provide. Even as it is, only the most troublesome of these cases are sent to Tooting Bec Asylum. Many of them are treated in the observation wards of the workhouse during their acute outbreaks and returned to the general wards when the outbreak has subsided. This is shown by statistics obtained from 14 infirmaries. During 1907 118 cases of insanity were sent to Tooting Bec Asylum from these infirmaries, whilst 294 cases were retained and treated in their observation wards. When one remembers the number of inmates over 70 in the infirmaries and workhouses of London it is really astonishing to find that out of the 832 admissions to Tooting Bec Asylum in 1907 only 213 were over 70 years of age. There can be no doubt that much of the pressure on the accommodation of the Metropolitan Asylums Board for senile and infirm cases is due to the increasing age and infirmity of patients who were admitted to the Board's asylums when able-bodied.

With regard to the similar complaint made on behalf of the London County Council by Sir John MacDougall, two facts must be borne in mind which lead to many senile cases being sent to the county asylums. One is that the asylums of the Metropolitan Asylums Board refuse to admit a case if there is or has been the slightest suggestion that the patient is suicidal or dangerous to others. The other fact is that in many of the infirmaries the certifying justice does not call in the medical officer of the infirmary to examine the cases of alleged lunacy brought to and detained in the infirmary. The result is undoubtedly that many cases are sent to the county asylums which the medical officer would send to the asylums of the Metropolitan Asylums Board or detain in the workhouse for treatment.

One statement of Sir John MacDougall shows that he is not fully acquainted with the law bearing on the detention of lunatics. He is quoted as having said, referring to these old people, "There is a number of patients now certified that need not be certified." The answer to that is, if these cases are *not* insane, then, they ought to be discharged from the asylums, but if they are insane, then, it is illegal to detain them either in the workhouse or asylum unless they are certified. Sir John MacDougall's assertion that these cases are suitable for treatment in the workhouse shows that he is not aware that the workhouses do not possess proper accommodation for their treatment owing to the fact that the boards of guardians have relied upon the statutory obligation of the to advanced middle age, their fingers are literally on the pulse of the public health and their collective investigations should go far to solve some of the most difficult problems of our time. Medical statistics, however accurate the numerical quantities, require elucidation and intelligent comment. In the tables comparing the sickness amongst boys and youths in H.M.S. *Impregnable* and Shotley establishments during the year 1907 we are impressed with the difference in the ratio per 1000 of strength of pneumonia (*Impregnable* 28·36, and Shotley 20·53), of rheumatic fever (*Impregnable* 55·31, and Shotley 38·51), and of diseases of the digestive system (*Impregnable* 211·34, and Shotley 377·40). We should have welcomed from the medical officers in charge any suggestions as to the cause of such divergent ratios which might have confirmed or added to our knowledge as regards the etiology of these diseases and suggested aids to a rational prophylaxis. Again, we have no explanation of the very different ratios of disease at the great naval depots—

at Plymouth ...	21·91 per 1000 of force sick daily.
at Portsmouth ...	31·04 per 1000 „ „ „
at Chatham ...	64·07 per 1000 „ „ „
at Plymouth ...	34·72 per 1000 of force invalided.
at Chatham ...	44·34 per 1000 „ „
at Portsmouth ...	59·94 per 1000 „ „

We hope that motives of economy have not severely limited the information in regard to the health of the navy for the year 1907. These reports are most valuable, not only as concerns the medical archives of the services, but for the world-wide information and instruction of physicians and hygienists, both in their practical duties and as permanent records of the geographical distribution and varying types of disease.

Barber-Surgeons.

ON the 15th inst. the Company of Barbers will celebrate the six-hundredth anniversary of the first recorded appointment of a master of their company. There can be no doubt that the Company had existed for many years before 1308 but in that year it is recorded in the Archives of the Guildhall that "RICHARD LE BARBOUR, dwelling opposite to the Church of Allhallows the Less, was chosen and presented by the barbers of London on Tuesday, next after the feast of Saint LUCY the Virgin, in the second year of the reign of KING EDWARD, son of KING EDWARD before Sir NICHOLAS DE FARNDON, then Mayor of London, JOHN DE WENGRAVE, and other aldermen, to have supervision over the trade of the barbers." It may be mentioned that the feast of Saint LUCY is the 13th of December. The close connexion existing for many years between the surgeon and the barbers and the fact that the present Master of the Worshipful Company of Barbers is Sir JOHN TWEEDY, who was recently President of the Royal College of Surgeons of England, require us to notice this interesting anniversary.

The practice of surgery has arisen in different ways in different times. There can be little doubt that the treatment of wounds received in war first gave rise to a form of surgery. Indeed in the most primitive races now existing, races which are really in the Stone Age, the treatment of wounds has often reached a high state of excellence. Even up to the middle of the fifteenth century little is known of the practice and profession of surgery in England, but there are grounds for believing that they did not differ to any great extent from what obtained generally in France and in Northern Italy. In the fourteenth century England was still connected with France politically, for it possessed the Duchy of Aquitaine. English students were received into the schools of France, and they constituted one of the four scholastic "nations" admitted within the pale of the University of Paris. Many Englishmen studied medicine in Paris and at Montpellier, and English medicine and surgery in the thirteenth and fourteenth centuries were in the main a reflexion of French medicine and surgery, though the organisation of the profession in England was apparently more imperfect but more independent than in France. The facilities for surgical education and training were so few in this country that the earliest known English writers on medicine and surgery all studied in the French schools. GILBERTUS ANGLICUS, who flourished about the year 1200 and wrote "Compendium Medicinæ," the first known English work on medicine, studied at Montpellier. Rather more than a century later JOHN of GADDESDEN, who is mentioned in CHAUCER'S "Doctor of Phisik" and who was the author of "Rosa Anglica," studied medicine at Montpellier under GORDON and surgery in Paris under HENRY of MONDEVILLE. JOHN ARDERNE, a younger contemporary of GADDESDEN and the author of a small treatise "De Fistulis," also studied and probably practised in France. None of these writers, however, exhibited much originality; for the most part they were mere copyists: "*unus non dicit nisi quod alter.*"

All through the Middle Ages medicine and surgery in the West of Europe suffered in the general decline of learning and civilisation which supervened upon the break-up of the Western empire towards the end of the fifth century. The decadence of surgery was accelerated two centuries later by the destruction of the School of Alexandria, by the barbarian invasions of Western Europe, and by the rise and spread of the Mohammedan power. The tradition of Greek science and medicine passed for many centuries into the hands of the Arabians. Though they cultivated medicine with some success they neglected surgery. The Quran forbade the dissection of the human body and human anatomy was therefore almost unknown, so that operative surgery fell into disuse, and external applications, caustics, and cauteries took their place. Towards the end of the eleventh century, however, a brilliant but transient revival of surgery took place in the south of Spain under the influence of ALBUCASIS of Cordova. He wrote a treatise on medicine which contained a chapter on surgery. In this he comments on the timidity and incompetence of the surgeons of his day, and he mentions several instances of disastrous operations performed by surgeons unacquainted with anatomy. The writings of ALBUCASIS were translated into Latin and by the end of the twelfth century they were introduced into Italy, where remnants of learning still lingered. The medical school of Salerno had been famous from the ninth century and in the twelfth century other medical schools arose at Bologna, Naples, and other Italian towns under ROGER of Parma, HUGH sporadic and mild cases are often the precursors of an alarming epidemic. I am, Sir, yours faithfully,

Glasgow, Nov. 30th, 1908. THOMAS COLVIN.

THE STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

To the Editor of THE LANCET.

SIR,—I read with interest Dr. J. C. Thresh's article under this heading in your last issue, because it serves to corroborate the value of a method of sterilising water which was devised by Captain V. B. Nesfield, I.M.S., some six years ago and which has found very practical application in India. As it is obvious from Dr. Thresh's paper that Captain Nesfield's work is unknown to him, it will be useful to give a brief description of it, extracted from Captain (then Lieutenant) Nesfield's article, entitled "A Chemical Method of Sterilising Water without affecting its Potability," which was published in *Public Health* in July, 1903.

The method is based upon an extensive series of experiments made with bacillus coli, bacillus typhosus, and Shiga's bacillus of dysentery, and the sterilising agent employed is chlorine. The experiments were conducted in the bacteriological laboratories of St. Mary's Hospital. Each experiment was made with one litre of tap water into which had been poured 10 cubic centimetres of a 24, or 48, or 64 hour old broth culture of one of these organisms. Nesfield found that 0·125 gramme of chlorine per infected litre was invariably sufficient to sterilise it in five minutes. The water was dechlorinated subsequently with sodium sulphite in accordance with the formula—

$$Cl_2+H_2O+Na_2SO_3=Na_2SO_4+2HCl,$$

the hydrochloric acid formed being neutralised by the alkali present in commercial sodium sulphite.

The chlorine was first obtained from the liquid gas stored in lead-lined iron cylinders, such as might be used to sterilise supplies in military water-carts. Nesfield then set to work to devise a tablet which could be used to evolve small quantities of nascent chlorine for the use of individuals. For this purpose he found that 1½ grains of bleaching powder mixed thoroughly with ½ grain of sodium bicarbonate would sterilise a pint of water teeming with typhoid or coli bacilli in five minutes. At the end of this time ¼ grain of sodium sulphite rendered it free from chlorine and practically tasteless. The bicarbonate was added to keep the tablet dry and because the CO_2 contained in it acts sufficiently strongly as an acid radicle to liberate the very feebly combined chlorine from bleaching powder (chlorinated lime).

This method has proved successful in the presence of organic matter and Nesfield's sterilising tablets are now widely used by troops and travellers in India. Indeed, the Lieutenant-Governor of Agra and Oudh, in his interesting address on Sanitation in India which you published recently, cited them as one of the causes of the decline in the death-rate from cholera in his provinces.[1] Captain Nesfield devised his method especially for the prevention of water-borne disease amongst troops on active service. It is a remarkable tribute to its value that a practically similar process is now suggested as a means of purifying normal water-supplies.

I am, Sir, yours faithfully,

W. H. WILLCOX, M.D., B.Sc. Lond., F.I.C., D.P.H.,
Lecturer on Public Health to St. Mary's Hospital, W.

Queen Anne-street, W., Nov. 30th, 1908.

HEREDITY WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.

To the Editor of THE LANCET.

SIR,—In the last number of THE LANCET appears what purports to be a speech made by me at the Royal Society of Medicine. This report is inaccurate in many particulars. Words are put into my mouth which not only on this occasion but which on no occasion in my life have I ever used, thus showing that my speech was not only inaccurately reported but actually modified by some one with a totally different vocabulary before publication. I never said, as I am made to say, "that all would agree with Dr. Mercier's remarks concerning mutations." What I did say was "that *not* all would agree with Dr. Mercier's remarks, &c." I never said that my own view was "that there was no truth in Mendelism at all"; what I did say was "that so far the truth of Mendelism has not been *demonstrated* for any one character," and I asked on this very ground for the further collection of facts. I did not say that if the hypothesis of the inheritance of acquired characters were accepted, then I "feared Mendelism of every form collapsed"; what I did say was that if this hypothesis were accepted, then I "feared Mendelism and every theory hitherto proposed of heredity collapsed."

I might cite many other instances in which my statements have been given no meaning or a meaning opposite to that actually expressed by me, but the above will suffice to show why I feel compelled to repudiate entirely this account as representing what I said. It differs very materially from the report I have just received from the Royal Society of Medicine, and I would ask any one who is at all interested in my views to await before criticism the publication of that report. I am, Sir, yours faithfully,

KARL PEARSON.

University College, Gower-street, London, W.C., Nov. 28th, 1908.

⁂ Alas, where great condensations of technical speeches have to be made some speakers must find the reports "inaccurate in many particulars." For the omission of the "not" we apologise sincerely, but the suggestion that it was omitted for the purpose by ourselves or that we modified the report in any way after receiving it from the reporter's hands should not have been made. We join in asking anyone who is at all interested in Professor Pearson's views to await the publication of the report to be published by the Royal Society of Medicine, when time and space will allow of a fuller rendering of the speaker's words and where, it seems, Professor Pearson will be able to revise the proofs.—ED. L.

To the Editor of THE LANCET.

SIR,—Dr. Arthur Latham concludes his article on the Influence of Heredity upon Tuberculosis in THE LANCET of Nov. 21st, p. 1512, with seven conclusions. The first and final ones are very contrary to my acquaintance with the hereditary influence of laryngeal tuberculosis. The two conclusions are: "1. The hereditary transmission of the germ is so infrequent that it is a negligible factor. ...... 7. The theory that there is an inherited predisposition to tuberculosis is based on insufficient evidence." When I was in practice at Canterbury I looked after three sons of a clergyman who all died with laryngeal phthisis. There was one son I did not see who, I was positively sure, had throat consumption. There were two daughters of this family who were in good health all the time I knew them. The mother had died, it was told me, from laryngeal phthisis. The father lived to nearly 80 years of age. My diagnosis of the three cases I saw may be taken as correct, as for some years I was, before going to Canterbury, surgeon to a throat hospital in London. I am, Sir, yours faithfully,

Broadstone, Nov. 25th, 1908. PUGIN THORNTON.

DIVISION OF THE AUDITORY NERVE FOR PAINFUL TINNITUS.

To the Editor of THE LANCET.

SIR,—I am much indebted to Dr. W. Milligan for his letter which appeared in THE LANCET of Nov. 14th, p. 1477, reporting two cases in which he divided the auditory nerve. My paper was written from the neurological and physiological points of view. I did not discuss the surgical advantages of the various operations which have been performed on the auditory nerve because the data before us are as yet quite inadequate to form a judgment of any value. Till further experience has been gained we can only say that probably in some cases the spiral ganglion of Corti or the part of the labyrinth innervated from the ganglion of Scarpa of England, as recited in its charter of 1800, dates its constitutional history, was granted to the Freemen of the Mystery of Barbers of the City of London practising surgery. Provision was made for the appointment of two Masters annually to inspect the instruments of those practising surgery, and no person was allowed to practise surgery in London unless first approved by the Masters of the Company. It is interesting to note that the Senior Warden of the Company when this charter was granted was WILLIAM HOBBES, sergeant-surgeon to the KING. The Guild of Surgeons had maintained its separate existence, but in 1493 it entered into an alliance with the Barbers' Company and eventually in 1540 the two companies were united by Act of Parliament. Four Masters were to be appointed annually, two to be surgeons and two to be barbers; barbers were forbidden to perform any surgical operations, except the drawing of teeth, and surgeons were not to exercise the craft of barbery and shaving. THOMAS VICARY, the sergeant-surgeon to HENRY VIII., and author of a well-known book on anatomy, and who had already been Master of the Barbers Company, was elected the first Master of the United Company. The union thus effected lasted for more than 200 years. At first the privileges conferred on the Company excited some opposition, for an Act was passed allowing unlicensed persons to treat outward sores and swellings with herbs and ointments. In 1684 a petition for the dissolution of the united Company was presented to the KING but no further steps were taken. In 1744 the attempt was renewed and a petition was presented to Parliament for the solution of the union; and in the next year an Act was passed establishing two separate companies. The barbers were allowed to retain the whole of the corporate property, real and personal, with the exception of the Arris bequest and Gale's annuity for anatomy lectures, founded in 1646 and 1655 respectively, and these trusts are still held by the Royal College of Surgeons.

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[1] THE LANCET, Oct. 24th, 1908, p. 1209.

We have thus traced from the earliest records the connexion existing between the barbers and surgeons of London and in consequence of that association all Fellows and Members of the Royal College of Surgeons of England can rejoice with the members of the Barbers' Company on the occasion of the 600th anniversary of the first record of the existence of that body. The happy association by which, as we have pointed out, the present Master of the Barbers' Company is Sir JOHN TWEEDY, a distinguished and learned surgeon, and very recently President of the Royal College of Surgeons, is yet another reason for the interest of surgeons in this anniversary.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the council of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Nov. 30th under the presidency of the Lord Mayor, Sir George Wyatt Truscott. The absence of Dr. James Grey Glover was deeply felt by all present, for he was one of the most conscientious workers for the Fund from its inception in 1872. In addition to the death of Dr. Glover the report of the council referred to the loss which the Fund had sustained during the year by the deaths of Canon Fleming, Sir George B. Bruce, and Mr. C. E. Layton. From a financial point of view the statement of the council was satisfactory, though no stronger word can be used. The total collection for the year was £80,181. The collections in the various places of worship resulted in a sum of £40,000, being £2547 less than in 1907. The council recorded its opinion that in the present state of hospital finances extensions and additions should be discouraged by the Fund except in cases where the hospital could show that it had the means to provide and to maintain them. The Archdeacon of London moved the following recommendation which the general purposes committee made at its meeting on Oct. 7th last:—

> That the Lord Mayor for the time being continue to hold the office of President and treasurer of the Fund, and that a deputy-chairman be appointed, such office to be annual, like those of the chairman of the committees, the present Lord Mayor, Sir John C. Bell, Bart., being asked to become the first holder of the office.

He pointed out that although the Lord Mayor was actually the head of the Fund, he had so many engagements that it was impossible for him to attend every meeting of the Fund. Therefore it was thought desirable that a deputy-chairman should be appointed. This recommendation having been duly seconded and adopted it was agreed that the annual meeting of constituents should be held on Dec. 16th next, and that June 13th, 1909, should be fixed for the next Hospital Sunday. It was also stated that the Fund would receive altogether between £600,000 and £700,000 from the estate of the late Mr. George Herring.

WEST SUSSEX AND THE SALE OF FOOD AND DRUGS ACT.

IT is a matter for congratulation to notice that the increased attention which is being paid to the necessity of a purer milk-supply is having its effect at least in West Sussex. Out of 40 samples of milk taken in the western half of the county during the past quarter only one was adulterated, and at a meeting of the county council on Nov. 27th that body was congratulated upon the result of the labours of the Sale of Food and Drugs Act committee in applying the Act more strictly and with such excellent effect. At a former meeting of the council the sum of money allotted for the purposes of the committee was increased with the object of taking more samples of foodstuffs generally than heretofore. Thus 40 samples of milk were taken, and in view of the controversy over the Board of Agriculture's milk standard the report of Mr. Otto Hehner, the West Sussex county council's analyst, is worthy of record. It will be remembered that a year ago an annotation appeared in THE LANCET under the heading of "Justices and Adulteration," in which attention was called to the fact that the Sale of Food and Drugs Act committee of the council avowed its intention to discontinue its labours if adequate penalties were not imposed in cases where proceedings were taken for adulteration. This action of the committee has been followed with the desired result, and the chairman at the recent meeting of the council said that a great deal of necessary help had been afforded to the council by the action of certain benches of magistrates who had taken up the subject seriously and inflicted such penalties on offenders as had deterred a great number of people from watering the milk which they sold to the poor. Particular complaint was made a year ago as to the decision of certain justices in cases of adulterated cocoa, and the Sale of Food and Drugs Act committee has been continuing its attentions as regards loose cocoa. Three samples, the analyst found, contained nothing but the powder of the cocoa-bean, partly de-fatted. Two samples were mixtures of cocoa, sago starch, and sugar, the asylum and sanatorium. The initiative for the erection of the magnificent asylum was afforded by a group of indefatigable medical men and laymen. When the necessity of building also a new general hospital in Vienna became clear it was decided to use for this purpose the extensive grounds encircling the old lunatic asylum, situated a few hundred yards away from the hospital and to spare no expense in erecting a modern asylum on better grounds. The committee took for its motto, "The best is just good enough for our unhappy wards," and both architect and physicians have interpreted it in a liberal spirit.

The asylum estate comprises an area of about 1,900,000 square yards. One-third of these grounds is reserved for future extensions of the buildings, whilst the remaining 1,200,000 square yards are covered by houses and gardens and streets, for the institution forms a veritable town. A wall and railings, three English miles long, encircle the estate. The soil consists of clay and the sub-soil of marlstone and limestone and the climatic conditions are no less favourable. The pavilions forming the asylum proper are in the middle of the grounds, the sanatorium buildings are on the east side of it, and the administrative buildings on the west side. The asylum has 33 pavilions arranged in four parallel rows, the distance between the pavilions being from 40 to 60 yards, whilst the streets resulting from the arrangement of buildings in rows are from 70 to 85 yards broad. The male and female patients are accommodated in separate blocks on each side of the central buildings which comprise the chapel, social hall, kitchens, and an administrative building. The blocks for curable patients in the asylum consist of two bungalow pavilions with 40 beds in each, five two-storeyed pavilions with 70 beds apiece for patients generally quiet, four two-storeyed houses with 60 beds each for noisy patients, and two three-storeyed buildings each having 100 beds for quiet patients, making altogether 870 beds. The blocks for the incurable inmates consist of four two-storeyed houses, each containing 100 beds, two similar pavilions for refractory patients and cripples with 100 beds each, and two three-storeyed houses with 100 beds each for quiet patients. There are besides two pavilions for tuberculous patients, with 24 beds each, in two-storeyed houses; these contain, also, isolation wards for infectious diseases, with six beds for men and six for women. Quite separated from these pavilions is another with accommodation for 40 patients of the troublesome-dangerous type. 86 patients can be housed in the farmhouses attached to the asylum. They are employed in farmwork with excellent result. The sanatorium is intended for nervous or mentally affected patients of the better classes. They have to pay 10 or 20 crowns (9*s.* to 18*s.*) per day. The equipment is, of course, more luxurious; there are a pavilion for entertainments, a concert hall, and a library, but there are also pavilions for unruly patients or patients with dirty habits; altogether 356 beds in 13 pavilions. The number of beds at present at disposal in the whole institute is 2200, but arrangements have been made which would enable another 800 beds to be placed in the wards at a day's notice, still leaving ample space. Thus 3000 inmates can be accommodated in a very satisfactory manner. Each pavilion is surrounded by a garden and has attached to it rooms for attendants and nurses, quite separated from the wards. The gardens for troublesome or noisy patients are inclosed by a wall 9 feet in height; the semi-quiet patients have gardens with a low rail around them; and the quiet patients are trusted in open gardens. In the sanatorium are all appliances for hydro-electro-therapy, gymnastics, and a cold and warm swimming bath. Air baths and sun baths are also provided for.

A few words must be said about the buildings situated in the central avenue of the asylum. There are four pavilions there. The first one contains the offices and the quarters of the directors and the receiving room for new patients. The next one behind the first named is a large hall for concerts, lectures, receptions, and other indoor amusements. The musical entertainments and indoor games which are held by the patients for the patients are a very successful innovation much appreciated by the afflicted inmates. Behind this building a large kitchen has been installed in its own pavilion. There are 19 large steam kettles of 1900 gallons capacity; open fireplaces and baking ovens are heated by gas, otherwise all the machinery is driven by electricity. A large pantry with spacious storerooms is provided for in the cellar. A refrigerator plant, together with a special ice and soda-water factory, are situated at the wings of this kitchen pavilion which is one of the best equipped, most up-to-date buildings in the institute. The food for 3000 persons is prepared here and distributed in "thermos" vessels to all the 60 pavilions. These "thermos" vessels are constructed with a view to prevent the cooling of the food during the transport which sometimes lasts from 25 to 30 minutes by tram. Behind this pavilion and raised above all other buildings is a large chapel, with an enormous cupola of gilt brass, towering over the mass of buildings and visible many miles into the country. The chapel will seat 1000 persons and service is held there every morning.

Two other features of the asylum must be mentioned. A very important installation is the disinfecting plant, capable of holding 15 cubic metres at a time. It is situated in the administration wing and is worked by steam under pressure of from 12 to 15 atmospheres. If necessary, formaldehyde gas can be used also. The operating theatre is also located away from the patients' pavilions, not far from the church. The laundry can deal with the linen for 3000 persons within 24 hours; all work is done by steam and part of the necessary heat is obtained by the burning of refuse and waste in a special combustion plant. At the farthest end of the institute a pathological laboratory, together with the mortuary and mortuary chapel, have been erected. The area covered by buildings is 75,000 square yards, the rest of the estate being laid down in park, gardens, streets, and orchards. A system of electric trams allows of a swift communication between all pavilions, and 248 telephones connect the physicians and attendants with all the 518 wards and with the offices. There are 216 rooms containing one bed only, 63 rooms with two beds, 31 with three beds, and so on, or in relative proportion. The cubic volume of air allowed per bed is from 40 to 70 cubic yards in the asylum and from 70 to 140 cubic yards in the sanatorium. The windows are equal to from one-sixth to one-third of the surface of the floor. In every floor of the patients' pavilions are a bathroom, built with three or five baths, and a visiting room for friends of the patients. A medical officer's room is also fitted in every pavilion, with all necessary outfit for examination and treatment. Water-closets, with noiseless flush, are fitted in the wards for dangerous or noisy patients, otherwise they are in the corridors. In the pavilions for noisy patients there are altogether 56 side rooms for occasional outbreaks of violence; these measure 15 by 9 feet, and have a xylolith covering on the walls and doubly fastened doors. Most of the troublesome patients are housed in the special pavilion mentioned above. The floor consists of stone slabs covered by linoleum in the wards, of "terrazzo" slabs in the kitchen and baths, and of wood in the entertainment halls, visiting rooms, and staff quarters. The drainage system is in connexion with the main drains of the city. The length of the drainpipes is 8 miles; these can be flushed easily from a reservoir holding 100 cubic yards.

The question of heating 60 pavilions offered many difficulties; it was finally decided to decentralise the heating. Each building has either its own low-pressure steam-heating system, or iron stoves or tile stoves. The latter method has been adopted in all private rooms and localities not occupied by patients. All ovens and all machinery chimneys are fitted with smoke-consuming appliances. Ventilation of the rooms and wards is obtained by ventilators attached to the north corner of the ceiling and all upper windows can be opened on a horizontal axis. In the noisy pavilions an iron railing is fixed between the inner and outer windows, so that they can be kept open safely in summer time. The buildings are lighted by electricity throughout. Where necessary the lamps are fixed high up on the ceiling. Gas is used for lighting the streets and corridors as well as for heating purposes. A "key system" controls the night guards, so that their rounds are checked adequately.

The hospital staff consists of the Primarius (Director), four chief physicians, and 12 resident medical officers, and the staff of nurses and male attendants consists of 760 persons. More than 100 other persons are engaged in the different household occupations. The following statistics are interesting. The yearly rations for the institute have been estimated at 75,000 pounds of sugar, 1,300,000 pints of milk, 10,000 pounds of butter, 500,000 eggs, 250 tons of meat, besides large quantities of bacon, sausages, and lard. The gardens contain 100,000 trees, 30,000 bushes, and 6,000 fruit trees.

are still extant, and some of the great London landlords who derived much of their wealth from what was originally church property might also be approached.

THE KEEPING PROPERTIES OF JAM.

EVERY housewife who makes jam knows that the keeping powers of the several batches made vary. Some samples will go mouldy in a short time, while others will keep in good condition almost indefinitely. The differences observed may be due to some jams being more concentrated than others, as, of course, it is only a concentrated solution of sugar which is antiseptic. It seems certain, also, that cane sugar is a much more satisfactory preservative than glucose, and the argument of jam-makers that glucose is necessary in order to keep the jam from crystallising is put out of court by the fact that if the jam is well made the acids of the fruit should change enough cane sugar into invert sugar to insure against sugar crystals separating. This involves, however, long boiling and nowadays jams, we are told, must be made as cheaply as possible. Hence the superiority of the home-made jam which contains a larger proportion of digestible sugar (and parenthetically, it may be added, more fruit too) than as a rule does the commercially prepared article. It would be a somewhat curious fact if it proved that, after all, jam owed its keeping powers not entirely to sugar but in part to what may be regarded as an artificial preservative—namely, formaldehyde. It has been agreed that formaldehyde is an objectionable preservative for foods on account of its toughening effect upon foods in general and upon protein in particular. And yet it would appear that formaldehyde is readily formed in small quantities by merely boiling solutions of cane sugar, the amount produced depending possibly on the duration of the boiling. According to this, it would not be surprising to find formaldehyde present in many jams as a perfectly unintentional, or even normal, constituent. Its presence, indeed, may be essential to the keeping powers of the jam. The subject deserves further investigation, since analysts may be put off their guard and be the means of instituting proceedings for fraud where no fraud exists. Moreover, there is no evidence that the health of the jam-eating public suffers at all in spite of the small quantities of formaldehyde present in this favourite and nutritious article of diet.

THE MANCHESTER AND SALFORD SANITARY ASSOCIATION.

THIS association is always on the watch lest anything should threaten evil to the health of the community and other localities must envy Manchester the possession of such an organisation. Some time ago an estate called Platt Fields, in Rusholme, was bought by the corporation, always to be used as an open space. Since the purchase, however, various exhibitions, such as an agricultural show, taking up a large space, and an electrical exhibition, have been held on the ground. For such purposes it is well adapted but the committee of the association, at a meeting presided over by Dr. A. Emrys Jones, adopted a motion protesting emphatically against its permanent use for any other purpose than that authorised by the town's meeting. Mr. William Thomson, who has for years devoted much attention to the prevention of lamp accidents, presented an encouraging report (which will be found in THE LANCET of Nov. 28th, p. 1618) showing that a marked diminution has taken place in the number of alleged lamp explosions since the association first entered on the investigation of the subject. The reduced number of explosions indicates great improvement in the construction of lamps, but Mr. Thomson thinks that they would be still further reduced if the length of the wick tube were increased. At the same meeting the honorary secretary, Dr. George Ashton, proposed an important motion, which was seconded by Mr. N. Kolp and carried, "urging on the authorities that the time has come when the youth of the country should be required to submit to systematic physical training up to the age of 22." Service in the Territorial Army was recommended as one means of effecting the wished-for improvement in the national physique. Quite apart from any military considerations, though they may prove to be most important, the improvement that might be hoped for in the condition as to health and general bearing of a large proportion of our youths and young men is earnestly to be sought for, as it is urgently needed. If the average be taken of the crowds of workers coming out from the mills and works of our busy towns, or of the loafers slouching at the street corners, it is obvious that there is more decadence than progression shown in their physical condition. It is permissible also to hope that the discipline and the subtle effect of acting in concert with others may do something to supplement the teaching in our elementary schools, which seems to impart a smattering of sundry "isms" but to leave courtesy, or even decent manners, as matters not worth considering in these progressive days. If these things are not beyond hoping for, what an improvement may some day be found in the character of our citizens. But will the authorities be moved to action?

DISPLACEMENT OF THE LARYNX AS A SIGN OF ANEURYSM OF THE ARCH OF THE AORTA.

AT the meeting of the Académie de Médecine of Paris on Nov. 10th, M. E. Boinet reported the following remarkable case. A night watchman, aged 59 years, was attacked in April, 1904, by a band of ruffians, struck and kicked on the upper part of the chest, gagged, bound, and thrown into water from which he was rescued almost dead. An attack of influenza complicated by broncho-pneumonia followed. He slowly recovered and some weeks later during a violent attack of coughing he felt an acute pain at the internal part of the second right intercostal space and a pulsatile tumour appeared at this point. Some months later he went to the Hotel-Dieu with all the signs of an aneurysm of the ascending part of the arch of the aorta projecting in the second right intercostal space, covered by thin, tense skin threatening to rupture. It was accompanied by expansile pulsation and a systolic murmur. There was no history of syphilis. Under rest in bed, milk diet, large doses of potassium iodide, and subcutaneous injections of gelatin considerable improvement took place and he resumed work. In June, 1905, he returned to hospital with considerable distension of the veins of the neck, particularly of the right external jugular vein which when emptied by drawing the finger upwards along it and continuing the pressure on its upper end showed regurgitant waves of blood. The radial pulses were regular, equal, and synchronous. The heart was slightly hypertrophied and a mitral regurgitant murmur was heard. The same treatment was followed and he again resumed work. In May, 1906, his general condition was good but the aneurysm had made progress. It had pushed forward the first two ribs and upper part of the sternum, caused subluxation of the clavicle, and projected in the right supraclavicular and suprasternal fossæ. The aneurysm further progressed and pressed directly on the larynx, displacing it downwards and to the left. In March, 1907, there was marked dyspnœa, accompanied by stridor and spasms of the tongue, larynx, and œsophagus. Symptoms of compression of the recurrent laryngeal nerve followed; the voice was lost for two or three hours and then after some attacks of coughing the expectoration of mucus returned. Later the voice became stifled, hoarse, and bitonal. The laryngoscope showed complete paralysis of the left vocal cord.

Cadbury so generously gave for the purpose, requires extensive alterations and additions before it will be available for its purpose. It is estimated that the provision of the necessary sanitary blocks and general equipment will cost at least £5000. The necessity for the hospital is rendered evident by the fact that the Crippled Children's Union has registered in its books 1000 children, 400 of whom are suffering from tuberculous bone disease, and of the latter 100, who are in the acute stage, are being treated at home under very disadvantageous conditions. There is at present very little hospital accommodation for children suffering from hip and spinal diseases which require prolonged treatment and the committee wishes to increase the facilities for such cases as soon as possible, but the rate of the progress which it will be able to make depends entirely on the support of the public.

Prevention of Cruelty to Children.

Though the prevention of cruelty to children is not directly medical work it results indirectly in an amelioration of the public health. It relieves many children from bodily and mental suffering and it tends to elevate some parents' conceptions of their duties and responsibilities. The society which undertakes the work is therefore in a sense a medical agent, and it is pleasant to note that our Birmingham branch is extending the scope of its work by engaging the interest and services of individuals living in outlying districts. It is also helped by the lady inspectors of health, of whom there are about 17 associated with the health department of the city. These ladies make house-to-house visitations in the districts where the society meets with most of the cases in which it is necessary to interfere, and they are instrumental not only in discovering cases which would otherwise not be brought to light but also in preventing much unnecessary hardship. That the services of the society are very necessary in this district is demonstrated by the annual report of the Birmingham branch which was presented at the annual meeting held in the council house last week. During the year 1179 complaints were made to the branch and of these 1028 proved to be well established and the children affected numbered 3710. In the majority of the cases warnings proved sufficient, in 51 cases the children were placed in better conditions either with relatives or in emigration homes, and 41 people were prosecuted, convictions being obtained in all but two cases. The record is excellent and the small proportion of prosecutions indicates that the society is acting on good lines.

The Dudley Guest Hospital.

The annual report of the Dudley Guest Hospital shows that the bequest of the late Mr. Hugh Lewis's estate has not been an unmixed blessing, for the knowledge of the bequest had apparently caused many people to cease or to reduce their subscriptions, with the result that the yearly income of the hospital has fallen from £4183 in 1907 to £3822 in 1908, that is to the lowest point it has attained since 1905. The number of in-patients treated during the year was 950. The average cost per bed was £64 5*s.*, and the cost per patient £4 9*s.* 4*d.* In the eye department 125 cases were admitted during the year, and the average cost per case was £3 4*s.* The financial result of the year's work is that the adverse balance has been increased to £902; this the committee thinks is a very serious matter and it earnestly appeals to the friends of the hospital for more support.

Dec. 1st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospitals and Port Sanitary Committee: Sir William Hartley and the Treatment of Tuberculosis.

Mr. John Utting, M.R.C.S. Eng., has been re-elected chairman of the hospitals and port sanitary committee of the city council, and in taking the chair alluded to the efficient measures which were adopted to deal with the recent outbreak of plague in the port. In this matter the committee had not only to safeguard the health and lives of the citizens but also to prevent the dislocation of a world-wide commerce. They were working under the international convention of Paris, and if all the signatories were loyal to the convention the risks would be reduced to a minimum. As to the hospitals, they had now under treatment 983 cases, against about 600 this time last year, and during the year there had been an increase of 1000 cases, due almost entirely to scarlet fever of a mild type. 87 cases of pulmonary tuberculosis had been treated at the Fazakerley hospital. The results were eminently satisfactory, and the medical officer recommended that the beds available for that disease should be increased from 25 to 50. It was important that they should get hold of cases in an early stage. The offer of Sir William Hartley to give £5000 for a fund to assist those dependent on patients undergoing treatment in the early stage was a generous one, and he (the chairman) suggested that they should invite representatives of the health committee and the consumption hospital and Sir William Hartley to a conference on the subject, which, it appears, had already been done.

The Liverpool Milk-supply: Caution to Dairymen.

Dairymen who send tuberculous milk to Liverpool or those who neglect to notify the existence of cows showing signs of infection will in future have their names and addresses printed and published in reports delivered to the members of the city council and available to any ratepayer. The dread of publicity, being far greater than the fear of a monetary penalty, will be an important factor in preserving the purity of the milk-supply.

The New Chancellor of the University of Liverpool.

The annual meeting of the court of governors of the University was held on Nov. 28th in the town hall, the Lord Mayor presiding, when the Earl of Derby was unanimously elected chancellor of the University in the room of the late Earl of Derby, K.G.

Sir Rubert Boyce and the Hairdressers' Association.

A few days ago a large party of the members and friends of the Liverpool Hairdressers' Association were afforded the opportunity of inspecting the various departments of the University. Among the University staff who took charge of the visitors in their tour of inspection were Sir Rubert Boyce, Professor Wilberforce, and Professor Watkinson. Sir Rubert Boyce impressed on the association, as a body of men who were constantly coming in contact with all classes of people, the desirability of knowing something about the origin of particular diseases. He suggested that they should try to obtain a course of lectures at the University which would be useful to them in their business and promised to assist them in every way that he could. Vice-Chancellor Dale, in a letter to the secretary of the association, said he was glad to hear from them that the visit had proved interesting. He also promised to make inquiries as to the feasibility of carrying out Sir Rubert Boyce's suggestion.

Dec. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Inspection of Meat.

THERE were issued last week by the Local Government Board for Scotland regulations that have been framed under the provisions of the Public Health (Regulations as to Food) Act, 1907. This Act is entitled "An Act to enable Regulations to be made for the Prevention of Danger arising to Public Health from the Importation, Preparation, Storage, and Distribution of Articles of Food." The regulations that have been prepared by the Local Government Board are of two kinds and are entitled "Unsound Food Regulations" and "Foreign Meat Regulations" respectively. The unsound food series deals with articles of food brought by ship to any port in Scotland from any place outwith this country, and have been framed with the object of securing that such articles of food shall be dealt with at the port of discharge. The regulations give the medical officer of health power to examine articles of food on board the ship if he considers it necessary. The procedure to be adopted is much the same as that prescribed in Section 43 of the Public Health (Scotland) Act, 1897, at present in force. If the medical officer of health is of opinion that the article of food is unsound he is given power to seize and to carry it away and to obtain a warrant of condemnation from a sheriff, magistrate, or justice. In are still extant, and some of the great London landlords who derived much of their wealth from what was originally church property might also be approached.

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arrangement to which they objected and the Board also proceeded to appoint the medical officers and the midwives for those districts without regard to the right of the guardians to make the appointments. In giving judgment the Lord Chief Justice, after discussion of some technicalities, stated his opinion that "the paramount discretion was with the Local Government Board. The real substance of this is that the rearrangement was for the benefit of the people of the district." Mr. Justice Gibson referred to the fact that the guardians never gave any reply to the Local Government Board but simply characterised the official proposal as "ridiculous." Mr. Justice Kenny concurred with the views of the other judges.

Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on Nov. 26th, Mr. T. S. Kirk, the President, being in the chair. The President gave the toast of "The King" and then "The Lord Lieutenant of Ireland," to which the Lord Mayor of Belfast (Sir Robert Anderson) replied, both the Lord Mayor and the President laying stress on the work done by Lady Aberdeen in the anti-tuberculosis campaign. The next toast, "Our Guests," was given in a very humorous way by Mr. R. J. Johnstone, and to it Mr. A. J. Horne (President of the Royal College of Physicians of Ireland) and Mr. John Lentaigne (President of the Royal College of Surgeons in Ireland) responded. Finally the toast of "The President" was given by Professor W. St. C. Symmers, to which Mr. Kirk replied. During the evening some excellent songs were sung by Dr. J. E. MacIlwaine and Mr. R D. Patterson. This annual reunion of the Ulster Medical Society, at which about 60 were present, was in every respect a great success and the arrangements were admirably carried out by Dr. H. Stevenson (honorary secretary of the society).

The Sewage Pollution of Belfast Lough.

On Nov. 24th a Local Government Board inquiry was opened in the City Hall, Belfast, by Sir J. A. MacCullagh (medical inspector), with whom sat Mr. P. C. Cowan, M. Inst. C.E. (chief engineering inspector), into an application of the city council of Belfast for a loan of £112,300 for the purpose of carrying out a scheme for the purification of the sewage of the city and for completing the Sydenham and Knock drainage scheme. The inquiry lasted until the afternoon of the 27th, when it was adjourned until Dec. 15th. Several witnesses (the city surveyor, the city accountant, the chairman and another member of the improvement committee) were examined. There is a very formidable opposition to this scheme on the part of the Harbour Commissioners, the residents on the shores of Belfast Lough, the Castlereagh rural district council, the Belfast rural district council, the Holywood urban council, and others, the main lines of opposition being two--first, that the scheme was incomplete and partial and would only lead to a purification of from 20 to 30 per cent.; and secondly, that it did not comply with the statutory obligations of the Belfast corporation as defined by the Act of 1899. A curious fact came out by the city accountant estimating the population of Belfast during the present year as 380,344, while at the Health Commission the chairman of the public health committee estimated the population of Belfast for 1906 as 388,159, showing a remarkable decrease in two years.

Vice-Regal Visit to Donegal.

The Lord Lieutenant of Ireland and Lady Aberdeen have spent the past week in various parts of the north-west of Ireland, opening a Tuberculosis Exhibition in Donegal on Nov. 24th, after visiting Belleek on the previous day. At Donegal Mr. H. T. A. Warnock read an address cordially welcoming them and referring to the gratitude of the Irish people to the Countess for her great exertions to promote Irish industries and thanking her for her energy in prosecuting the anti-tuberculosis campaign. The Lord Lieutenant also spoke and the Countess of Aberdeen declared the exhibition open. Subsequently it was decided to open a branch in Donegal of the Women's National Health Association of Ireland. During the remainder of the week their Excellencies visited various parts of the north west—Trillick (where the tuberculosis van "Eire" was started on its tour throughout Ireland), Omagh (where the County Hospital was inspected), Enniskillen (where Lady Aberdeen visited the County Infirmary with its open-air consumption chalet), and Ballyshannon (where the Tuberculosis Exhibition had moved from Donegal). The enterprise shown in spending a week—at a most inclement part of the year—in an out of the way district of the country so as to promote the Women's National Health Association of Ireland and to inspect and to encourage various native industries is recognised by all parties.

Dec. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Pneumonia occurring Simultaneously in Husband and Wife.

AT a meeting of the Hospitals Medical Society held on Oct. 30th M. Widal related on his own behalf and on that of M. Chauffard, two cases of pneumonia occurring simultaneously in husband and wife. Both patients had drunk upon the same day, in accordance with their usual custom, a quantity of cold water. On the following day both patients were attacked with pneumonia at a few hours' interval. The disease ran a similar course in both, the two crises occurred on the same day and the two temperature charts were similar. It is difficult to suppose that in these two cases the one was infected by the other, as the rigor in the one so closely followed that in the other. Neither were there any influences such as fatigue or insanitary conditions present, so it would seem as if the infection was to be put down to the water. On Nov. 6th M. Netter referred to the subject and gave it as his opinion that in cases of simultaneous pneumonia in husband and wife the virulence of the pneumococci present in the mouth might be exalted by cold, such as, for instance, the ingestion of cold water.

The Light Treatment of Lupus.

At the November meeting of the Society of Dermatology and Syphilography M. de Beurmann and M. Degrais exhibited some apparatus used in phototherapy. At the St. Louis Hospital there is now a department in which four Finsen lamps are available capable of treating 128 patients per day. The two pieces of apparatus shown at the meeting were the one a method for easily focussing the lenses for the light from an electric arc, and the other a method of keeping up regular automatic compression of the region treated.

Altitude and Sunlight Cure of Cutaneous Tuberculosis.

At the same meeting of the same society M. Hallopeau gave an account of the results obtained by M. Rolier in the treatment of various tuberculous affections, and in particular that of lupus, by the rays of the sun at a high altitude. The patients are exposed almost naked and the effects are excellent. It would seem that the pigmentation which results from exposure to the sun is of great importance in rendering the penetration of the rays more complete. M. Balzer gave an account of a case of lupus of the nose which had been cured by exposure to the rays of the sun at sea level. M. de Beurmann said that this method gave good results in gummata and certain forms of cutaneous tuberculosis. A high altitude was, however, preferable, for there the chemical rays of the sun were more active and the heat rays less so.

Cancer of the Rectum and Fulguration.

On Oct. 24th at the Society of Medicine M. Bizard gave an account of a case of a man, aged 41 years, who had suffered for two years from cancer of the rectum. Various surgeons had agreed that the only thing to be done was to make an artificial anus. Treatment of the growth by fulguration was begun in the month of November, 1907. The results were excellent. The local trouble disappeared for the most part and the patient has gained 26 pounds in weight since the treatment was begun. This case and others like it would seem to show that fulguration is one of the best methods of treatment for cancer, even for those cases which are considered inoperable.

Atoxyl in the Treatment of Malaria.

M. Vassal has been able to study the effects of atoxyl in 17 cases of malaria at the native hospital of Nhatrang in Annam. He uses a 10 per cent. solution which he injects deeply into the muscles of the thigh, the dose being 1 gramme of atoxyl. In other cases he gives the salt by the mouth in doses of 10 centigrammes per day for ten days and upwards. Employed by itself in these large doses, atoxyl is neither antipyretic nor antiparasitic, but if

21,000,000; while of 1000 children born in these six rural counties only 63 died under the age of one year, the mean proportion in the 218 towns was 142 per 1000. During last summer quarter 11,119 deaths in England and Wales were referred to diarrhœa, of which 8498 occurred in the 218 largest towns, and but 2621 in the remainder of England and Wales, with a population of about 14,000,000, mainly rural, but including all urban districts with populations under 20,000. The annual death-rate from diarrhœa during last quarter in the whole of England and Wales was equal to 1·25 per 1000, against 2·07, the average rate in the ten preceding corresponding summer quarters. The annual death-rate from diarrhœa last quarter was 1·71 per 1000 in the 76 largest towns, ranging from 0·03 and 0·06 in Hastings and Bournemouth, to 4·20 in Hull, 4·28 in Middlesbrough, 4·50 in Burnley, and 6·09 in Rhondda. In the 142 smaller towns the mean annual diarrhœa rate was equal to 1·25 per 1000 and in the remainder of England and Wales the mean rate did not exceed 0·73 per 1000. In order, however, to show more clearly the comparative immunity from summer diarrhœa in rural populations, it should be noted that in the six essentially rural counties enumerated above, although they include several populous urban districts, the mean annual death-rate from diarrhœa during last quarter did not exceed 0·16 per 1000 and was less than one-tenth of the mean rate that prevailed in the 76 largest towns. Striking as is this contrast, however, these figures underestimate the comparative immunity from fatal infantile summer diarrhœa in rural districts, not only because it is at present impossible to exclude from the statistics for rural counties the facts relating to urban districts situated therein, but because it is also impossible to ascertain from the Registrar-General's returns how many of the deaths attributed to diarrhœa in administrative counties and sanitary districts are of infants under one year of age or of children aged under five years. It appears from the Registrar-General's last issued annual report relating to 1906 that in the whole of England and Wales 92·2 per cent. of the deaths attributed to diarrhœa in that year were of children aged under five years and 74·9 per cent. of infants under one year of age; but the proportions of the deaths of young children from diarrhœa are probably much larger in the summer quarter of the year.

CATALYSIS VERSUS VITAL ENERGY.

As is well known, the discovery of a method of synthesising urea was the first step in the destruction of the "vital theory" and it was soon found that many other products of animal metabolism could be built up from inorganic materials without the aid of vital processes. Indeed, the term "organic" chemistry had not long been adopted before it became a misnomer. Many reactions were explained by the assumption of a "vital energy" and the action of enzymes was generally attributed to a vital force rather than a purely chemical change. In this connexion it is of interest to refer to a communication from the Johns Hopkins University by Mr. S. F. Acree on the Catalytic Reactions Induced by Enzymes.[1] His work, supplementing that of Dr. Hudson and other investigators, serves to clear up much of the mystery that hitherto has surrounded the action of enzymes. According to the modern view the addition of an enzyme to a reacting system brings about a catalytic change because the enzyme unites with some constituent, called a "substratum," of the reacting system and forms a new compound which furnishes the same end-products more or less readily than does the substratum. This conception harmonises with the facts connected with enzymic catalysis and renders unnecessary the assumption that an enzyme stores up within itself a vital energy which is given up to the reacting system and, perhaps, after transformation causes an acceleration of the reaction similar to that produced by heat, light, and other physical agents. The new theory of catalysis clears up the mystery of catalytic action and points to the probability that all organic reactions are essentially like the inorganic reactions. The vital energy theory, on the other hand, fails to harmonise with some known facts and there is no corroborative evidence that enzymes store the energy necessary to bring about the reactions which they set up. For example, O'Sullivan and Tompson showed that invertase can catalyse at least 100,000 times its own weight of cane sugar without losing its reactivity to a measurable extent. If it be assumed that the action of the enzyme is due to the possession of a vital energy invertase would be compelled to give off enormous quantities of energy, perhaps as much as radium is capable of producing. While allowing that the question requires to be tested further by experiment Mr. Acree holds that the discoveries of the last few years have removed the doctrine of vital energy beyond the reasonable limits of possibility. He who would revive this creed must first offer new facts.

RESUSCITATION OF THE APPARENTLY DROWNED.

Early in the present year the chief surgeon of the Metropolitan Police, Mr. Clinton T. Dent, requested the Royal Society of Medicine to make a pronouncement as to the best method now available for the resuscitation of the apparently drowned. The request was occasioned by the fact that the Royal Life Saving Society, the influence of which on matters relating to rescue and resuscitation is coextensive with the British Empire, had adopted the method recently recommended by Professor E. A. Schäfer, while the Royal Humane Society and Metropolitan police continued to employ the method introduced by the late Dr. Silvester. The council of the Royal Society of Medicine, following the custom of the Royal Medical and Chirurgical Society, nominated the following as a committee to report on the matter: Sir William S. Church (President), Dr. F. H. Champneys, Mr. F. Warrington Haward, Dr. Leonard E. Hill, Professor Arthur Keith, Professor E. H. Starling, Dr. Arthur Latham, and Mr. Herbert S. Pendlebury, the two last named acting as honorary secretaries, while Mr. J. Y. W. MacAlister acted as official secretary. The committee, the report of which has just appeared, recommends Professor Schäfer's method as preferable to either that of Marshall Hall or of Silvester for the resuscitation of the apparently drowned. The recommendation is somewhat unexpected when we remember the criticism to which Professor Schäfer's method was subjected when brought before the Royal Medical and Chirurgical Society in December, 1903. The reasons which induced the committee to prefer the Schäfer method are: (1) the prone position favours the escape of water and mucus from the mouth and trachea; (2) it gives a larger exchange of respiratory air; (3) it gives an effectual upward pressure on the diaphragm, thus stimulating the heart; and (4) there is in Schäfer's method less risk of injury to the abdominal viscera or to the ribs. It is sincerely to be hoped that the finding of the last resuscitation committee may have a more abiding value than those of its four predecessors. Certainly more than one of the reasons given for the adoption of the Schäfer method are open to criticism, especially the second; even Professor Schäfer does not claim a superior but only a sufficient respiratory exchange for his method. It is a matter of regret that the records of the Royal Humane Society, kept for nearly 150 years and the cryoscopic work. Bechmann's apparatus is probably the simplest to use and gives very accurate results. The lecturer exhibited this apparatus and demonstrated to the society the determination of the freezing point of some serum from a case under observation. Normally, he said, the freezing point should be $-0{\cdot}56^\circ$ C. ($\delta = 0{\cdot}56$) for the blood. For the urine it should be from $-1{\cdot}2^\circ$ to $-2{\cdot}5^\circ$ C. ($\Delta = 1{\cdot}2$ to $2{\cdot}5$). It was observed that even after an intravenous infusion of 2000 cubic centimetres, the freezing point of the blood would become normal in four hours. He concluded that cryoscopy indicates the extent to which the kidneys are getting rid of the effete products of metabolism and that in certain cases of unilateral renal disease it was a most valuable aid to differential diagnosis.

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[1] Journal of the American Chemical Society, November, 1903, pp. 1755-60.

The Care and Treatment of Epileptics.

At the opening of the new Hospital for Epileptics and Lunatics Dr. Donath gave a short address on the care and treatment of epileptics. He remarked that society was wholly responsible for the conditions which gave rise to epilepsy and it was the duty of society at large to contribute to the care of the unfortunate victims of those conditions of its own creation. More than 85 per cent. of epileptics were hereditary sufferers, and alcoholism in the parents was responsible for the great majority of cases. It had been said that not less than one in every three children of alcoholic parents suffered from epilepsy. Colonisation of the sufferers was the only way in which epileptics could be cared for properly. He said that up to now they had been shut up with the insane in most of the lunatic asylums in Hungary, a state of affairs which was unfair to both classes of patients. The majority of physicians were willing to admit that purely medical or surgical treatment was of little or no value except in very exceptional cases. More had been done by insisting on a truly hygienic mode of living, strict regulations of the habits of life, and particularly by suitable and interesting employment and surroundings.

New Regulations for School Hygiene.

Under the direction of the Minister of Education the Board of Education has drafted a new set of regulations for the supervision of school children by medical practitioners who will periodically examine the health of the children attending the schools, as is the case at present in Austria. As the chief object of the regulations is the prevention of disease they refer rather to prophylactic work than to the treatment of sick children. The school medical officers will have control in all matters relating to the physical and psychical well-being of the pupils, they will supervise the gymnastic exercises, and before each school term they will examine the children as to the state of the eyes, ears, throat, and spine, so as to discover any who may be unfit for the work of the class in regard to singing, gymnastics, and needlework. First aid may be given if necessary but otherwise medical treatment is not to be undertaken. The proposed remuneration is almost as much as in Austria, about £2 per class per annum. It is also proposed to appoint special practitioners for prophylactic work alone.

Treatment of Eclampsia.

At a meeting of the Nagyvárad Medical Society Dr. Révész laid down the principles of treatment of eclampsia. They consist only in controlling the convulsions and eliminating the toxins. Chloroform is the most trustworthy agent for controlling the convulsions but its injurious effect on the cardiac and vascular systems precludes its use for any extended period. Morphine restricts the eliminative function and prolongs the post-eclamptic stupor. Chloral controls the convulsions, is less toxic than morphine, has no injurious effects on secretion, and can be continued for long periods. Dr. Révész considers the most satisfactory method to be the employment of chloroform until chloralisation is complete. Veratrum would seem to meet the indications but has not been sufficiently tried. To secure elimination of the toxins catharsis by means of calomel, croton oil, or high flushings of the colon is of prime importance. Fluids by the mouth and rectum and cupping over the kidneys will stimulate diuresis. Diaphoresis is best obtained by the hot-air bath or hot pack. The uterus should be emptied as speedily as possible by forceps or version if the cervix is dilated. A closed cervix should be dilated by the fingers or rubber bags. If the cervix is rigid and "cartilaginous" Cæsarean section, vaginal or abdominal, should be performed.

Nov. 27th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Malarial Fever.

THE mortality returns show that the deaths attributed to "fever" in the North-West Provinces amount to approximately two-thirds to three-quarters of the total number of reported deaths. The death ratio from "fever" per 1000 of the population in the period 1883–92 was 24·41; it rose in the next decade to 25·17, and in the five years 1903–07 to 26·88. After making allowance for lung affections and tuberculosis, and in late years for undiagnosed plague, a large proportion of these deaths must be undoubtedly put down to malaria; the exact proportion it is impossible to define, but a high death-rate attributed to "fever" may be safely taken as an indication of the prevalence of malaria. And not only are many deaths directly attributable to that cause, but the prevalence of malaria by undermining the stamina of the people makes them more susceptible to fall victims to other diseases. In attempting to improve the conditions under which the people live, the special attention of the Government should be devoted to measures for minimising the prevalence of malaria. With the object of investigating the causes of malaria in the districts of the provinces and of making recommendations for removing them as far as this can be done, the Lieutenant-Governor has decided, as stated by him in his speech at the opening of the recent sanitary conference, to place an officer on special duty, and has for this purpose selected Major J. C. Robertson, I.M.S., a deputy sanitary commissioner in these provinces, now on leave. Major Robertson will take up this investigation immediately. He will be under the control of the sanitary commissioner who will furnish him with detailed instructions approved by the Lieutenant-Governor for his guidance in making the inquiry intrusted to him. The latter looks to district and other officers to afford him all possible assistance in carrying out this work and trusts that he may also be accorded the coöperation of all non-official residents interested in the improvement of the conditions of life in the provinces.

Malaria in Calcutta.

Some interesting remarks concerning malaria in this city are made by Dr. T. F. Pearse, health officer of the Calcutta corporation, in his report on the administration of his department for the past official year. Dr. Pearse states that the proportion of deaths from malaria is very small in Calcutta compared with that in the province of Bengal, and the difference is not entirely explained by the more accurate registration of the causes of death now made in the city. Comparatively little true malaria is "caught" within the limits of Old Calcutta, although the suburbs are more fever-ridden than the central parts, and there is no reason to believe that malaria kills off a larger proportion of the inhabitants than previously. Indeed, the Calcutta statistics of recent years tend to show the contrary. Hindus and Mahomedans suffer equally; but malaria is no respecter of persons, at any rate in India, although females seem to die from this disease in greater proportion than males. The present epidemic of autumn fever extends all over the central parts of the country and Bombay. It is more widespread than has been known for several years and its effects are felt both in towns and villages. The area affected is so large that but little can be done to check the outbreak, though the distribution of quinine is proceeding as rapidly as possible. The conditions of rural life especially are such that the application of scientific methods is beset with many difficulties.

Plague.

Except in the Bombay Presidency plague does not so far show any signs of recrudescence. In the Punjab, which has suffered so severely in the last few years, the Ludhiana and Ferozepore districts report a certain number of deaths every week and the disease has a slight hold still upon the Canal colonies and in Patiala State, but the weekly mortality is small. In the United Provinces there are a few cases in the Gorakhpur division, but the latest returns show only 16 deaths in the week. In Bengal out of 72 deaths 49 occurred in the Monghyr district. Plague has reappeared in the Berars, Amraoti town and district being most affected; and in the Hyderabad and Mysore States the mortality is what might be expected at this season of the year. On the being the cash lying at the bank, and has also transferred £500 Consols, invested capital.

WE regret to announce the death, on Nov. 27th, of Dr. William Alfred Elliston of Felixstowe, in his sixty-ninth year. Dr. Elliston was the President of the British Medical Association in 1900 and the father of Mr. Guy Elliston, the general secretary of the British Medical Association. We hope to publish some notes of his career.

A TELEGRAM from the Acting Governor of Mauritius, received at the Colonial Office on Nov. 27th, states that for the week ending Nov. 26th there were 11 cases of plague and 8 deaths from the disease.

MOTORING NOTES.

By C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

THE question of insurance of a motor car, especially for one used daily, as medical men use their automobiles, is a most important one, and as since referring to the matter in a recent article I have had a good many letters from professional colleagues, I thought that perhaps the profession might like particulars as to some of the chief offices that undertake this class of risk, the salient features of their policies, and the points to which to pay attention when contemplating such an insurance.

I think it may be taken as beyond doubt that all who own or drive motors should be covered against any sum they may become legally liable to pay as damages and costs for injury to any person or persons, or for damage to property caused by the car while in charge of either the owner or his driver. However carefully a man drives someone may fall in front of the car, and then, whether the driver is to blame or not, even whether the person is actually injured or not, there is the possibility of an action for compensation. If these risks are covered the insurance companies defend the action, or, what is more often the case, they compensate the alleged injured party, save all worry, and relieve the insured of all responsibility. The one point to make certain about is that the policy covers all likely risks. A policy for, say, £100 third party risks, is of little value, for if someone should unfortunately be injured or think himself damaged a sympathetic jury might give him £500 damages, and then the insured would have himself to pay the extra £400, and in addition be uncovered as to third party risks for the rest of the term of his policy. A good many take out an insurance and get a special discount by carrying themselves the first £5, or £10, or even £25, of each claim, the discount being as much as 40 per cent. in the last-named instance with the Motor Union Insurance Co., but it appears to me not a good plan. Only recently I read in the *Autocar* a letter from a gentleman whose policy covers all liability with the exception of the first £5 of any claim; he had an accident consisting of damage to car £6 10*s*. and injury to a wall £3; the company merely allowed £1 10*s*. for the car damage and nothing towards the other claim. I understand that this is perfectly correct, and also that under such a policy if a car slightly injured, say, ten people and four dogs, and if the 14 claims were each for less than £5, the insured would himself have to pay each claim and the company would not be liable for any of them. The conclusion seems that if it is worth while to insure then it is as well to cover all liability.

Some companies, such as the Commercial Union, United Legal Indemnity Insurance Society, the Motor Union Insurance Co., D. A. Kinlock's Lloyd's Policy, and the Car and General Insurance Corporation, Limited, now issue, either alone or combined with their composite policies, protection against all claims for personal injury and damage to property up to an unlimited amount and without any limit as to the number of accidents. As while on a professional round one frequently has to enter private roads, such as a private park or a drive up to the patient's house, and as then damage might be done to a gate or fence, I think it would be as well to insist that third party risks should cover damage though done on a private road, if the same has to be entered for the purpose of paying a professional call. I notice that the Commercial Union Company especially state: "*Accidents to car are not limited to a public thoroughfare.*"

Personally I always drive myself, and nearly all the companies, I notice, allow a 5 per cent. reduction in the premium if the car is driven only by the owner, which is, I think, wise, as the owner is certainly more careful of his property than a paid driver would be. I remember last year having to go to Gravesend to conduct some St. John Ambulance examinations; a fog came on and I took over four hours in covering the nine miles to my home, and next day I heard a colleague's chauffeur remarking how, if he had been the driver, no matter how dense the fog might have been he would have done it in not much over the hour. His speech made me very glad that I was my own driver and also made me comprehend why the insurance companies allow a reduction if the owner is his own driver.

The question of covering damage to one's own car is a debateable one. If a driver is employed it is probably as well to cover this risk; if the owner is his own chauffeur he may like to take these risks himself. I now do so. Still, "pride may have a fall," and some day I may regret my saving of a few pounds a year needed to cover this extra risk. I was sorry that I had not done so some six years ago, when my hub brake drum fell off on Hog's Trough Hill, Brasted, and my but two-year-old Benz, which cost £260, became a wreck that merely fetched £30, so when the new car arrived I did not refuse to see the soft-spoken gentleman who called to expatiate on the advantages of insurance; in fact, I listened, was convinced, and insured. One day an unminded coal-cart horse elected to have a free motor drive; he decided on my little two-seater and jumped in alongside of me. I like both the mechanically propelled and the vehicles drawn by living animals, but I rather bar the two combined, so with a little effort and a big jump over the steering column and radiators I retired and left the quadruped in possession. Alas, the animal had a trade jealousy of the horseless carriage, and anyway the car was not built for the job, and the axle and body suffered. Though I was not to blame—in fact, the owners of the coal-cart were fined for leaving their horses unattended—still the insurance company kept me waiting some time before they sanctioned the repairs needed, and then were not over-generous. I had a trouble to get a new front axle, as their repairer wished to straighten the old one which had bent when the horse posed himself on it. Insurance companies are now, I believe, more generous, and the companies I name I have heard are most fair and anxious to satisfy their customers. All the companies mentioned here permit small repairs up to £5 to be executed without waiting for the company's consent; and, what is most important, a replacement value of the car can be agreed upon by arrangement at the time of effecting the insurance. This latter is of consequence, as otherwise if the car is totally destroyed by accident or fire the company would only pay the market value, which in the present state of the motor trade may be very different to the replacement value.

Most policies now include damage to lamps and tyres when the car is also damaged, though the majority have a limit of £5 for each lamp and only pay the cost of repairing rubber tyres where the damage is directly and immediately due to the accident for which compensation is payable, and they exempt superficial incisions.

For an additional premium certain of the companies undertake to provide the assured with a temporary car or to pay compensation at the rate of £10 a week during the repair of any damage to the car claimable under the insurance; others without extra premium agree to pay special compensation of £1 per day if repairs of insured damage to car are not completed within 20 working days from date of acceptance of estimate by the company, but I somehow think that they seldom have to pay under the latter clause. Still, with foreign cars there is always the possibility that great delay may occur in obtaining spare parts, but probably the insurance company would not accept an estimate until the repairer had the new parts in hand. I remember a friend who some two years ago cracked his water jacket and he was kept waiting over two months for a new cylinder cover. I myself only this year had to wait three weeks for a large crown wheel, but I am pretty positive that if I had been so insured I should not have been paid by the insurance company.

The United Legal Indemnity Insurance Company and the officer, said that Sydney's infant mortality-rate for the last two and a half years was only 91 per 1000. Already the city authorities had a system by which 65 per cent. of nursing mothers in the city and practically all the poor ones were visited by a lady inspector who gave advice as to the feeding and management of infants.

Friendly Societies.

Some time ago the New South Wales branch of the British Medical Association submitted a model agreement to the friendly societies in that State which contained a provision—

> That any person joining a lodge shall be deemed ineligible for any medical benefit from such lodge, if on joining he and his wife have a joint income of over £200 per annum, or at any time thereafter their joint income exceeds £300.

This has been submitted to the societies concerned and rejected, practically unanimously. At a meeting of the Friendly Societies' Association it was moved—

> That the British Medical Association be informed that this association will not agree to any model agreement containing a wage limit.

A subsequent motion desiring a conference was lost.

Public Health of Victoria.

The annual report of the Victorian Board of Public Health sets forth that a vigorous aggressive movement has been made against tuberculosis. With the extension of accommodation for consumptives the board has felt justified in enforcing the notification of cases. It is not claimed that this is entirely effective but the number of notifications is increasing. In 1904, 413 cases were reported and in 1907, 841. The mortality from tuberculosis is said to be falling steadily. Under the Milk and Dairy Supervision Act records are kept of 68,000 dairy cows. 287 cows have been discovered to be diseased and 126 have been destroyed.

Sydney Quarantine Station.

The Sydney quarantine station is situated just within the North Head at the entrance to the harbour. The suburb of Manly, which is one of Sydney's pleasure resorts and the home of surf-bathing, now runs up to within a mile or two of the quarantine area. It has been pointed out that the present site of the quarantine ground cuts off a large area that might be used as a picturesque pleasure reserve, and a movement is on foot to shift the quarantine buildings to some other part of the harbour. The question will, however, be one for the Commonwealth Parliament, as there is not likely to be any alteration made before the control of quarantine is handed over to the Federal authorities.

Oct. 20th.

Obituary.

RAHEEM MAHOMED BUKSH, M.R.C.S. ENG., L.S.A.

Raheem Mahomed Buksh, who died at The Hall, Balaam-street, Plaistow, on Nov. 15th, was at the time of his death honorary surgeon to the Plaistow Dispensary. He had previously been house surgeon and house physician at the London Hospital, where he was very well known to everyone and enjoyed general esteem and respect. After being house surgeon at the Poplar Hospital, where he went from the London Hospital, he settled at Plaistow, and in course of time obtained a considerable practice. Here he was helped by his deceased wife who had been a nurse at the London Hospital and whose kindness to the very poor was of the practical sort that comes from experience. The grateful appreciation of these unfortunate people of the efforts made in their behalf was evidently regarded by both husband and wife as a more than adequate return for their labours. For some time Mr. Buksh had been in indifferent health, though he had allowed but few even amongst his most intimate friends to be aware of it. Most fortunately he suffered little if at all from his condition, and his last days were cheered by the kindly attention of Dr. W. J. Hadley and his old and highly esteemed friend Mr. T. H. Openshaw. The interment took place at Brooklands on Nov. 20th in the Mahomedan section, the ceremony being attended by a number of his old fellow students and patients. He was reverently laid to rest by his Indian fellow countrymen residing in London.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Alonzo B. Ball, formerly professor of medicine in the College of Physicians and Surgeons, New York.—Dr. Turner Anderson, professor of midwifery and gynæcology in the University of Louisville.—Dr. San Martin y Satrústegui, professor of clinical surgery in the University of Madrid.—Dr. Benjamin Anger, formerly surgeon to the Paris Hospitals.—Dr. J. B. McGaughey of Winona, one of the most popular practitioners in the State of Minnesota. In early life he fought on the side of the Union Army in which he attained commissioned rank. While outside the lines at Stevenson, Alabama, caring for his wounded colonel, he was captured by the enemy and was for a time in Libby prison. After the war he studied medicine and graduated at the University of Michigan. He was one of the two delegates from Minnesota to the last Convention of the American Medical Association, and he served for many years as a member of the State Board of Medical Examiners.—Dr. Albert Carrier, formerly physician to the Lyons hospitals—Dr. Félizet, formerly surgeon to the Paris hospitals—Dr. Paul Vidal, formerly surgeon to the Marseilles hospitals.—Dr. Kiutsch, *privat-docent* of children's diseases in the University of Moscow.—Dr. Vincenzo Brigidi, formerly professor of pathology and anatomy in Genoa.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination, Part II., held recently the following candidates were successful:—

> *Midwifery.*—Ralph T. St. J. Brooks, Frederick A. Anderson, Victor B. Kyle, Howard S. Millar, John D. Kernan, Harold S. Sugars, William Knapp, Edwin B. Bate, Charles B. Jones, and James D. Murphy.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Jürgens, assistant physician in the second medical clinic of the Charité, has been granted the title of Professor. Dr. Gustav Schütz, teacher of mechanical therapeutics, has also been given the position of Professor.—*Cologne (Academy of Practical Medicine):* Dr. Ferdinand Zinsser, chief medical officer of the City Hospital at Lindenberg, has been appointed Professor of Dermatology; Dr. August Prochsting, chief medical officer of the City Eye Hospital, Professor of Ophthalmology; and Dr. Carl Cramer, chief medical officer of the Bürger Hospital, Professor of Orthopædic Surgery.—*Gottingen:* Dr. Eichelberg has been recognised as *privat-docent* of Mental Diseases.—*Kiel:* An orthopædic polyclinic or out-patient department has been attached to the University Surgical Clinic.—*Nantes:* Dr. Mirallié has been transferred at his own request from the chair of Forensic Medicine to that of Pathology.—*Rouen:* Dr. Dévé has been appointed to the chair of Internal Pathology in succession to Dr. Brunon.—*Vienna:* Dr. Ferdinand Hochstetter of Innsbruck has been appointed to the chair of anatomy vacated by the death of Dr. Toldt. Surgeon-General Florian Kratschmer, Ober-Sanitätsrat, has been knighted.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—This association held its autumn dinner on Nov. 24th, at the Hotel Cecil, Strand, London, under the chairmanship of the President, Surgeon-General Sir Charles MacDonagh Cuffe. The toast of "Our Defenders," proposed by Judge Rentoul, was responded to by Dr. Samuel Browne, late Surgeon, R.N. Major V. H. W. Davoren, R.A.M.C., who also replied, said that Mr. Haldane had provided them with a scheme for a large territorial force which it was hoped would be carried out completely when the country understood that it was the duty of every able-bodied man to assist in the national defence. He declared that under the able directorship of the present officer in command the Army Medical Service was in a more efficient state than at any time in its previous history. Dr. J. A. Macdonald submitted the toast of "The Guests" and said that the name of one of them, Sir Robert Hart, would stand as one of the foremost of that honoured band of Irishmen which had rendered the name of Britain the foremost in all matters of progress, humanity, and religion. Sir Robert Hart, in his reply, described the difficulties in the way of progress in medical science in China but gave some

Fire, explosion, &c.—Loss of or damage to car [including tyres, lamps, and accessories whilst actually on insured car] by fire, explosion, self-ignition, or lightning, anywhere in the United Kingdom, will be covered up to full value at the time of fire.

Theft.—Loss of car by theft [excluding accessories, unless car stolen at same time] will be covered anywhere in the United Kingdom up to full value at time of theft.

The h.p. is the lower of the two stated by the maker.	6-h.p.	8-h.p.	10-h.p.	12-h.p.	16-h.p.	20-h.p.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Full indemnity (except mechanical breakdowns, excess £10)	8 10	11 0	12 10	13 10	16 0	19 0
Full indemnity. Excess first £5 each claim under each section (except mechanical breakdowns, excess £15)...	7 0	9 10	11 0	12 0	14 10	17 10
Full indemnity. Excess first £10 each claim under each section (except mechanical breakdowns, excess £20)...	6 0	8 10	9 10	10 10	13 0	16 0
Full indemnity. Excess first £25 each claim under each section (except mechanical breakdowns, excess £35)...	4 0	6 0	7 0	8 0	10 0	12 0

This company also issues a policy excluding mechanical breakdowns at a somewhat lower premium, about £1 in each case.

A special "Lloyd's" policy is issued by Mr. D. A. Kinlock (Messrs. Leslie and Godwin) of 52, Cornhill, London, E.C. This covers all third-party claims, as well as damage to insured car, including lamps and tyres, also loss by fire or theft. An important feature claimed is that the policy contains a clause to the effect that the value of a sum to be fixed at the time of effecting the insurance is admitted for all purposes of loss or damage, and so in the event of total destruction by fire or accident the owner obtains a replacement sum instead of the market value of the property. Mr. Kinlock does not issue a scale of rates but treats each car upon its merits. I also understand that he allows a return of from 25 to 30 per cent. of the premium when no claim is made under the policy.

The Railway Passengers' Assurance Company of 64, Cornhill, London, E.C., issue policies giving benefits, as shown in the table given below:—

Benefits secured.	£10 10*s.* premium insures up to the undermentioned amounts.	£16 premium insures up to the undermentioned amounts.	£18 10*s.* premium insures up to the undermentioned amounts.	£20 5*s.* premium insures up to the undermentioned amounts.
1. Indemnity against legal claims for damage to persons and property.	£100 for one accident with a limit of £300 in one year.	£200 for one accident, with a limit of £600 in one year.	£250 for one accident, with a limit of £750 in one year.	£300 for one accident, with a limit of £900 in one year.
2. Indemnity against damage to car (lamps and tyres excepted) caused by collision or external and accidental means (other than explosion or self ignition or combustion), not occasioned by any known defect in the car. [N.B.—The first £2 of any damage is borne by the assured.]	£50 for one accident, with a limit of £150 in one year.	£100 for one accident, with a limit of £300 in one year.	£150 for one accident, with a limit of £450 in one year.	£200 for one accident; with a limit of £600 in one year.
3. Indemnity against damage to car caused by explosion or self-ignition or combustion not occasioned by any known defect in the car.	£100.	£150.	£200.	£250.
4. Indemnity against loss of car by theft or burglary or damage to car caused by attempted theft or burglary.	£100.	£150.	£200.	£250.
5. Insurance of paid driver...	Not provided for in above premium (but may be at an extra charge).	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)

ROYAL SOCIETY OF MEDICINE.

DEBATE ON HEREDITY, WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.—(*Continued from p. 1627.*)

Mr. H. T. BUTLIN reopened the discussion, directing his attention chiefly towards the question of cancer. He said that the labours of the Imperial Cancer Research Committee had shown that certain animals—for instance, certain mice—showed a susceptibility to cancer, while other mice were comparatively immune. And it was natural to infer that if such were true of mice it would be true also of men. And that susceptibility had been shown to be really born in the animal. With regard to heredity, on the one hand it exercised a far-reaching influence, and yet there were curious limitations. For instance, it was said by those who held that cancer was due to heredity that collateral branches must be shut out and that one must not talk of the heredity of cancer skipping a generation. He gave an instance of a man who had a peculiar instinct which enabled him to assess readily the value of old curios and it was said by his friends that he must be a Jew. But he said he was not, but when inquiry was made it was discovered that one of his ancestors married a Jewess, and he felt sure that that strain was in the blood. The susceptibility to hay fever seemed also to be inherited, but some members of a family were susceptible to hay fever while the others were not. The same family predisposition and limitation were seen in cases of exostosis. It was generally accepted that certain features could be inherited, such as the shape of the nose, the colour of the eyes and hair, the qualities of meanness and cowardice on the one hand, and courage and generosity on the other. It was also admitted that the strength or weakness of certain parts could be inherited, and so could abnormalities. Many believed also that the tendency to gout could be similarly transmitted. It had been said that those who believed in heredity could not support their side by figures, but at all events it was supported by logic, and there was also such evidence as was afforded by Dr. Bashford's figures. The arguments against heredity were put forward by his colleague at St. Bartholomew's, Mr. Cripps, 30 years ago. The arguments came to this: that one must exclude in the evidence in favour of inheritance those cases in which the disease had skipped a generation, and also that evidence which depended upon the number of collateral relatives who suffered from the disease, and one must exclude those cases in which the disease was not of the same variety in all the members of the family. But those who believed in heredity did not feel disposed to accept those restrictions. Another objection made was that there was no regular proportion of the number of those who suffered from cancer in the susceptible families and that there was not enough cancer shown in the families which were regarded as susceptible. He would take the instance of a man with epithelioma on the edge of his tongue. The man said he scratched his tongue with a carious tooth weeks or months previously. Mr. Butlin found that in front of his tongue there were leucoplakia and chronic superficial glossitis and there was a clear history of syphilis long ago. The man was over 40 years of age. After thinking out the etiology of the disease he said it was, first, that he had injured his tongue by his carious tooth; secondly, that he had on his tongue for a considerable time officer, said that Sydney's infant mortality-rate for the last two and a half years was only 91 per 1000. Already the city authorities had a system by which 65 per cent. of nursing mothers in the city and practically all the poor ones were visited by a lady inspector who gave advice as to the feeding and management of infants.

Friendly Societies.

Some time ago the New South Wales branch of the British Medical Association submitted a model agreement to the friendly societies in that State which contained a provision—

> That any person joining a lodge shall be deemed ineligible for any medical benefit from such lodge, if on joining he and his wife have a joint income of over £200 per annum, or at any time thereafter their joint income exceeds £300.

This has been submitted to the societies concerned and rejected, practically unanimously. At a meeting of the Friendly Societies' Association it was moved—

> That the British Medical Association be informed that this association will not agree to any model agreement containing a wage limit.

A subsequent motion desiring a conference was lost.

Public Health of Victoria.

The annual report of the Victorian Board of Public Health sets forth that a vigorous aggressive movement has been made against tuberculosis. With the extension of accommodation for consumptives the board has felt justified in enforcing the notification of cases. It is not claimed that this is entirely effective but the number of notifications is increasing. In 1904, 413 cases were reported and in 1907, 841. The mortality from tuberculosis is said to be falling steadily. Under the Milk and Dairy Supervision Act records are kept of 68,000 dairy cows. 287 cows have been discovered to be diseased and 126 have been destroyed.

Sydney Quarantine Station.

The Sydney quarantine station is situated just within the North Head at the entrance to the harbour. The suburb of Manly, which is one of Sydney's pleasure resorts and the home of surf-bathing, now runs up to within a mile or two of the quarantine area. It has been pointed out that the present site of the quarantine ground cuts off a large area that might be used as a picturesque pleasure reserve, and a movement is on foot to shift the quarantine buildings to some other part of the harbour. The question will, however, be one for the Commonwealth Parliament, as there is not likely to be any alteration made before the control of quarantine is handed over to the Federal authorities.

Oct. 20th.

Obituary.

RAHEEM MAHOMED BUKSH, M.R.C.S. ENG., L.S.A.

Raheem Mahomed Buksh, who died at The Hall, Balaam-street, Plaistow, on Nov. 15th, was at the time of his death honorary surgeon to the Plaistow Dispensary. He had previously been house surgeon and house physician at the London Hospital, where he was very well known to everyone and enjoyed general esteem and respect. After being house surgeon at the Poplar Hospital, where he went from the London Hospital, he settled at Plaistow, and in course of time obtained a considerable practice. Here he was helped by his deceased wife who had been a nurse at the London Hospital and whose kindness to the very poor was of the practical sort that comes from experience. The grateful appreciation of these unfortunate people of the efforts made in their behalf was evidently regarded by both husband and wife as a more than adequate return for their labours. For some time Mr. Buksh had been in indifferent health, though he had allowed but few even amongst his most intimate friends to be aware of it. Most fortunately he suffered little if at all from his condition, and his last days were cheered by the kindly attention of Dr. W. J. Hadley and his old and highly esteemed friend Mr. T. H. Openshaw. The interment took place at Brooklands on Nov. 20th in the Mahomedan section, the ceremony being attended by a number of his old fellow students and patients. He was reverently laid to rest by his Indian fellow countrymen residing in London.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Alonzo B. Ball, formerly professor of medicine in the College of Physicians and Surgeons, New York.—Dr. Turner Anderson, professor of midwifery and gynæcology in the University of Louisville.—Dr. San Martin y Satrústegui, professor of clinical surgery in the University of Madrid.—Dr. Benjamin Anger, formerly surgeon to the Paris Hospitals.—Dr. J. B. McGaughey of Winona, one of the most popular practitioners in the State of Minnesota. In early life he fought on the side of the Union Army in which he attained commissioned rank. While outside the lines at Stevenson, Alabama, caring for his wounded colonel, he was captured by the enemy and was for a time in Libby prison. After the war he studied medicine and graduated at the University of Michigan. He was one of the two delegates from Minnesota to the last Convention of the American Medical Association, and he served for many years as a member of the State Board of Medical Examiners.—Dr. Albert Carrier, formerly physician to the Lyons hospitals. —Dr. Félizet, formerly surgeon to the Paris hospitals—Dr. Paul Vidal, formerly surgeon to the Marseilles hospitals. —Dr. Kiutsch, *privat-docent* of children's diseases in the University of Moscow.—Dr. Vincenzo Brigidi, formerly professor of pathology and anatomy in Genoa.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination, Part II., held recently the following candidates were successful:—

Midwifery.—Ralph T. St. J. Brooks, Frederick A. Anderson, Victor B. Kyle, Howard S. Millar, John D. Kernan, Harold S. Sugars, William Knapp, Edwin B. Bate, Charles B. Jones, and James D. Murphy.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Jürgens, assistant physician in the second medical clinic of the Charité, has been granted the title of Professor. Dr. Gustav Schütz, teacher of mechanical therapeutics, has also been given the position of Professor.—*Cologne (Academy of Practical Medicine):* Dr. Ferdinand Zinsser, chief medical officer of the City Hospital at Lindenberg, has been appointed Professor of Dermatology; Dr. August Prochsting, chief medical officer of the City Eye Hospital, Professor of Ophthalmology; and Dr. Carl Cramer, chief medical officer of the Bürger Hospital, Professor of Orthopædic Surgery.—*Gottingen:* Dr. Eichelberg has been recognised as *privat-docent* of Mental Diseases.—*Kiel:* An orthopædic polyclinic or out-patient department has been attached to the University Surgical Clinic.—*Nantes:* Dr. Mirallié has been transferred at his own request from the chair of Forensic Médicine to that of Pathology.—*Rouen:* Dr. Dévé has been appointed to the chair of Internal Pathology in succession to Dr. Brunon.—*Vienna:* Dr. Ferdinand Hochstetter of Innsbruck has been appointed to the chair of anatomy vacated by the death of Dr. Toldt. Surgeon-General Florian Kratschmer, Ober-Sanitätsrat, has been knighted.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—This association held its autumn dinner on Nov. 24th, at the Hotel Cecil, Strand, London, under the chairmanship of the President, Surgeon-General Sir Charles MacDonagh Cuffe. The toast of "Our Defenders," proposed by Judge Rentoul, was responded to by Dr. Samuel Browne, late Surgeon, R.N. Major V. H. W. Davoren, R.A.M.C., who also replied, said that Mr. Haldane had provided them with a scheme for a large territorial force which it was hoped would be carried out completely when the country understood that it was the duty of every able-bodied man to assist in the national defence. He declared that under the able directorship of the present officer in command the Army Medical Service was in a more efficient state than at any time in its previous history. Dr. J. A. Macdonald submitted the toast of "The Guests" and said that the name of one of them, Sir Robert Hart, would stand as one of the foremost of that honoured band of Irishmen which had rendered the name of Britain the foremost in all matters of progress, humanity, and religion. Sir Robert Hart, in his reply, described the difficulties in the way of progress in medical science in China but gave some

Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 4th, 1830.

PROPOSED IMPROVEMENT IN THE CONSTRUCTION OF SPECTACLES.

By MARTIN EVANS, *M.D.*, *Teignmouth.*

MANY of your readers may be inclined to suppose that the subject of the present letter is misplaced, when inserted in the columns of your invaluable Journal. However, I am disposed to look upon any information which tends to remedy a defect in the organs of our most useful sense, the eyes, as perfectly adapted to them.

For some time past, I have been in the habit of using the doubly-concave eye-glass, commonly employed by young people, and have found that its utility may be very much, indeed wonderfully increased, by fixing it in a particular direction in relation to the eye. The statement for procedure in the experiment may appear obscure without the assistance of a diagram, but I shall endeavour to make myself as intelligible as the nature of the subject admits. That part of the glass which rests at the inner canthus should be fixed as a centre, whilst the part towards the external canthus is directed *forwards* to a degree which varies in different persons. When it reaches this point or focus, the object viewed appears extremely clear, so much so indeed as to justify an assertion of increase in a double ratio. Persons who do not require the aid of glasses cannot appreciate this improvement. Those only whose vision is so far impaired as to need such artificial contrivance will pronounce on its application. My experiments on the doubly-convex glasses of old people, have not been sufficient to bear me out in extending the principle to them; neither have I as yet arrived at a satisfactory rationale of the process; some of your readers, therefore, may be ingenious enough to do so. From the knowledge of this circumstance, I venture to suggest to Opticians a practical improvement in the construction of spectacles. It is the following:—Let the space between the lenses, or that part which rests on the ossa nasi, be formed with a *pretty stiff* horizontal joint in the centre, in order that an obtuse angle could be formed when necessary, the vertex represented by the joint, the sides by those parts of the spectacles which surround the lenses and directed *forwards* to a certain extent as above mentioned. This shape, although at present appearing unhandsome, would by time, and its utility, be reconcilable to our ideas of beauty in figure.

Teignmouth, Devonshire, October 25, 1830.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7591 births and 4847 deaths were registered during the week ending Nov. 28th. The annual rate of mortality in these towns, which had been equal to 15·9 and 15·6 per 1000 in the two preceding weeks, was again 15·6 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns averaged 14·6 per 1000, and in London the mean rate during the same period did not exceed 14·0. The lowest annual death-rates in these towns last week were 4·7 in East Ham, 5·8 in Burton-on-Trent, 5·9 in Coventry, and 6·2 in Hornsey; the rates in the other towns ranged upwards, however, to 23·4 in Stockport, 23·5 in Stockton-on-Tees and Walsall, 25·4 in Rotherham, and 26·2 in Middlesbrough. In London the death-rate last week was equal to 15·8, and was higher than in any week since the beginning of May last. The 4847 deaths from all causes in the 76 towns were within four of the number returned in the previous week, and included 407 which were referred to the principal epidemic diseases, showing a further slight decline from the numbers in recent weeks; of these 407 deaths, 140 resulted from measles, 102 from diarrhœa, 66 from diphtheria, 41 from "fever," 30 from whooping-cough, and 28 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·3 per 1000, against 1·4 in each of the two previous weeks; the rate from these diseases was also equal to 1·3 per 1000 in London. No death from any of these epidemic diseases was registered last week in Burnley, Swansea, Northampton, Hornsey, Reading, or in five other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·6 in Stockport, 3·7 in Warrington, 5·6 in Leicester, 7·4 in Rotherham, and 7·6 in Middlesbrough. The fatal cases of measles in the 76 towns, which had steadily increased in the nine preceding weeks from 31 to 126, further rose to 140 in the week under notice; they caused annual death-rates equal to 1·5 in Oldham, 2·2 in Huddersfield, 2·5 in Stockport, 4·6 in Leicester, and 4·9 in Rotherham. The 102 deaths attributed to diarrhœa during last week showed a further decline of 37 from the numbers in recent weeks, and were fewer than in any week since the beginning of July last; the highest annual death-rates from this cause during the week were 1·5 in West Bromwich, Warrington, and Oldham, 1·6 in Rotherham, and 1·9 in Tynemouth. The 66 deaths from diphtheria showed an increase of ten upon those returned in the previous week; they included 37 in London and its suburban districts, three in Birmingham, two in Liverpool, four in Manchester and Salford, two in Sheffield, three in Hull, and two in Newport. The 41 deaths referred to "fever" during the week were within one of the number in the previous week, and included 15 in London and its suburban districts, four in Manchester and Salford, and two in Liverpool. The fatal cases both of whooping-cough and scarlet fever were below the average, and differed but slightly from recent weekly numbers; the two deaths from scarlet fever in Handsworth were equal to an annual rate of 1·5 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3881 and 3809 at the end of the two preceding weeks, had risen again to 3831 on Saturday, Nov. 28th; the new cases of this disease admitted to these hospitals during the week under notice were 491, against 500 and 421 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the six preceding weeks from 159 to 334, declined to 318 in the week under notice, and were 112 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 53, or 1·1 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 43 other smaller towns; the 53 uncertified causes of death in the 76 towns included, however, six in Liverpool, four in Birmingham, four in Sheffield, four in Preston, three in South Shields, three in Manchester, and three in West Bromwich.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·9 and 17·3 per 1000 in the two preceding weeks, declined again to 16·4 in the week ending Nov. 28th. During the first nine weeks of the current quarter the annual death-rate in these eight towns averaged 15·0 per 1000, and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·1 and 14·8 in Paisley and Perth, to 18·2 in Greenock and 18·4 in Aberdeen. The 577 deaths in the eight towns showed a decline of 33 from the number returned in the previous week, and included 57 which were referred to the principal epidemic diseases, against 68 and 62 in the two preceding weeks; of these 57 deaths, 25 resulted from diarrhœa, 16 from whooping-cough, nine from scarlet fever, five from diphtheria, and two from "fever," but not one either from measles or small-pox. These 57 deaths were equal to an annual rate of 1·6 per 1000, which exceeded by 0·3 the mean rate from the same diseases in the 76 English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 29, 24, and 22 in the three preceding weeks, rose again to 25 in the week under notice, and included her physical condition to the Board which will then consider whether a certificate should be granted to her; and (2) that a caution as to the health of intending candidates should be sent to all recognised training schools, recognised teachers, and approved midwives. It was agreed that Dr. G. E. Herman should be asked to inspect and to report on the maternity department of the Middlesex Hospital subject to the consent of the governing body of the hospital.

GLASGOW UNIVERSITY CLUB, LONDON.—This
nner on Nov. 27th, under the chair-
hibald Barr, in the Balmoral Hall of
W. The
has been
e club from 1901 to 1908, and has
at the club is in a position of great
prosperity with a membership of nearly 330. Professor Barr, after had been duly honoured, proposed d the Club." He mentioned that when he was appointed to the first professorship of engineering in the University of Glasgow it was his duty to deliver before the Senate an oration in Latin, which he described as the deadest of dead languages. This effort of his had a most remarkable result, for his eloquence so satisfied the craving of the Senate for Latin oratory that no one since had been asked to address them in that dead language. In the course of some humorous remarks on the origins of the learned professions he said that the beginning of medicine appeared to be wrapped in mystery, but he thought it would be agreed that the "medicine man" must have been developed at a late period because of the records of longevity that had come down to them from the earliest times. Dr. Guthrie Rankin then proposed the health of Dr. Hawthorne and spoke of his work for the club. Dr. Hawthorne, in reply, acknowledged the compliment paid to him and must have been much gratified at the enthusiastic reception accorded to his speech. Sir Donald MacAlister, in an eloquent and witty speech, proposed "The Guests," which was replied to by Professor James Little, who was followed by Sir William H. White, submitting the "Health of the Chairman," which was suitably acknowledged.

MIDDLESEX HOSPITAL.—A meeting of the court of governors was held on Nov. 26th; Mr. Andrew Clark presided. Major-General Lord Cheylesmore expressed the profound regret of the board at the death of the Earl of Derby, a true friend who had been for 17 or 18 years on the board. It was intended to erect a tablet to his memory in the chapel of the hospital and the secretary would be pleased to receive subscriptions for it. By the death of Sir Elliott Lees, too, they had lost a vice-president who never failed to display the keenest solicitude for the welfare of the hospital. To Mr. J. A. Mullens and his sons they gratefully acknowledged their indebtedness. It was unanimously recommended that the Earl of Derby, himself (Lord Cheylesmore), and the Hon. G. W. Spencer Lyttelton should be appointed vice-presidents of the hospital, and that Dr. William Duncan and Mr. William Hern should be elected consulting obstetric physician and consulting dental surgeon respectively. Mr. W. Salmon Nowell and Mr. H. Watson Turner had been appointed dental surgeon and assistant dental surgeon to fill vacancies. The value of the new observation wards had been proved during the past six months and lying-in wards had been successfully re-established. A contribution of £2500 towards their cost had been made by the trustees of the Zunz bequest. He regretted that their special appeal for funds for the Cancer Research Laboratories had not been very successful and the board urged that they should be helped in carrying on this great work, for which they required £2500 annually. The board was anxious that any interested should visit the hospital and see for themselves the work being done in the cancer wards and the Cancer Research Laboratories, which would create a wider sympathy and bring adequate financial support.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 AND 43, Maddox-street, Bond-street, London, W.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D. Edin., F.R.C.P., Physician to Out-patients at the Westminster Hospital; Joint Lecturer on Medicine in the Medical School. Second edition, revised and enlarged. Price 15s. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

e Operations for Suppurative Otitis
omplications. By B. Heine, Professor
and Director of the Otological Poly-
ia. Translated and edited from the second German edition by W. Lombard Murphy, M.A., M.B., B.C. Cantab., F.R.C.S.I., &c., Surgeon to the Throat and Nose Department, St. Vincent's Hospital, Dublin. Price 8s. 6d. net.

CASSELL AND CO., LIMITED, London, Paris, New York, Toronto, and Melbourne.

The Diagnosis of Small-pox. By T. F. Ricketts, M.D., B.Sc. Lond., M.R.C.P., D.P.H., Medical Superintendent of the Small-pox Hospitals and of the River Ambulance Service of the Metropolitan Asylums Board. Illustrated from Photographs by J. B. Byles, M.B., B.C. Cantab., F.R.C.S. Eng., D.P.H., Senior Assistant Medical Officer at the Small-pox Hospitals of the Metropolitan Asylums Board. Price 21s.

FROWDE, HENRY, AND HODDER AND STOUGHTON, 20, Warwick square London, E.C.

Oxford Medical Publications. A System of Syphilis. In Six Volumes. Edited by D'Arcy Power, M.B. Oxon., F.R.C.S., and J. Keogh Murphy, M.D., M.C. Cantab., F.R.C.S. With an Introduction by Jonathan Hutchinson, F.R.S. Vol. II. Price £2 2s. net.

Oxford Medical Publications. A System of Diet and Dietetics. Edited by G. A. Sutherland, M.D., F.R.C.P. Price 30s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Physiology and Pathology of
Examination. By J. Dixon
the Salford Royal Hospital; 1
University of Manchester. Second edition, revised and enlarged. Price 10s. 6d. net.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C. (STENHOUSE, ALEXANDER, 40 and 42, University-avenue, Glasgow.)

, including Bacteria and Protozoa. By
M.D., Professor of Bacteriology and
Bellevue Hospital Medical College, and
Laboratory of the Department of Health, New York City, assisted by Anna W. Williams, M.D., Assistant Director of the Research Laboratory, Pathologist to the New York Infirmary for Women and Children. Third edition, enlarged and thoroughly revised. Price 18s. net.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Fourth edition, revised and enlarged. Price 14s. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. Stoddart, M.D., F.R.C.P., Assistant Physician to Bethlem Royal Hospital. Price 12s. 6d. net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Clinical Diagnosis. By Charles Phillips Emerson, A.B., M.D., late Resident Physician, the Johns Hopkins Hospital, and Associate in Medicine, the Johns Hopkins University. Second Edition. Price 21s. net.

MACMILLAN AND CO., LIMITED, St. Martin's-street, London.

A System of Medicine. By Many Writers. Edited by Sir Clifford
Allbutt, K.C.B., M.A., M.D.,
F.L.S., F.S.A., Regius Professo
Cambridge, Fellow of Gonville
Davy Rolleston, M.A., M.D.,
George's Hospital; Physician to t
Sometime Fellow of St. John's College,
Part II. Price 25s. net.

MOSBY (C. V.) MEDICAL BOOK AND PUBLISHING COMPANY, St. Louis, Missouri.

Gonorrhœa in Women. By Palmer Findley, M.D., Professor of Gynecology in the College of Medicine of the University of Nebraska, Omaha. Price not stated.

Arteriosclerosis: Etiology, Pathology,
phylaxis, and Treatment. By Louis
Instructor in Medicine, Washington
ment. With an introduction by W.
of Clinical Medicine, Johns Hopki
stated.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, M.D., Americus, Georgia. Second edition. Price not stated.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

Intracellular Enzymes. A Course of Lectures given in the Physiological Laboratory, University of London. By H. M. Vernon, M.A., M.D., Fellow of Magdalen College, and Lecturer on Physiology at Exeter and Queen's Colleges, Oxford. Price 7s. 6d. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, Cambridge-circus, London, W.C.

A Manual of Practical X Ray Work. By David Arthur, M.D., D.P.H., Medical Officer in Charge of X Ray Department, West London Hospital, and Lecturer on Radiology, West London Post-Graduate College, and John Muir, B.Sc., M.B., Ch.B., and B Sc. (Pub. Health). Price 7s. 6d. net.

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

A Text-book of Operative Surgery. By Warren Stone Bickham, M.D., Phar. M., Junior Surgeon, Touro Hospital, New Orleans. Third edition, greatly enlarged. Price 28s. net.

1st (Pembrokeshire) Volunteer Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (to be supernumerary) (dated April 1st, 1908). 4th Battalion, The Duke of Edinburgh's (Wiltshire Regiment): Surgeon-Major Herbert Paget Tayler, from the 1st Wiltshire Volunteer Rifle Corps, to be Surgeon-Major, with precedence as in the Volunteer Force (dated April 1st, 1908). 6th Battalion, The Durham Light Infantry: Surgeon-Captain William Murray Mackay, from the 2nd Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Royal Army Medical Corps.

Professor William Osler is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the South Midland Territorial Division (dated Sept. 21st, 1908).

For attachment to Units other than Medical Units: Surgeon-Captain Thomas Harper, from the 1st Ayrshire and Galloway Royal Garrison Artillery (Volunteers) to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain James Henry Hunter, from the 3rd Durham Royal Garrison Artillery (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Henry Goudie, from the 3rd Durham Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain and Honorary Surgeon-Major Charles Sempill de Segundo, from the 20th Middlesex (Artists') Volunteer Rifle Corps, to be Captain with the honorary rank of Surgeon-Major, with precedence as in the Volunteer Force (dated April 1st, 1908). James Bertie Simpson (late Captain, 1st Sutherland Volunteer Rifle Corps), to be Captain (dated Sept. 1st, 1908). George Edward James Antoine Robinson, to be Lieutenant (dated Oct. 8th, 1908). Samuel Maclean (late Surgeon-Lieutenant, 1st (Cumberland) Volunteer Battalion, The Border Regiment), to be Lieutenant (dated Oct. 19th, 1908).

1st East Anglian Field Ambulance: Gerald Moore Hetherington to be Lieutenant (dated June 23rd, 1908).

3rd Lowland Field Ambulance: The following announcement is substituted for that which appeared in the *London Gazette* of Sept. 15th, 1908:—The undermentioned officers, from the 1st Edinburgh (City) Royal Garrison Artillery (Volunteers) are appointed, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Alexander Morrison McIntosh to be Captain. Surgeon-Lieutenant James Hunter Harvey Pirie to be Lieutenant.

3rd Welsh Field Ambulance: Ernest Brice to be Lieutenant (dated May 20th, 1908).

3rd Wessex Field Ambulance: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Henry Darville Brook, from the 20th Middlesex (Artists') Volunteer Rifle Corps, to be Major with the honorary rank of Surgeon-Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd London General Hospital: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Clement Godson, from the 18th Middlesex Volunteer Rifle Corps to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd London General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Dec. 2nd, 1908):—To be Lieutenant-Colonels: James Kingston Fowler, Rickman John Godlee, Sir Thomas Barlow, Bart., K.C.V.O., and Charles Robert Bell Keetley. To be Majors: Sidney Philip Phillips, Augustus Joseph Pepper, William Pasteur, Alfred Pearce Gould, John Rose Bradford, Arthur William Mayo Robson, Arthur Pearson Luff, and Arthur Edward James Barker. To be Captains:—Sidney Harris Cox Martin, Bilton Pollard, Walter Essex Wynter, James Ernest Lane, Arthur Francis Voelcker, John Bland-Sutton, Henry Albert Caley, Raymond Johnson, James Samuel Risien Russell, John Murray, Frank Joseph Wethered, Horace Stansfield Collier, Harold Batty Shaw, Thomas Herbert Kellock, Frederick John Poynton, Vincent Warren Low, Wilfrid Harris, William Sampson Handley, Sir John Francis Harpin Broadbent, Bart., and Rupert Thomas Hampden Bucknall.

4th London General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Dec. 2nd, 1908):—To be Lieutenant-Colonels: Francis de Havilland Hall, Albert Boyce Barrow, Nestor Isidore Charles Tirard, and Clinton Thomas Dent. To be Majors: William Murrell, Sir William Watson Cheyne, Bart., C.B., Norman Dalton, George Robertson Turner, Sir Hugh Reeve Beevor, Bart., Stanley Boyd, Richard Grainger Hebb, and Alfred Herbert Tubby. To be Captains: Frederick Walker Mott, Walter George Spencer, William Aldren Turner, Albert Carless, James Galloway, Frederic Francis Burghard, Alfred Milne Gossage, Herbert Furnivall Waterhouse, Cyril Ogle, Frederick Charles Wallis, Raymond Henry Payne Crawfurd, Charles Gibbs, Arthur Latham, William Turner, William Hunter, Francis Jaffrey, William Cecil Bosanquet, Arthur Henry Evans, James Stansfield Collier, and Herbert Stringfellow Pendlebury.

Sanitary Service: George Reid to be Major (dated August 10th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery: 1st Devonshire: Surgeon-Lieutenant Arthur Goulston resigns his commission (dated April 1st, 1908). 1st Warwickshire: Surgeon-Captain George Haddow resigns his commission (dated March 31st, 1908).

Rifle: 1st (Pembrokeshire) Volunteer Battalion, The Welsh Regiment: Surgeon-Captain Percival A. Lloyd resigns his commission (dated April 1st, 1908).

Consequent on the disbandment of the *Army Medical* Reserve of Officers, as constituted by the Royal Warrant of 1888, the undermentioned officers cease to be officers therein:—Surgeon-Lieutenant-Colonels: Rowland H. Coombs, George S. Elliston, James K. Anderson, Peter B. Giles, Andrew Clark, William R. Smith, Duncan McFadyen, James Duncan, Thomas Fort, Henry W. King, Walter S. Cheyne, Edward J. Lloyd, Edward Williams, Samuel B. Mason, Robert R. Brown, Charles Arrol, William J. Naismith, D.S.O., Edmond W. Symes, Robert de la Poer Beresford, Robert B. Smith, Edward B. Reckitt, Augustus S. Daly, Alfred Chawner, Edmond J. Lawless, Robert L. Sparrow, Francis J. Walker, Arthur T. Wear, William Ferguson, John Adam, Edwin J. Hunter, Frederick K. Pigott, William M. Roocroft, Alexander D. Fraser, Clement Godson, Andrew A. Watson, Henry W. Roberts, William H. Packer, John J. de Z. Marshall, John P. Massingham, Arthur B. Wade, Frederick W. Gibbon, George M. Lowe, Thomas Philip, Charles N. Lee, James W. T. Gilbert, David Lennox, William Nettle, James Turton, Murdo Mackenzie, James Mill, George Hollies, Charles A. MacMunn, Charles Graham Grant, Thomas McC. Foley, Robert B. Graham, Walter C. James, Charles L. Fraser, Henry C. Lamport, and Joseph Adams. Surgeon-Majors: Andrew A. Abraham, John A. Jones, John W. Ellis, Evan Evans, Thomas F. Dewar, John V. W. Rutherford, Ernest W. Barnes, William A. Dingle, William B. Mackay, Andrew P. Arnold, Robert Stirling, William O. Evans, Richard J. Bryden, Richard R. Sleman, Philip B. Bentlif, Robert T. Meadows, Frederick V. Adams, Edward H. Moore, Richard J. M. Coffin, Stanley S. Hoyland, William Kinnear, Hugh R. Bramwell, James A. Rigby, Josiah T. Thomas, William L. Edwards, Henry J. Mackay, David Todd, Henry D. Brook, James H. G. Whiteford, William P. Whitcombe, Walter A. Atkinson, Robert Mitchell, Thomas E. Stuart, William B. Cockill, Casper R. Laurie, Henry T. Challis, Hugh Dickie, Atwood Thorne, Sydney A. M. Copeman, John H. Stacy, John M. Moir, Alexander B. Lyon, Campbell Boyd, James A. Clark, Thomas Holt, Robert E. Beveridge, John S. Mackay, Eustace M. Callender, James P. S. Ward, Robert T. Ferguson, Arthur L. Jones, Samuel J. J. Kirby, Arthur P. Nuttall, Arthur D. Ducat, Charles G. Maclagan, Arthur H. Vernon, David Smart, Bonner H. Mumby, William Richardson, Edgar W. Livesey, Lewis W. Pockett, George Melville, James Cameron, Richard H. Luce, William P. Peake, George G. Oakley, and William K. Clayton. Surgeon-Captains: Francis H. Thompson, Harry L. de Legh, John H. P. Graham, James P. Brown, Conrad T. Green, Henry Waite, Thomas Thompson, Thomas Kay, William H. Vickery, Cecil A. Corke, James Taylor, John C. Wright, David R. Dobie, Edmond U. F. MacW. Bourke, Albert Henderson, Edmund E. Dyer, James S. Swain, Harry M. Brownfield, Hugh N. A. Taylor, Albert Ehrmann, Albert Hilton, Edward Gray, Francis A. Brooks, Neish P. Watt, Claud W. Marshall, Wilfred Curtis, George F. Whyte, without the express written consent of the Local Government Board." In his judgment these would work better into the fabric of the Bill.

Mr. *ADKINS said that the proposed clause was an extraordinary attack* on local self-government. The clause was framed in a way which showed distrust and dislike of county councils. He thought that the amend- President of the Local Government Board county councils as an unwarrantable inter-

Mr. *MUNRO FERGUSON* said that the difficulty in Scotland was to get efficient service and to get rid of the inefficient men. The second was the more difficult, because if they had an amiable person as a public servant he might have every vice but they could not get rid of him. If they gave a right of appeal he did not think it could be regarded as an attack on county councils, but he thought all local authorities should have a free hand in the matter of dismissals.

Mr. MASTERMAN said that the Local Government Board proposed to do for the county medical officers what it did in the case of all large municipalities. It proposed by *Order to prescribe the qualifications* and duties of the medical officer of health. The proposals of the Government were a *bonâ-fide* attempt to carry out what was demanded by social and sanitary reformers and to encourage a real and active county medical service.

Mr. BURNS, in the course of further discussion, said that the Local Government Board wanted to unify the public health service from the circumference to the centre. They wanted a general and broad uniformity of public health laws, regulations, and by-laws. It was impossible to prescribe all the duties of the officers in a schedule to the Bill. That would not allow the variation which was essential to public health, having regard to the constant advance of medical science.

Mr. RAINY thanked the Government on behalf of the medical profession for the medical clauses and declared that they would do much to promote good medical service in the country.

The amendment was then withdrawn and the amendments outlined by Mr. BURNS were agreed to.

The following provisions of the clause were then agreed to:—"(1) The Local Government Board may by Order prescribe the duties of medical officers of health appointed by a county council under section seventeen of the Local Government Act, 1888, whether before or after the passing of this Act. (2) The medical officer of health of a county council shall, for the purposes of his duties, have the same powers ed on a medical officer of health t. (3) The power of county council l section to make arrangements with respect to medical officers of health shall cease, without prejudice to any arrangement made previously to the date of the passing of this Act."

The second of the above subsections was an amendment proposed by Mr. BURNS.

Th "(1) The clerk of a rural district council shall officer of health of the county council a copy omplaint, or information, a copy of which it is the duty of the district council to forward to the county council Working Classes Act, ls). (2) The medical the medical officer of n his power to give, county council may is duties. (3) If the uncil fails to comply ole on summary conviction in respect of each offence to a fine not exceeding ten pounds."

These subsections were agreed to after "rural district council" in the first line of the first subsection had been substituted for "district council."

On the motion of Mr. THEODORE TAYLO was agreed shall arise council anc l to the Local Government under this Board, whose decision shall be final and binding."

The clause was then passed. The succeeding clause excludes Scotland from the operation of this part of the Bill, and it was agreed also to exclude the Administrative County of London. The clause then received the approval of the Committee and this concluded the consideration of Part III. of the Bill.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARCHIBALD, W., M.D., Ch.B. Glasg., D.P.H. Cantab., has been appointed Medical Officer of Health of the Borough

BEIRNE, J. W., M.B., B.S. Irel., has been app under the Factory and Workshop Ac District of the county of Roscommon.

ENGLISH, E., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Swinton District of the county of York.

GRIFFITH, WILLIAM, M.B., Ch.B. Vict., has been appointed Casualty Medical Officer to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

GROSVENOR, WILSHAW WILLIAM, M.D. Dub., L.R.C.P. Lond., M.R.C.S., has been appointed Physician to the Gloucester General Infirmary and Eye Intstiution.

HAMILTON, W. CROSBIE, M.B., C.M. Edin., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital, Plymouth.

HAWKER, GEORGE POOLE DAVID, M.B., B.C. Cantab., has been appointed Honorary Assistant Surgeon to the West of England Eye Infirmary, Exeter.

KETTLE, E. H., M.B., B.S. Lond., has been appointed Assistant Path logist to the Cancer Hospital.

LANGMEAD, FREDERICK, M.D. Lond., M.R.C.P. Lond., has bee appoin eadnought" Hospita Greenv ry's Hospital.

LEWIS, A. appointed Certifyin Surgeo Act for the Rochfo District of the county of Essex.

LYNCH, M. E., L.R.C.P. & S. Irel., has been appointed Certifyin Surgeon under the Factory and Workshop Act for the Clashmo District of the county of Waterford.

MACPHERSON, J. T., M.D. Aberd., has been appointed Medical Offic to the Nicholls Hospital, Manchester.

MARTIN, ANTONY A., M.D. Lond., D.P.H., has been appointed Cert fying Surgeon under the Factory and Workshop Act to the Municip Borough and Rural District of Eastbourne.

ROBINSON, FRANK, M.D., D.P.H., has been appointed Medical Officer Health of the County of Cambridge.

SAWYER, JAMES E. H., M.D. Oxon, has been appointed Registrar of th 1st Southern General Hospital of the Royal Army Medical Corps o the Territorial Force.

SOLLY, REGINALD VAUGHAN, M.D., B.S. Lond., F.R.C.S. Eng., L.R.C.P Lond., has been re-elected Medical Registrar and Pathologist at th Royal Devon and Exeter Hospital, Exeter.

STRUTHERS, J. W., M.B., Ch.B., F.R.C.S. Edin., has been appointe Assistant Surgeon to the Royal Infirmary, Edinburgh.

THOMAS, W. J., M.R.C.S., L.R.C.P. Lond., D.P.H. Lond., has been ap pointed Clinical Assistant to St. John's Hospital for Diseases of th Skin, Leicester-square, W.C.

THORNTON, G., M.D. Edin., M.R.C.P. Lond., has been appointed Medica Superintendent of the General Hospital, Colombo, Ceylon.

TURTON, EDWARD, M.D. Vict., B.Sc., Ch.B. Edin., M.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Hul Hospital for Women and Orthopædics.

WATERFIELD, WILLIAM HENRY, L.R.C.P., L.R.C.S., L.M. Irel., ha been appointed Medical Officer to the Workhouse, and District Medical Officer and Public Vaccinator by the Stonehouse (Devon) Board of Guardians.

YEATS, WILLIAM, M.D. Aberd., has been appointed Honorary Consulting Physician to the Nicholls Hospital, Manchester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN, CITY (FEVER) HOSPITAL.—Resident Physician. Salary £100 per annum, with board.

BETHLEM HOSPITAL.—Two Resident House Physicians (unmarried) for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary at rate of £100 per annum, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—House Surgeon. Salary £70 per annum.

BIRMINGHAM, UNIVERSITY OF.—Lecturer in Physiology. Stipend £150 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £160, with rooms, coals, gas, and attendance.

BRISTOL ROYAL INFIRMARY.—Ophthalmic and Obstetric House Surgeon. Salary £75 per annum, with board, lodging, and washing. Also House Physician.

CAMBRIDGESHIRE, &c., ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CEYLON, Medical Officer of Healtl

CHILDREN' Assistant Medical Officer. Salary £250 per annum. Also Assistant Medical Officer. Salary £150 per annum, both with board, lodging, and washing.

DUBLIN, DR. STEEVENS' HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, fire, and light.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant Physician.

GREAT YARMOUTH HOSPITAL.—*House Surgeon*, unmarried. Salary £100 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL HOSPITAL.—Pathologist. Salary £100 per annum.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—*Honorary* Dental Surgeon.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Resident Medical Officer, unmarried. Salary £70 per annum, with full board.

HUDDERSFIELD INFIRMARY.—Senior *House Surgeon.* Salary £100 per annum, with rooms, board, washing, and attendance.

KENSINGTON GENERAL HOSPITAL, Earl's Court, *London*, S.W.—Resident Medical Officer. Salary £50 per annum, with board, washing, and residence.

KING EDWARD VII. HOSPITAL AND DISPENSARY FOR WINDSOR, ETON, AND DISTRICT.—House Surgeon, unmarried. Salary £110 per annum, with residenc forth, near

LEEDS TUBERCULOSIS Selby.—Resident Me ry at rate of £100 per annum, witl riod, for six

LINCOLN COUNTY HOSPITAL.— months. Salary £30, with board, residence, and washing.

Metropolitan Asylums Board to provide the accommodation for them. His statements are indeed not upheld by the investigations made by the Lunacy Commissioners on this very point in 1905. In that year the medical superintendents of county asylums were asked to report to the Lunacy Commissioners the number of senile cases in their asylums they thought could be suitably cared for in the workhouses. Two superintendents of London county asylums are quoted as answering the question. One, Dr. R. Jones of Claybury, replied that *all* the cases sent there could only be fitly treated in an asylum where there was a large and competent staff. Dr. W. J. Seward of Colney Hatch said that 32 of the 49 sent there might have been treated in a *special* ward of a workhouse infirmary, but it was doubtful if *any* could have been suitably cared for in an ordinary infirmary ward.

The Infirmary Medical Superintendents' Society feels that the public should know the difficulties which arise in practice in dealing with these senile cases owing to the want of provision of proper accommodation for them. It feels, also, that the only satisfactory solution will be for individual boards of guardians to provide the special accommodation required in the workhouse or infirmary and to arrange for the certification of all alleged lunatics admitted to the workhouse to be placed in the hands of the medical officer who alone is in a position to sift the cases properly and decide which should go to the county asylums and which should be detained in special wards in the workhouse or in the workhouse asylums of the Metropolitan Asylums Board.

I am, Sir, yours faithfully,

C. T. PARSONS,

Honorary Secretary, Infirmary Medical Superintendents' Society.

Fulham Infirmary, Hammersmith, W., Nov. 30th, 1908.

RECENT OUTBREAKS OF PLAGUE IN LIVERPOOL AND GLASGOW.

To the Editor of THE LANCET.

SIR,—It is the common fate of the medical man who first suggests the probability of plague in a community to be voted a public nuisance who ought to be chloroformed beyond the final stage of safe anæsthesia, for plague means so much to the mercantile and maritime interests of the city or town in which it may appear. In spite of this fate staring me in the face I submit that the chief aim of a physician ought to be the preservation of the health of a community and its wealth ought to be to him a secondary consideration. As a matter of fact, the one is bound up with the other, for in protecting and conserving the health of the citizen we are ultimately protecting and conserving his mercantile and maritime interests. If the infection in the recent three cases in Liverpool had been traced to a vessel that had arrived in the Mersey from a port in which plague was at present prevalent this letter would not have been written, but as the barge on which the first patient sickened did not go beyond the limits of the Mersey and was solely engaged in coaling coasting vessels, I would suggest that the origin of the infection should be sought within the gates of the city as well as at its portals, and every medical man as well as the port sanitary authorities should be on the alert for plague. In support of my suggestion let me briefly emphasise the connecting links between the five outbreaks of plague in Glasgow and Liverpool during the past eight years.

In August, 1900, plague appeared in Glasgow for the first time in Great Britain for 235 years. It was of the bubonic type with a low power of infectivity, for although it was at least three weeks in the city, and probably much longer, before its true nature was suspected or even dreamt of, and during that time 800,000 inhabitants exposed to infection, yet there were only 36 known cases traced with 16 deaths. The origin of the outbreak was never discovered. The second outbreak was in August of the following year, with two known cases in the original plague-infected area, and two months later there were six cases discovered in a city hotel. It was in this second outbreak that I came across a case which was no doubt plague. In THE LANCET of Nov. 30th, 1907, I fully described this case and offered strong presumptive evidence that it infected Liverpool by means of "contacts" who carried the infection in their clothes and caused an outbreak of plague in that city in September, 1901, in which there were eight cases with six deaths. The third outbreak of plague in Glasgow was last year and again in August. There were two known cases in the plague-infected area of 1900. In my opinion there were more cases, but I do not wish to mention in this letter any disputed cases. One significant fact is worth noting. Last year, for the first time in the three outbreaks, infected rats were detected and the disquieting fact was that they were found in Kinning Park, which is on the same side of the Clyde but fully a mile from the plague-infected area of 1900. These rats were accidentally discovered by giving rise to an offensive smell. They numbered 51 and had probably died at the same time. Only one of them was fit for bacteriological examination and Dr. R. M. Buchanan, the city bacteriologist, reported[1] that the bacillus pestis was found. A subculture proved virulent for a healthy mouse and a healthy rat within 48 and 72 hours respectively. Dr. Buchanan adds: "In view of the absence of any other probable cause of death of these rats it must be presumed that the others had also succumbed to plague." Finally, we have the second outbreak of plague in Liverpool and again in the autumn.

The first striking fact to be noted in these five outbreaks is their appearance at the same season of the year. Professor Simpson in his classical treatise on plague states that the season of the year has a powerful influence on plague, so powerful that he quotes Hodge's "Loimologia" that in the Great Plague in London in 1665, after the plague season was over, which was from August to November, the people returned to the deserted plague houses and even slept in beds where plague patients had died without contracting the disease. It is a most remarkable fact that these five outbreaks of plague in Great Britain from 1900 to 1908 should be exactly at the same season of the year as the London epidemics of 1603, 1605, 1625, 1636, and 1665. Hence I would suggest the following relationship between each of the five outbreaks. The infection in the first outbreak in Glasgow in 1900 was no doubt imported into the city either by a human carrier of the disease or by infected material, more probably the latter, at a season of the year most favourable to the development and activity of the bacillus pestis. There is not the shadow of a doubt that the other two outbreaks resulted from the first one and were not fresh importations into the city. They were a positive proof that the bacillus pestis, as in all modern outbreaks, had never left the city since 1900 in spite of all that was done to destroy it. The infection in the first outbreak of plague in Liverpool in 1901 was most probably brought into that city from Glasgow, as I have already described, by infected clothing, and in the absence of proof to the contrary I would now suggest that the infection in the recent three cases of plague in Liverpool is not a fresh importation but is related in some way with the appearance of plague in Liverpool in 1901.

I am no alarmist, so I do not look upon every patient with a bubo or with enlarged axillary and inguinal glands as a case of plague. Last year I examined fully 1000 patients of all ages and with all sorts of ailments and I was surprised to find how commonly the axillary and inguinal glands were palpably and painlessly enlarged, varying from the size of a pea to that of a bean in cases in which there was not the slightest reason for suspecting plague. The best corrective of medical bias is undoubtedly the practical experience of an extensive general practice. But we must face facts as we find them, and whilst I do not anticipate any more cases of true plague to appear in Liverpool or Glasgow this year I am convinced that true plague will appear in both cities again, especially from the beginning of August till the end of November. Hence all medical men in these cities should be specially on the alert, for unless they examine the axillary and inguinal and femoral regions in all atypical cases of illness they will certainly miss plague, for Prof. Simpson tells us that plague may simulate any disease and has been diagnosed as influenza, pneumonia, septicæmia, typhus, typhoid, relapsing fever, meningitis, diphtheria, syphilis, gonorrhœa, appendicitis, typhlitis, malaria, and filariasis with enlarged glands. All modern outbreaks of plague point to the fact that it clings most tenaciously to any place it infects and it has most marvellous powers of recrudescence and resistance to all known methods of disinfection and prevention. Plague may be so mild that we can toy with it, but we should never forget that we do not know when these mild forms, with low powers of infectivity, may develop into the virulent septicæmic and pneumonic forms with a high power of infectivity and that be purchased at a public house, renders the careful supervision of its sale a matter of importance to the community, and the firm named must also view with satisfaction the punishment of a deception calculated to injure their reputation if undetected.

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[1] Local Government Board Report for Scotland, 1907.

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Fever.—We should be interested to know the name of the person who has entered into such unprofessional relations with the newspaper.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5.30 P.M.

Paper:

Dr. W. Ironside Bruce: X Ray Examination of the Urinary Tract.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum): at the Lister Institute, Chelsea Gardens, Chelsea Bridge-road, S.W., at 8.30 P.M.

Papers:

Dr. Henderson-Smith and Dr. Candler: The *Wassermann* Reaction in General Paralysis of the Insane (with demonstration).

Dr. Harden and Dr. Thompson: Anærobiosis.

Dr. [illegible]

Prof[illegible] of Trypanosomes, including t[illegible] showing Myonemes).

Dr. [illegible] the Nature and Efficiency of certain Rat Viruses.

Dr. Kennaway and Dr. Leathes: Preliminary Note on the Examination of the Fat in Normal and Diseased Livers.

WEDNESDAY.

SECTION OF ANÆSTHETICS (Hon. Secretaries—Llewelyn Powell, R. W. Collum): at 8.30 P.M.

Paper:

Dr. N. H. Alcock: 50 Cases Anæsthetised with known Percentages of Chloroform, with a Description of the Apparatus employed.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, William J. Gow): at 7.45 P.M.

Papers:

Dr. A. W. W. Lea and Dr. Sidebottom: Organisms present in the Uterine Secretion during an *Afebrile Puerperium.*

Mr. Alban Doran: Fœtus and Placenta *from a Case* of Extra-uterine Pregnancy. Operation at end of Fifth Month.

Mr. H. J. Paterson: A Case of Extra-Uterine Pregnancy. Operation *during* the Sixth Month of Pregnancy.

Specimens:

Dr. J. H. Dauber: Hysterectomy for Cervical Fibroid during Pregnancy.

Dr. J. S. Fairbairn: Necro-biotic Fibroma from a Patient Three Months Pregnant.

Dr. Keyworth: Uterus and Appendages from Fatal Case of [illegible] showing Intraperitoneal Bleeding [illegible]ibes.

Mr. [illegible] Case of Diffuse Adeno-myoma of the Uterus.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8.30 P.M.

Cases:

Mr. Openshaw: Paralysis of the Lower Extremities.

Mr. Raymond Johnson: Renal Hypernephroma of Three Years' Duration.

Dr. E. I. Spriggs: Exophthalmic Goitre with Rheumatoid Arthritis.

Dr. G. A. Sutherland, Dr. Herringham, Dr. Rose Bradford, Dr. Weber, Dr. Spriggs, Dr. French, and Dr. Rolleston will show Cases of Anomalous Œdema.

Dr. Parkes Weber: Apparent Muscular Hypertrophy following Œdema of Left Leg.

Short Paper:

Dr. Parkes Weber: Mediastinal Lymphadenoma with Extreme Osteo arthropathy.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Mr. R. E. Griffiths and Prof. Greenish: Microscopical Identification of the Green Extracts (communication from the Pharmaceutical Research Laboratory).—Exhibition of Lantern Slides and Specimens by Mr. W. G. Freeman, Prof. Greenish, and Mr. Holmes.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Fleet-Surgeon O. W. Andrews, R.N.: Recent Research Work on the Use and Abuse of Alcohol.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—Clinical Evening.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—5.30 P.M., Dr. Brodribb (Hastings): The Therapeutic Use of Sea Water.—Dr. Midleton (Bournemouth): Rheumatic Affections treated by Counter-irritation of the Spine

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. V. Bonney: Carcinoma of the Cervix.

OPHTHALMOLOGICAL *SOCIETY* OF THE UNITED KINGDOM 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Exhibits by Dr. T. Henderson and others. 8.30 P.M., Mr. G. B. James: Note on the Operative Treatment of Strabismus.—Major Elliot, I.M.S.: Some Observations on Cataract Extraction.—Dr. A. Bronner: Iridectomy in Cases of Acute Iritis in which the *Pupil* cannot be Dilated.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. J. Kerr: The Educational Revolution and some Hints for the Future.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND *POLYCLINIC*, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. Macleod: Clinique (Skin). 5.15 P.M., Lecture: Mr. M. Little: Flat Foot.

TUESDAY.—4 P.M., Dr. T. Williams: Clinique (Medical). 5 P.M., General Meeting.

WEDNESDAY.—4 P.M., Mr. C. [illegible] Lecture:—Dr. D. Ferrier [illegible]

THURSDAY.—4 P.M., Sir Jonat[illegible] 5.15 P.M. Lecture:—Mr. A[illegible] of the Biliary Passages.

FRIDAY.—4 P.M., Mr. E. Clarke: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 12 noon, Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture.—Dr. Lloyd: Anæsthetics.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Bilharziosis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 2 P.M., Medical and Surgical Clinics X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture —Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 3 P.M., Lecture:—Dr. R. Jones: General Symptomatology of Insanity (at Claybury Lunatic Asylum, Woodford Bridge, Essex).

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Dyspepsia due to Alcoholic Abuse.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. *Carless*: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir Wm. Bennett.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical (Mr. W. Edmunds) Gynæcological (Dr. A. E. Giles). [illegible] (Dr. T. R. [illegible] P. Brooks).

WEDNESDAY.—Clinics:—2.30 [illegible] Whipham); Skin (Dr. G. [illegible] 4.30 P.M., Dr. S. J. Gilfilla[illegible] [illegible]s of Mental Disease at the Colney [illegible] E. Giles).

THURSDAY.—2.30 P.M., Gy[illegible] Surgical Clinics:—Medical Out-[illegible] X Rays. 3 P.M., Medical In-patient (Dr. (Mr. H. W. Carson); [illegible] G. P. Chappel).

or both should be destroyed, while in others the trunk of the auditory nerve should be divided.

I am, Sir, yours faithfully,
Dec. 1st, 1903. CHARLES A. BALLANCE.

STANDARDISATION OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—Many manufacturers of disinfectants are to-day seriously inconvenienced by the absence of an authoritatively determined and fixed or "standard" method of conducting bacteriological tests for disinfectants. We, like most of our competitors, are anxious that some standard should be authoritatively set forward, and suggest that a committee appointed by the British Medical Association, the Royal College of Surgeons, or the Royal Society would be suitable for such a task, and we hope for your assistance in making this demand.

In your issue of Sept. 19th, p. 902, a letter appeared in your columns upon this subject from Messrs. Rideal and Walker, the joint authors of what is known as the "Rideal-Walker" method (of bacteriological test for disinfectants), and this letter introduced a new and important condition into that method, thereby constituting a *serious modification* of the method. As this condition had not hitherto been embodied in the test our preparations up to that time had *not, of* course, been tested under this condition, but we at once took steps to insure that our product should have a guaranteed coefficient of 17 or over when tested by the newer Rideal-Walker method, involving the new conditions insisted upon by Messrs. Rideal and Walker. In the meantime, however, we suffered from comparison on account of Messrs. Jeyes (of whom Mr. Ainslie Walker is managing director) publishing a test of our fluid according to the new method showing a lower coefficient than that guaranteed by us. They examined our old fluid by the new test and endeavoured to make the public infer that we did not keep our product up to our guaranteed efficiency. We have pointed this out to them and shall take legal steps to defend our reputation if necessary.

We have, however, said enough to show that the matter is one vitally affecting the interests of manufacturers and we beg your support in asking for an authoritative determination of a standard method for testing the bacteriological efficiency of a disinfectant. We feel sure that Messrs. Jeyes' Sanitary Compounds, Limited, and other manufacturers, will be as ready as we are to have such a standard fixed by an impartial expert authority. We may add that we are prepared to subscribe equally with any fellow manufacturers of disinfectants towards the expense of such investigations and determinations and only ask that the body appointed should be absolutely impartial and that it should not contain any members interested directly or indirectly in any particular disinfectant. We are certain that your advocacy of our proposal will meet with the grateful appreciation of both manufacturers and health authorities.

We are, Sir, yours faithfully,
Dec 1st, 1903. McDOUGALL BROS.

⁂ Sanitarians, and medical men generally, recognise the need for a standard method of conducting bacteriological tests for disinfectants. Such a test should clearly be only alterable after proper investigation by an impartial and expert authority.—ED. L.

"THE HUMAN WOMAN."

To the Editor of THE LANCET.

SIR,—The authoress of this work will, I hope, reply to the arguments of THE LANCET. I, as a medical woman, wish to make a few remarks from the medical standpoint. Trotula and her compeers did not hand down an uninterrupted chain of noted medical women to the present day, for the chain was broken when women ceased "to enjoy equal chances with men." The causes of this change are a matter of history, warfare being one of the chief causes. The writer looks forward to statistics of the achievements of medical women 50 years hence. He assumes that women are "entering the lists on equal terms with men as regards education." I disagree. In London the women study at one general hospital only, and that one of the smallest. After qualification comes one of the most important times for medical education—viz., the holding of residential hospital posts. These are not open at any of the large hospitals, not even in Newcastle, where the students have co-education. Two such posts are open at the Women's Hospital in London. Other posts held by women are mainly as officers of infirmaries where the excessive work allows of little or no individual study of cases. Moreover, the large majority of medical women are thus obliged to go to London for experience. Here, again, the large hospitals and their undermanning are sufficient to prevent true research work. So that I fear that unless medical education is really put on a similar footing for men and women and opportunities for scientific research are given to women under our best leaders and in our best pathology and bacteriology laboratories the contribution of women to medical science 50 years hence will still be extremely small.

The idea of the "new chivalry" is the one I uphold. Let the boards of men who appoint a woman as officer to their institution give her a salary fitted to her position, not appoint a junior man with a higher salary to work with her, and force her to retire from the unequal competition or from force of circumstances to hold on against her professional honour and accept the degradation. As to the physical disabilities, I think certainly that married women during their child-bearing period would be incapable of personal attendance at assemblies provided she gave the child the nutriment so necessary to its welfare, and such women could never fill a Cabinet Minister's position. But there are many years when a married woman could fulfil the duties of an ordinary Member. One of our best-known women surgeons is still enjoying a distinguished career and her son and daughter are in the same profession.

Such women as suffer from a physical incapability of such intensity as to prostrate them for a few hours or days would also be prevented from the very highest executive duties, but again I maintain for the lesser duties of a Member of Parliament she would be fitted. The statistics on such cases compared with those of monthly absentees for from one to three days of Members of Parliament for asthma, toothache, migraine, or excellent dinners would be of great interest. The first set of statistics are now being collected by a member of the Registered Medical Women's Association and should shortly be published. I am, and I think most women are, of complete agreement with the idea that "marriage is the best thing that can happen to her.". I would add, however, this qualifying clause. The man must be a "human man" or the cultured class of women who, if any, will take on the executive will go unmated and in full career to the end. THE LANCET article has, I think, given a handle to the people of England to say, "Ah, you see THE LANCET says women are physically unfitted," but I imagine THE LANCET would not express an adverse opinion to women holding the power of voting for a representative in Parliament. This representative need not of necessity, as THE LANCET seems to assume, be a woman. This is the political reform for which women are now pressing.

I am, Sir, yours faithfully,
Nov. 23rd, 1903. M. F.-T.

THE NEW LUNATIC ASYLUM AND MENTAL SANATORIUM "AM STEINHOF" IN VIENNA.

(FROM OUR VIENNA CORRESPONDENT.)

THE latest addition to the charitable institutions provided by Lower Austria for its mentally affected people is the new institution called "Am Steinhof," which has the reputation of being the most modern, best-equipped, and largest institution of this kind in the world. The asylum comprises 60 separate pavilions and consists of three well-separated sets of buildings, the asylum, the sanatorium, and the administrative wing and nurses' quarters. A commanding view is obtained from all the front windows, as the institute lies on the south-western slope of the Satzberg, one of the hills on the outskirts of the city, about 950 feet above sea level and 300 feet above the average level of Vienna. The direction of the winds is in this part mostly south or south-east, and they bring with them a limitless supply of fresh air from the Alps, which can be seen distinctly from all parts of the

Communications, Letters, &c., have been received from—

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S.—Dr. B. B. Sapwell, Aylsham; Dr. George H. Simmons, Chicago; Mr. J. E. R. Stephens, Lond.; Société de Médicine de Paris, Secrétaire Général de la; Spier's Service Advertising Agency, *Lond.; Lieutenant-Colonel* D. B. Spencer, I.M.S., Paris; *Strand Magazine*, Lond., Editor of; Mr. W. Scowcroft, Cheadle; Smith's Advertising Agency, Lond.; Salford Royal Hospital, Secretary of; *South Wales Argus*, Newport, Manager of; Messrs. G. Street and Co., Lond.; Miss Frances Swiney, Lond.; Mr. T. P. Stewart, Newport; Mr. A. E. Shipley, Cambridge; Mr. T. M. Swindon, Lond.; Society of Medical Phonographers, Leeds, Hon. Secretary of; Dr. R. Spira, Cracow; Scholastic, Clerical, &c., Association, Lond.

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Y.—Mr. N. E. Yorke-Davies, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Kirklington; Ashton-under-Lyne District Infirmary, *Secretary of*; A. F. M.; A. F.; Dr. A.; A. L.; Aymard Patent Steriliser Co., Ipswich; Messrs. Allen and Hanburys, Lond.; Ancoats Hospital, Manchester, *Secretary of.*

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X.—X., Haxby.

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Nearly the whole quantity of vegetables consumed, together with other foodstuffs such as pork and butter, are produced within the institute partly by the agricultural work of the patients. The entire cost of this enormous institute was 20,000,000 crowns, or £850,000, which works out at £280 per bed.

BRISTOL.

(FROM OUR OWN CORRESPONDENT.)

University College, Bristol.

THE annual meeting of governors of University College was held on Nov. 18th, the Right Hon. Henry Hobhouse being in the chair in the absence of the Bishop of Hereford. The adoption of the registrar's report was moved by the Right Hon. Lewis Fry who dwelt on the many evidences of progress afforded by a review of the past year. Amongst others, there was the fact that the number of medical students was 107, the highest figure yet attained. In the formation of two readerships of law might be seen the beginnings of a school of law for the West of England which in a fully developed university might examine for, and grant, degrees. A chair of anthropology had been founded, its first occupant being Dr. John Beddoe, the President of the Anthropological Society. Against this record of progress he had to set a financial deficiency, incurred in spite of a rigid economy in administration. Mr. Fry then turned to the subject of the University movement and referred to the impetus which it had received from Mr. Henry Overton Wills's splendid gift of £100,000. This and further gifts, with support from the city council and other influential bodies, had emboldened the council of the college to apply to His Majesty's Privy Council for a University charter. At his recent visit the King had referred in terms of keenest sympathy to this application. Unhappily the Society of Merchant Venturers had seen fit to object to the petition as presented by University College on the ground that the prestige of its own technical college would be damaged by its inclusion in the University under the conditions suggested. The college council had not yet been able to arrive at a complete understanding with the society; but it had felt that delay was undesirable, so that on the previous day (Nov. 17th) its petition, with the draft charter, had been laid by the Privy Council on the table in both Houses of Parliament.

The University Charter.

An outline of the charter to which I have referred appeared on Nov. 20th in the *Western Daily Press*, which has throughout supported the University scheme with vigour. Provision for the granting of degrees and the holding of examinations is made; in all except entrance examinations there must be at least one external examiner to each subject. Power is to be given for incorporation of University College and the Society of Merchant Venturers is to be asked to provide more especially for the Faculty of Engineering. Then follow provisions for the government of the University. The supreme body is the court, executive and financial control resting with the council. This latter is to include, among others, a chancellor (Mr. H. O. Wills), three pro-chancellors (the Bishop of Hereford, Mr. Lewis Fry, and Lord Winterstoke), and two vice-chancellors (Mr. Henry Hobhouse and Principal Lloyd Morgan). The last named will be *ex-officio* chairman of the Senate.

Coloured Micro-photographs.

To illustrate a paper read by Mr. T. M. Carter at the November meeting of the Bristol Medico-Chirurgical Society on a case of basal hæmorrhage of doubtful nature, Dr. I. Walker Hall showed some lantern slides which were produced by applying the Lumière process to micro-photography.[1] Sections through a blood-vessel were shown at the point of the leak which had given rise to the hæmorrhage. The red colour of connective tissue after treatment with van Gieson's stain was accurately represented, and the elastic lamina of another vessel, picked out by Weigert's stain, was very clearly demonstrated. Other less definitive stains gave indistinct results; but the general effect of the slides on the screen was quite sharp enough to establish the value of this new method of demonstration.

Bristol General Hospital.

Dr. E. V. Dunkley, pathologist to the Bristol General Hospital, is resigning a post which he has filled with credit. His place is to be taken by Dr. E. Emrys-Roberts who has been engaged in research and teaching at Liverpool for several years. Dr. Emrys-Roberts will also act as assistant to Dr. Walker Hall, professor of pathology at University College. This is another step in the union between the College and the Bristol hospitals which is gradually taking place to the great advantage of the medical school.

Hospital Sunday Fund at Bristol.

At a meeting of the committee of the Hospital Sunday Fund held at the Guildhall, Bristol, on Nov. 23rd. it was decided that Jan. 31st, 1909, should be observed in Bristol as "Hospital Sunday." It was stated that in 1908 the sum of £1859 was collected and a strong effort is to be made to raise at least £2000 next year. A clerical member of the committee suggested that as only about 15 per cent. of the population attended places of worship something should be done to get the practical help of the other 85 per cent.

Dec. 1st.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE Huxley lecture on Malaria, delivered last week by Professor R. Ross to a large audience, was an interesting exposition which embraced a consideration of the main features of the micro-organisms concerned, the hosts which they infest, the areas in which they are found, and the positions which they choose for breeding-grounds. The lecture opened with a brief historical survey, in which Professor Ross stated that an investigation of Greek and Roman literature had proved that the disease was well known in ancient days; its main types were then clearly defined and its association with marshes was ascertained, but naturally the true cause and the mode of infection did not come within the range of Greek or Roman knowledge. Professor Ross demonstrated by means of statistical tables the widespread character of the disease and he pointed out that though it could not be called a very fatal disease nevertheless it probably killed two or three millions of the inhabitants of India every year. He referred to the difficulties which he had met in trying to get authorities to take the measures necessary for the eradication of the pest and proved by the results obtained in Ismailia that eradication was comparatively cheap and usually quite easy, but it must be admitted that in some cases, as his lantern slides demonstrated, the necessary measures convert charming sylvan spots into uninteresting if more healthy places.

The Dental Hospital.

The annual report of the Birmingham Dental Hospital shows a remarkable growth in the amount of work performed by the hospital staff. As contrasted with the previous year the number of attendances had increased by 1633, the extractions by 2516, the fillings by 1493, and the dressings by 1115. The treatment of the Summer-lane school children being completed in the spring, that of the Bristol-street school was then commenced, and the report of the examination of the children confirmed the result arrived at in Summer-lane, which demonstrated that 69 per cent. of the children attending the council schools have defective teeth. This is a very large proportion and it will be interesting to find if other cities and districts arrive eventually at the same results. It is already evident, however, that either opinions differ as to what constitutes a case of defective teeth or the proportion of defective teeth differs considerably in districts not very far apart, for the result of the medical inspection as carried out in King's Norton gave 71 per cent., that in Smethwick 15·6 per cent., and the result of the examination of 2373 children in Worcestershire gave about 10·6 per cent. of defective teeth.

A Convalescent Hospital for Crippled Children.

The Birmingham and District Crippled Children's Union is making an appeal for funds to establish a satisfactory convalescent hospital for the crippled children of the city district. The Woodlands at Northfield, which Mr. George

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[1] THE LANCET, Nov. 28th, 1908, p. 1594.

The problem, then, now before us is, how is the transport service carried on between the seat of glycogen accumulation in the liver and the seat of utilisation in the tissues, without leading to any show of its occurrence through the detectable appearance of sugar?

I have dealt with this matter in my "Carbohydrate Metabolism and Diabetes" (p. 68), and have suggested that the

TRANSPORT IS EFFECTED BY THE GLYCOGEN MOLECULES BECOMING IN THE FIRST INSTANCE BROKEN DOWN

by enzyme action, just as occurs with starch molecules in the vegetable kingdom, into molecules of sugar, and then that these sugar molecules become linked on as side-chains to protein molecules and thus conveyed in a locked-up, large molecular state to the tissues, where they become taken off according as they are wanted.

This is nothing more than what happens in the ordinary course of chemical procedure. I have previously spoken about side-chains being taken on to a central ring or nucleus, and the capability of their being afterwards withdrawn without disruption of the nuclear body. The matter resolves itself into a question of the strength of affinity operating in one direction or the other. So it may be with sugar molecules linked on to a molecular blood complex. If they should be brought under the influence of a tissue complex in want of them, and thereby possessing a stronger affinity for them, it is only in the natural order of things that they should pass from the one to the other.

The train of phenomena would be that as the side-chains of the complex tissue molecules become worked off, they require to be replaced by fresh side-chains from the blood, and, in turn, the removal of these side-chains creates a demand which leads to the storage being drawn upon. Now, if the storage, as in the case of glycogen, is not of a nature to be adapted for shifting its position, it must of necessity be placed in a suitable condition for doing so. Here comes in the requirement for enzyme action, and it is suggested that as the storage is wanted, provision is made, through enzyme agency, for its supply in a form to meet what is needed.

Viewing matters in this way, the

SIDE-CHAIN WANT IN THE BLOOD LEADS TO THE STORAGE GLYCOGEN BEING

put into a suitable state to fill the void, and thus circumstanced, the carbohydrate becomes transported from the seat of accumulation in the liver to the seat of utilisation in the tissues without passing in a state to run off with the urine, as, in the free small molecular state of sugar, it would otherwise do in proportion to its extent of presence in the blood.

The idea here broached stands in conformity with the accepted view of what occurs in connexion with the transport of oxygen. Hæmoglobin is the agent concerned in the process. Taking on oxygen in the lungs, it travels as oxyhæmoglobin to the tissues, and gives up the oxygen that is needed to replace that which has been consumed in the bioplasmic molecules. Thus unloaded and made ready for recharging, the hæmoglobin is conveyed back to the lungs, where a fresh intake of oxygen occurs. Thus the round is effected by the capacity possessed by hæmoglobin of taking oxygen into chemical union of a sufficiently feeble nature to permit of its being subsequently dissociated to meet the demand of the tissues. I urge that we have here a parallel of what occurs in the case of the transport of carbohydrate from the seat of accumulation in the liver to that of utilisation in the tissues.

In this transport of carbohydrate I have assumed that it passes in the form of a side-chain linked on to a large moleculed constituent of the blood. As yet we have no distinct evidence before us to show what this constituent really is. Probably it is of a protein nature, and if so, we have material at hand to open out a consistent train of reasoning of much interest and importance standing at the root of what is being dealt with. Let me enter into particulars and expound what I refer to.

What is wanted for transport service is that the

CARBOHYDRATE SHOULD BE LOOSELY LINKED ON TO THE CARRYING MOLECULE,

so as to be susceptible of being disjoined without involving the disruption of the molecule itself. Evidence, as we shall see, is producible attesting the existence of such a state. At the same time, let me say that evidence is also producible having the effect of showing the existence of carbohydrate in another state in the molecule—in a state so closely locked-up as not to be susceptible of liberation apart from the disintegration of the molecule. Both points, it will be found, have important practical bearings connected with them.

That the existence of carbohydrate in a loosely combined and in a firmly locked-up state in a molecule is no mere hypothesis is capable of being made manifest by what is seen when amygdalin is exposed to different kinds of enzyme action. A molecule of amygdalin has two molecules of carbohydrate within it. When subjected to the action of glucase, the ferment which transforms maltose into glucose, a molecule of glucose is split off without the production of any further effect, which means that the other molecule is left untouched. In contact with emulsin, however, both molecules are liberated, with benzoic aldehyde and hydrocyanic acid as associated products. The conclusion to be drawn from these results is that the two carbohydrate molecules within the amygdalin molecule are differently placed—that one is in a position to be easily detached without leading to other disturbance, whilst in the case of the other, its liberation involves molecular disruption as an attendant phenomenon.

A study of the effects of

PHLORIDZIN AFFORDS IMMENSE HELP IN UNRAVELLING

the intricacies of the question that is being considered, and it points in a very decisive manner to the existence of carbohydrate within the molecular complex, as a side-chain attachment on the one hand, and in a locked-up state in the nuclear centre on the other. It, moreover, goes further, and gives grounds for associating the side-chain attachment with transport service, leaving the locked-up portion as constituting a component incorporated during the construction of the molecule, whether in lymphocyte growth from food, or in bioplasmic growth elsewhere.

Phloridzin, as is well known, is an active producer of glycosuria, and its action in this direction is exerted through the coöperation of the blood and the renal cells. The sugar does not, as in other forms of glycosuria, take origin elsewhere and travel to the kidney preparatory to elimination, but comes into view during the act of secretion of the urine, and in the absence of the kidneys phloridzin fails to produce any visible effect within the system. It is obvious, therefore, that some constituent of the blood other than sugar must be concerned in the production of the glycosuria. The output of sugar is sufficiently large and continuous to show that there must be something to feed the blood to keep up the discharge occurring, and, coincidently with the outflow, it is noticed that a disappearance of storage glycogen occurs. Indeed, phloridzin supplies us with one of the most effective means of rapidly clearing away glycogen from the liver and the muscles.

That the blood is fed in the way suggested is supported by the

EVIDENCE DERIVABLE FROM LIVER ABLATION EXPERIMENTS.

It is possible for the life of an animal to be maintained for some hours after the removal of the liver and its associated viscera in the abdomen. In a paper published in the *Journal of Physiology*[2] "On the Mechanism of Phloridzin Glycosuria" by Pavy, Brodie, and Siau, results are given which show that the sugar elimination declines after phloridzin injection at an infinitely greater rate in the liver ablation experiments than in control experiments where the viscera in question were left intact. It further appeared, when the sugar elimination had almost completely stopped, that a fresh start was given to it by transfusing into the vessels defibrinated blood derived from another animal.

Taking the fact that glycogen, as a result of phloridzin administration, disappears from its seats of accumulation, and that sugar contemporaneously shows itself in the urine, let us follow the matter on and see what the fact mentioned leads up to. The glycogen itself does not travel to the kidney and there constitute the source of the sugar that springs into view. As a first step in the operation occurring, it is not permissible to do otherwise than conceive that the cases where the sheriff is satisfied that the article is not intended for sale for human consumption no order for condemnation is given. Compulsory powers of entry into premises for purposes of examination are given to the medical officer of health, who is also given power to take samples from consignments, while officers of Customs are required to afford facilities for the examination of articles of food by the medical officer of health. In the circular issued with the regulations the Local Government Board emphasises the necessity for the medical officer of health so conducting his examination as to cause as little trouble and inconvenience to traders as possible. The "Foreign Meat Regulations" are designed to deal with meat brought from abroad and will therefore apply more especially to meat imported from New Zealand, the Argentine, and the United States. The definition of meat is very comprehensive and is stated to mean "pork, the flesh of cattle, any other edible part of a pig or of cattle, or a substance, compound, material, or article of which pork or the flesh of cattle, or any other edible part of a pig or of cattle, is an ingredient." The regulations divide foreign meat into four classes. The first class, termed in the regulations "Foreign Meat of Class I.," is designed to deal specially with boneless meat. The trade in this class of meat has grown in recent years and this meat, owing to its cheapness, is much consumed in the poorer districts and among the working classes. It is used chiefly for mincing purposes. The form in which it is imported, however, renders it difficult of inspection for detection of disease, and hence the special reference to it in the regulations. The Local Government Board points out, however, that the effect of the regulations is not to prohibit entirely the importation of boneless meat but only of the forms known as boneless scrap meat. If the meat is imported in such shape or such condition as to afford sufficient means of identification with definite parts of a carcass it will not fall within the terms of Class I. Meat of Class I. is prohibited entry into the country for purposes of human consumption. In order to prevent the detection of evidence of tuberculosis in pigs the lymphatic glands about the throat and elsewhere are removed, and the regulations provide that pig carcasses without those glands and without the head in its natural state of attachment (defined as Foreign Meats of Class II.) shall also be prohibited entry. The third class refers to several parts of a pig not prepared as bacon or ham but dressed and packed under satisfactory conditions, as evidenced by an attached certificate to that effect. The fourth class includes all other kinds of meat, and along with meat of Class III. is dealt with on its merits according as it is sound or unsound. When the officer of Customs ascertains that the cargo of a ship comprises meat of Class I. or Class II. he informs the medical officer of health to that effect. In regard to meat of Classes III. and IV. he is required to inform the medical officer of health only where "by reason of facts brought to his knowledge or of representations made to him" he is of opinion that the meat requires examination. As already indicated, meat of Classes I. and II. is not allowed entry unless the importer can satisfy a sheriff, magistrate, or justice that it is not intended for sale for human consumption. The object of the regulations which will come into force on Jan. 1st is that imported meat shall be dealt with by public health authorities at the place of importation. The disadvantage of the new regulations is the unequal dividing of the burden of inspection, which so far as Scotland is concerned will fall almost entirely upon Glasgow. There is no doubt, however, that a regular and systematic inspection by duly qualified officials will result in improvement in the quality of meat supplied.

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[2] Vol. xxix., 1903.

The University of Aberdeen: Induction of Professor Dean.

At a fully attended meeting of the Senatus on Nov. 24th Professor George Dean was inducted to the chair of pathology, lately held by Professor D. J. Hamilton, retired. Principal Lang occupied the chair and in welcoming Professor Dean said: "Gentlemen, we have the pleasure of receiving to-day the Commission of the Crown in favour of Dr. Dean, whom, from to-day, we shall call Professor Dean." The secretary then read the Royal Commission, the members of the Senatus meanwhile standing, and after Principal Lang had concluded his formal welcome the right hand of fellowship was extended to the new professor. Professor Dean will begin to discharge the duties of the chair after the Christmas vacation.

Generous Bequests of an Elgin Merchant.

Mr. John Munro of Elgin, who died on June 29th last, has left, subject to the life use of his sister, Mrs. Isabella Tulloch, his residence, "The Knoll," Elgin, with grounds and buildings, to the Lord Provost, magistrates, and councillors of Elgin, for use as a home for persons suffering from incurable diseases, preference being given to inhabitants of the county of Elgin. Subject to £1000 upon trust for the benefit of Leanchoil Hospital, Forres, and other bequests, he left the residue of his property to his sister, Mrs. Isabella Tulloch, for life, with remainder to the Lord Provost, magistrates, and councillors of Elgin, as an endowment for the aforementioned home, to be carried on by them.

Dec. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Recorder of Dublin on Squalor and Crime.

THE Recorder of Dublin has once again taken the opportunity of recurring at the opening of the City Criminal Sessions to the inevitable association of squalid poverty with terrible crime. In his address to the grand jury, after referring to the small number of 16 cases—all "simple"—with which they had to deal, he proceeded to observe that he "felt assured that they would be happy to know that although the state of the city was not all that they desired, yet there was much to congratulate themselves on in the absence of the more gross and serious classes of crime. He had so often called attention to the main sources of crime, intemperance, and disease in their midst, and with such barren results, that he regarded any effort to arouse the public conscience to the terrible condition of the working poor, and the squalid and loathsome slums in which they are housed, as hopeless. The toiling masses of the city would, he feared, be left to rot in their sunless lairs until the growth of crime and the scourge of pestilence compelled the attention which the call of humanity had failed to secure."

St. Vincent's Hospital, Dublin.

A large congregation assembled at the annual Requiem Office and High Mass for the deceased founders and benefactors of St. Vincent's Hospital, as all classes of Dublin society are interested in the welfare and progress of this institution because of benefits received directly or indirectly. Few institutions of its class in the whole area of the British Empire have carried out more thorough and effective work during the past quarter of a century, within the proportional limits of its accommodation, while all the necessary money has been obtained from the contributions of the sympathetic public. At a time when the general hospital nursing of Dublin was for the most part carried out in a haphazard manner the sisters of charity attached to the hospital organised a system of nursing which rapidly proved effective, and this is always remembered to its credit.

Castlerea Board of Guardians v. the Local Government Board.

The Castlerea board of guardians has been exceptionally prominent during the greater part of this year in its antagonism to the Local Government Board regarding the jurisdiction and arrangement of medical matters. I have already referred in this column to the fact that the board opposed the superannuation allowance of the late Mr. S. McDermott of Ballaghaderin, the result of which was that when the Local Government Board used its legal power to right the wrong the veteran medical officer did not live to receive the first instalment of his pension. On Nov. 23rd, in the King's Bench Division (before the Lord Chief Justice, Mr. Justice Gibson, and Mr. Justice Kenny), an application was made on behalf of the guardians of the Castlerea union in resistance to an Order of the Local Government Board of Sept. 18th last which purported to re-divide the dispensary districts of the Castlerea union and to appoint to the three districts certain medical officers and midwives. The districts involved were Castlerea, Castleplunket, and Ballaghaderin. The guardians objected to the Order on the alleged ground that it was an over-riding of their rights. They were prepared to agree to a re-division of the union, but the Local Government Board asked them to agree to a particular which was forwarded to him. At p. 68, the text runs: "The *suggestion presents itself that sugar is taken* on as a side-chain by a proteid constituent of the blood and transported to the tissues, where it is taken off for subjection to utilisation. The suggested operation is identical with what occurs in connexion with the transport of oxygen. Oxygen is taken on by hæmoglobin, and, in a state of combination, transported to the tissues, where it is taken off and applied to utilisation. Glycogen is a storage material consisting of very large molecules and therefore not adapted for shifting its position. I should think that the first action that occurs is the breaking down of its molecule into molecules of glucose, which become instantly taken on by the alluded-to molecules of the blood. There may be concerted action between the breaking-down and taking-on processes, and that there is such in operation is rendered probable by the fact that there is no show of sugar in connexion with the occurrence. Enzyme action, it may be considered, of necessity constitutes a part of the process, and the enzyme concerned, and set in motion as needed, may, in the presence of altered conditions, be intelligibly conceived to be capable of producing the deviation from the natural living state with respect to sugar that so quickly takes place as a post-mortem occurrence in the liver."

On the following page, in speaking of the effect of phloridzin, the statement is to be found: "The first effect of the phloridzin is to sweep away the glycogen that is present in the different parts of the body. If this passed through the circulatory system as free sugar there ought to be hyperglycæmia in proportion to the glycosuria, which there certainly is not. This being the case, the only conclusion to be drawn is that the katabolised glycogen (sugar) enters into side-chain or loose combination with a constituent (proteid) of the blood, and is thus conveyed to the kidney where it is set free and eliminated."

It will be seen that the view that can be now put forth, emanating from the knowledge that has been acquired during the last few years, and embodied in the work alluded to, has failed to receive Professor Halliburton's consideration. The effect of the proposition is to take away the ground from beneath his argument and destroy its reality. Previous to the recognition of carbohydrate as a constituent of protein, there could be no conception of what is permissibly entertainable now, and it must be admitted that a difficulty stood in the way of reconciling the facts observable in connexion with the changed state of things occurring in the liver at the moment of death. On the one side, evidence showed that if sugar passed into the circulation as had been suggested, the fact of its doing so could not escape being revealed by the urine, and the state of the urine negatived the possibility of the occurrence taking place. On the other side, there was the active production of sugar that was observed to occur in the liver as a post-mortem effect, and which, if occurring during life, would have established a different state of things from that actually found to exist. In these circumstances, it could only be said that the enzyme action allowed to come into play after death must be inhibited by the conditions existing during life.

With the knowledge that we now possess, it may be considered that no incompatibility exists. Concerning enzyme action, a considerable advance has been made, and it is consistent with what is now known to consider, in relation to the transformation of glycogen into sugar, that the agent concerned in effecting the process does not primarily exist in the liver in the state of enzyme, but in that of zymogen. Enzymes are dual bodies, and the mother substance of them, zymogen, possesses no activity. The cooperation of another body, the activator, is required to give it enzymic power. In other instances, the activator is brought into play as it is required, and here the conditions leading to a

DEMAND FOR CARBOHYDRATE FROM ITS STORAGE MAY SET THE ACTIVATOR FREE AND START THE ENZYME INTO MOTION

in the manner needed. It may well be that the altered conditions occurring at death may lead to a removal of the restraining influence that held things in proper check during life. The same may be said with regard to blood coagulation. The zymogen, or pro-ferment, of thrombin is present, but is devoid of activity, so long as the coöperative agent is held from exerting its activating effect.

Looking at the distinguished position that Professor Halliburton holds as a teacher of physiology and the weight that his writings carry in the mind of members of the medical profession, I cannot help regarding it as very regrettable that the evidence which nullifies his argument should have escaped being noticed. It is medicine that suffers in connexion with the matter, for without a right physiological basis, there can be no rational comprehension to guide the medical practitioner in dealing with the wrong metabolism which stands at the root of diabetes.

Is it to reversed enzyme action that the conversion of glycogen into sugar is due? Everyone admits that the building up of glycogen from sugar constitutes an important function of the liver. We look to enzyme action as the agency effecting the process, and it is now recognised that, by altered surrounding conditions, the line of action that has been in operation may be changed into one of a reverse nature. I see nothing inconsistent with the building-up enzyme in the cells of the liver being influenced by its environment in such a manner as to lead to the occurrence of a reversal of action, and thus to give rise to a breaking down of the previously built-up glycogen into sugar.

It is interesting to note the analogous behaviour that is traceable between

CARBOHYDRATE AND FAT IN THEIR CONNEXION WITH BIOPLASM,

and to this point I will now proceed to direct attention. We have seen that carbohydrate becomes incorporated in the bioplasmic complex, and that, if not consumed when there brought into relation with oxygen, another component of the complex, it may, under circumstances of redundancy, be cleaved off as storage material.

The effect of modern research is to give to fat a place in the bioplasmic molecule, and thus to put it into the same position as carbohydrate. I need not, I consider, here enter into the details of this matter. It will suffice to state that there is evidence to show that fat may exist in a locked-up state in a protein compound in like manner to what occurs with carbohydrate. In these circumstances, the fat is in an out-of-sight state, but is susceptible of being brought into view by the disruptive agency of peptic digestion. It is only recently that this subject has fallen under consideration, but already it has made its way into prominent notice.

With the point reached, the position of things stands as follows: the bioplasmic molecular complex, which may be regarded as the representative of a living unit and thereby as the seat of the metabolic changes which give rise to the phenomena of life, contains both carbohydrate and fat incorporated within it. Through intramolecular action, set in motion by agencies of an enzymic nature, the various occurrences noticed to ensue may be conceived to be brought about. In the molecule, oxygen also enters as a constituent, and thus circumstanced, it is brought into close relationship with the carbohydrate and fat components with which the interactions occur that give rise to the development of energy. The play that takes place is not considered to consist of straight off or unbroken oxidation, but of oxidation, step by step, of the components of the chain of which the vanishing molecule is made up. The result, when the intramolecular procedure is normally carried out, is the production of carbon dioxide, water, and ammonia,—products devoid of latent energy. Should it happen, as may in the presence of abnormal conditions be the case, that arrest at an intermediate stage takes place, the effect is the throwing off of a product retaining unexhausted energy.

I have shown that, with a redundancy of carbohydrate, glycogen is dissociated for storage purposes. Condensation, or building up within the bioplasmic molecule, must be here in operation, seeing that it is in the form of sugar, and not glycogen, that the carbohydrate enters the molecule. Precisely the same sort of thing happens in the case of fat. Under the existence of a redundancy, fat becomes, by cleavage from the bioplasmic molecule, microscopically visible where none, whilst in a locked-up state, was previously to be seen. Here again constructive work must be performed, inasmuch as neutral fat is devoid of the needed dialysability to permit of its passage through cell membranes to reach the bioplasm within. The transport must occur in association with a dialysable state, and an enzyme—lipase—exists widely distributed through the body, which performs the office of breaking down fat into fatty acid and glycerine, associated with quinine the remedy is of great value. This communication was made at the Society of Tropical Medicine on Nov. 11th.

Primary Cancer of the Bronchi.

At a meeting of the Medical Society held on Nov. 28th M. Letulle described from his own observations three forms of primary cancer of the bronchi. The first is an ordinary interstitial cylindrical epithelioma. The second is active (*végétante*) and characterised by the formation of buds of atypical epithelioma. The third is cavernous and follows upon an old bronchiectasis. It is characterised by lobulated pavement epithelioma. The clinical signs are of an extremely varied character.

Dec. 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Government and Infective Disease.

A WELL-INSPIRED, if not wholly new, departure has been taken by the General Board of Hygiene with the view of disseminating among the masses the fundamental laws of health, and so of combating the ignorance and the prejudice which favour the attack and propagation of disease. These laws of health are also those which make for decency and decorum in public life, coefficients, in fact, of that civilisation which is the distinctive mark of the more advanced races. "Popular instruction for the protection of the individual against infective maladies"—such is the rubric of the series of publications which the Direzione Generale della Sanità has begun to issue towards the above-indicated end and the specimens of which now before me seem creditable alike to their initiators and their authors. The first on the list deals with small-pox; the second with scarlet fever; the third with measles; the fourth with "tifo petecchiale" (petechial typhus); the fifth with cholera; the sixth with "tifo addominale" (enteric fever); the seventh with dysentery; the eighth with ankylostomiasis (so frequent among the labourers employed in railway tunnelling); the ninth with tuberculosis; the tenth with pneumonia; the eleventh with malaria; the twelfth with diphtheria; and the thirteenth, now in the hands of the printer, with trachoma. Each of these brochures contains clear, succinct instruction as to the malady with which it deals—its mode of diffusion and its danger, immediate or subsequent, and, as to the infective agent itself, its origin and its vehicle, the channels by which it finds access to the system, and the predisposing causes. A graphic picture is afforded of the symptomatology of the various infections, and from this the reader is provided with opportune instructions as to how he may best insure himself against each disease. A thoroughly qualified practitioner has in each case been intrusted with the publication, and while stringently scientific as to his facts he writes in a clear style, intelligible to the fairly well-educated reader. The series is in course of distribution throughout all the centres of population, rural and urban, particularly among the masters of elementary schools, the directors of manufacturing works in town and country, the heads of public offices, to say nothing of the *medici condotti* (divisional practitioners) and others who may reasonably be expected to coöperate in the propaganda. There are four outstanding truths which the Direzione Generale della Sanità is particularly anxious to impress on the masses: (1) that disease is not to be considered as a fatality to which the human subject is inexorably exposed; (2) that disease is the product of special micro-organisms which, bred from without, find entrance into the system generally *per incuriam* (sins of omission or commission) on the part of the individual; (3) that contagion can be avoided or guarded against; and (4) that everyone who has the knowledge and the will can keep himself immune from infective disease. Nothing can be more laudable than the aim and the *modus operandi* of this hygienic crusade (as it may be called); but success must not be looked for all at once. Rome was not built in a day, nor is sanitary reform to be accomplished in a decade—particularly with a population wellnigh one-half of whom are *analfabeti*, and of whose young married couples (in the south) not 70 per cent. can sign the marriage-lines.

An Academic Strike.

"We are a carnival people," said Antonio Gallenga of his compatriots; and certainly the "demonstrations" of which the universities from the Alps to Etna have for the past week been the source and centre bear out the remark of the "Dean of the Italian Press." Besides Italy proper there is an "Italian Austria" as there is an "Italian Switzerland"—the Trentino and the Istrian Triangle in the former corresponding to the Canton Ticino in the latter; the preponderating language in both being that of Italy—to such an extent, moreover, as to make them the object of Italian reclamation under the banner of "Italia Irredenta." Thanks, however, to good, not to say sympathetic, government, the Swiss Italian has no inclination to revert to the motherland; but it is another thing with his Austrian counterpart. The Austrian *régime*, always loathed in Italy, has left behind it a bequest of ill-will amounting to race hatred, which has been fostered by grievances, real or imagined, which have never been allowed to die down. It is at the universities that this racial antipathy is most accentuated, and the collisions, often ending in bloodshed or even loss of life, between the Italian and the Austrian students have year by year been increasing in frequency and violence. Nay, in Vienna itself a "tafferuglio" (row) occurred the other day in which the Italians, outnumbered in the proportion of 10 to 1, had considerably the worst of it, and immediately thereafter a response of "sympathy and solidarity" was started in all the seats of learning throughout Italy, the students abandoning their studies, marching in procession through the streets, insulting every Austrian official (diplomatic or consular) whom they encountered, and colliding with the police who endeavoured to save the said officials from violence or the Italian public from suspension of traffic. The students, nothing loth to have an unauthorised holiday, have been patrolling the streets of the university towns in high glee and with scant consideration for the interests, business and other, of their compatriots, till a general cry of "Basta!" (enough) has risen from all classes, accentuated by leading articles in the press, official and non-official. The demonstrations, and the grievances from which they spring (chief among these being the want of an Italian university at Trieste), are now under consideration (diplomatic and Parliamentary) at Vienna and Rome, and there I am content to leave them. But may it be whispered that the Italian *Burschenschaft* is a little too prone to such outbreaks, too liable, on the slightest provocation, to take a side in international quarrels which concern them remotely, if at all; too given to "carnivalesque" proceedings, rhetorical and processional, and so to interrupt those studies on which their future acceptance as citizens depends—studies which they often deprecate as too severe or as leading up to examinations for which they are not always duly prepared? The university quadrangle, with its opportunity for high-flown harangues, seems more attractive for them than the university class-room, with its steady, if monotonous, routine, and the result is a "solution of continuity" in study and professional equipment which perhaps explains the rather poor output of the said universities in scholarship, science, and research. Such were not the youthful methods of the Galileos and the Torricellis, the Baglivis and the Morgagnis, the Leopardis and the Manzonis, to whom Italy looks back with pride and the civilised world with gratitude. Let us hope that these latest "demonstrations" will be the last and that, while the Italian and Austrian Governments will between them devise a better *modus vivendi* at their seats of learning where the two nationalities study in concert, the youth of Italy itself will develop more self-restraint and more practical appreciation of the old Hippocratic motto, "Ars longa, vita brevis."

Dec. 1st.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Renal Diseases and Cryoscopy.

AT a recent meeting of the Budapest Royal Medical Society Dr. Müller said that the cryoscopic examination of the blood of a certain number of very difficult cases had been of great value in determining the question of operation. He said that the method depended upon the well-known physical law that the freezing point varies with the osmotic density rather than with the specific gravity. Casper Richter, Kümmel, Koránya, and others carried out most of generally admitted to take place. It is not conceived, as at one time was done, that the food molecule is consumed in the form of an isolated entity. Toxins, when in a position to be incapable of being taken on by the constituent molecules of bioplasm, fail to exert any toxic effect. It is only when they become actually linked on to the bioplasmic molecules that the interactions that are needed to evoke the results which are capable of being produced by the particular toxin concerned, can occur. So with food molecules, they must be embodied into the bioplasmic molecules as a preliminary step to utilisation. Thus placed in these molecules, they are brought into relation with the other constituents, notably oxygen, which presumably is present in a loosely combined state as in oxyhæmoglobin, and put into a position to permit of the interactions attended with oxidation and the liberation of energy that are observed to take place.

Analogy may be appealed to for assistance in the comprehension of the procedure involved in

THE LINKING ON OF THE FOOD MOLECULE TO THE BIOPLASMIC COMPLEX.

We learn from what occurs in connexion with toxins and with lysins (hæmolysins and bacteriolysins), that there is an intermediary body, the amboceptor, through which the junction with the bioplasmic molecule is effected. In the absence of the play of this intermediary body, no junction and no effect follow the presence of the toxin and the lysin in the blood. A large amount of closely reasoned experimental work, with much of it of a test-tube nature, stands at the foundation of the conception that has been put forward, and gives to it a well-grounded qualification for acceptance.

Proceeding with the matter, it may further be said that, whilst the body that is linked on (in immunity phraseology called the complement) is thermo-labile or susceptible of destruction under exposure to a moderately elevated temperature, the agent that links on (amboceptor) may be exposed to a boiling temperature without losing its linking-on power, and is, therefore, in contradistinction spoken of as thermo-stable. This is an important point in connexion with the train of reasoning that I am about to set forth.

It is contended that the first step towards the utilisation of carbohydrate is linking on to the bioplasmic complex. Without susceptibility of being linked on, it simply filters through the body and runs out with the urine without being in any way touched. This is the case, for instance, with the disaccharides,—saccharose, lactose, and maltose, when under any circumstances reaching the circulatory system as such. With the monosaccharides,—dextrose, levulose, and galactose, on the other hand, we find that these, when present in the circulation, do not wholly escape in a similar manner. A portion fails to pass out with the urine, and this portion, it may be assumed, becomes put into the combined state, and subsequently made use of in the ordinary manner. If no capacity existed for linking on these monosaccharides, it is not conceivable that they would be any more susceptible of utilisation than the group which is not utilisable.

The effect following the introduction of the different sugars into the circulation by intravenous injection has been already alluded to. It has been seen that a certain amount of power exists of putting the monosaccharides into a position to be made susceptible of retention in the system. A great contrast, however, is to be perceived in the extent of power that exists at the seat of absorption in the alimentary canal to deal with the sugar derived from the food, as compared with that existing in the blood. Notwithstanding the large amount of carbohydrate that may be ingested with the food, we find, with its reception into the organism in a normal way, that it effectually becomes assimilated, or put into an altered state, and thus prevented reaching the general circulation as sugar. Introduced, on the other hand, in a direct manner into the circulation, the evidence afforded, alike by the urine and by analytical examination of the blood, shows that it is only comparatively slowly and in limited quantity susceptible of being thrown out of view, by the power that is here encountered.

Protein and carbohydrate are similarly circumstanced in connexion with this point. The digestion products of both are rapidly put out of sight after absorption from the alimentary canal, and are not to be traced on into the general circulation. Introduced into the circulation, both are, to a certain extent, susceptible of being dealt with and removed from view, that which is not so dealt with, flowing off, in each case with the urine. Professor E. H. Starling, in a paper published in Vol. XIV. of the *Journal of Physiology*, says with reference to the results obtained from the injection of peptone and sugar into the blood: "It will be seen from them that the behaviour of peptone after injection is almost exactly analogous to that of sugar."

What is it that occurs in connexion with the disappearance of carbohydrate to account for the phenomenon? A portion may be taken by the tissue bioplasmic molecules, if there is a want of it to replace side-chains that have been worked off. Evidence, however, is forthcoming to show that there is to be found within the blood itself a means by which sugar may be carried out of view.

Besides carbohydrate in the form of sugar,

CARBOHYDRATE IN THE AMYLOSE FORM IS OBTAINABLE FROM BLOOD.

After the removal of the sugar by treatment with alcohol, the precipitated matter is capable of yielding a certain amount of carbohydrate in the amylose form, after having been subjected to the breaking-down influence of boiling with potash. This, under ordinary circumstances, is found to amount to about 1 per 1000 of blood. I have for a long time known that the amylose carbohydrate that is thus capable of being obtained from blood, shows itself in greater amount after the introduction of sugar into the circulation. I gave illustrations of this in my "Physiology of the Carbohydrates," published in 1894, and regarded the fact as constituting a noteworthy point.

Later, I recognised that if I introduced sugar into the circulation in conjunction with a boiled aqueous extract of pancreas, the amylose carbohydrate was to a decided extent further increased. The experiments on this point are set forth in my "Carbohydrate Metabolism and Diabetes" (p. 71 *et seq.*). It seems to me that, without doubt, the conclusion may be drawn from them that the pancreatic extract supplies something which contributes to the conversion, by t bioplasm existing in the blood, of sugar into amylose carb hydrate. The following supplies an epitome of the resu obtained.

I need not here enter into the question of the mode estimation of the amylose carbohydrate. This matter h been fully referred to in my previous writings, extendi over many years past. Suffice it to say, that, upon t strength of some hundreds of estimations, I consider th confidence may be placed in the trustworthiness of t results yielded by the procedure adopted.

In the first place, 11 determinations are given derive from normal rabbit's blood. The figures for the mean these stand at 1·41 grammes of amylose carbohydrate p 1000 grammes of blood, the maximum figures being 1·55, an the minimum 1·25. The figures, therefore, throughout t list stand very closely together.

In five determinations made from blood collected a varying periods up to 30 minutes after the intravenous injec tion of one gramme per kilogramme bodyweight of dextros dissolved in saline solution, the mean figures were 1·61 pe 1000, the maximum being 1·80, and the minimum 1·52 Two determinations were made after the lapse of an hou from the time of the injection. The figures came out a 1·43 and 1·34, showing that any effect that might have bee previously produced had passed off.

In the case of levulose similarly dealt with, the figures i two experiments from blood collected 15 and 30 minute after the injection were 2·60 per 1000 and 2·67 per 1000 a against 1·81 in one experiment from blood collected at th end of an hour. Looking at these figures, no doubt ca exist of the amylose carbohydrate having been raised by th levulose injection.

Two experiments were made to see the effect of injecting saline solution alone. The figures from blood collected at the end of 15 minutes came out in each case at 1·35 per 1000.

Passing to the experiments with the pancreatic extract, two experiments were conducted in which the extract alone was injected. In one, the blood was collected at the end of 15 minutes, and the figures given were 1·77 per 1000. In the other, the blood was collected at the end of 30 minutes, and the figures given were 1·52 per 1000.

In 13 experiments, the pancreatic extract was employed with 1 gramme per kilogramme bodyweight of dextrose.

whole, there is far less spread of the disease than usually takes place as the cold weather sets in, but it is impossible to say whether this state of things will last.

Health of Prisoners in Indian Jails.

A note by the Sanitary Commissioner with the Government of India on sickness and mortality in jails during the year 1907 has just been issued. It appears that the record of the health of prisoners in Indian jails is one of consistent progress. While the death-rates among the general population are rising those among the prisoners are falling, and although the rates among both classes of people fluctuate from year to year the fluctuations in the jail death-rates are becoming less frequent and less marked. The rates are falling more steadily than formerly, and it is justifiable to say that this is because in the jails the arrangements for counteracting the influences of adverse climatic conditions and for preventing the spread of communicable diseases are improving every year. There is no doubt that at the present time prisoners in Indian jails live under conditions which in nearly all respects are very favourable to health. Cholera and plague, the scourges of the general population, scarcely affect the prison statistics and in preventing the spread of other communicable diseases medical officers have obtained a high degree of success. Although the climatic conditions of 1907 were abnormal and in most provinces were unfavourable to prosperity, which in India is a factor of much importance in connexion with health, the health of the prisoners was good and the death-rate on an average daily population of 107,675 (or 2407 less than in 1906) was only 18·51 per 1000, which is the lowest rate ever recorded. In these figures the statistics in the Andaman Islands (where the average strength was 14.411) are included, but as the convicts in these islands live under conditions which differ considerably from those in Indian prisons it is advisable to consider the statistics separately.

Permanganate of Potassium and Snake-bites.

Good results continue to be gained by the use of permanganate of potassium in cases of snake-bite. Reports from 18 districts in Bengal during last year show that in 198 cases where the treatment was resorted to there were only 23 deaths. In a number of instances the persons bitten were not received in hospital until the fatal symptoms had developed, when the permanganate fails, of course, in its effect. The cases which come under treatment are comparatively few, as the people still believe in their snake charmers, but it is hoped that the efficacy of the new remedy will gradually become known to all classes. It is suggested that as the treatment is very simple and efficacious local governments might well order that every police station and outpost, every school and every president of a *panchayat*, should be provided with permanganate lancets, so that cases of snake-bite may receive the earliest treatment. This is a very practical suggestion; the cost of the lancets would be trifling and the number of cases treated annually would probably rise from hundreds to thousands.

Oct. 30th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Eighth Australasian Medical Congress.

THE Eighth Australasian Medical Congress was formally opened on Monday, Oct. 19th, in the Melbourne Town Hall. His Excellency, Sir T. Gibson-Carmichael, the Victorian State Governor, presided, and the Victorian Government was represented by the Hon. T. Swinburne, Minister of Public Works. The present Congress in point of numbers is larger than any of the previous gatherings, upwards of 750 members being enrolled, and it is estimated that about 500 members will be in actual attendance. The opening ceremony was very imposing. The town hall was filled by a large audience, while the gallery opposite the platform was occupied by nurses in costume, making up a striking picture. After a welcome had been extended by the Governor, Mr. Swinburne, and the Lord Mayor of Melbourne to the visiting members, Professor H. B. Allen delivered his inaugural address as President of the Congress. He dealt first with a review of the mystery of life as exemplified in a study of the bio-chemical processes and the continuity of life. He contrasted the underlying continuity of existence with the tendency to individual variation, and noticed the chief theories of heredity and their possible bearing on medical thought. Passing from the theoretical consideration of life processes to the practical care of life which was the peculiar function of the medical profession, Professor Allen deplored the fact that the death-rate from puerperal sepsis and accidents of childbirth had altered very little during the past 40 years either in England and Wales or in Victoria. He advocated a Midwives Act for Victoria on the lines of the present English Act. He also pointed out the decline of the birth-rate and dwelt on the physical and mental evils of the childless home. The infant mortality figures, however, showed a more cheerful subject for study and Professor Allen dealt with the importance of natural feeding and the need for the control of the milk-supply. He noticed the growing activity of public health administration and drew attention to some notable improvements in the mortality figures of certain infectious disorders. In conclusion he said that the medical profession owed the public "a service of thought as well as a service of action. The members of Congress would go back to their spheres of duty made stronger by fellowship and humbly striving for a more adequate answer to the question, 'What hast thou done, what hast thou thought?'" A vote of thanks was carried on the motion of Dr. J. Thomson (Brisbane) and Professor T. P. Anderson Stuart (Sydney). On Tuesday the address in the Section of Medicine was delivered in the Wilson Hall by Dr. G. E. Rennie of Sydney. His theme was the mental factor in disease and the importance of determining whether there was any organic change at all present in certain patients. He dealt with the apparent causative influence of mental anxiety in such an affection as diabetes as illustrating the importance of the inter-relation between mental states and organic disease. He further examined the mimicry of actual disease by mental states and instanced cases in his own experience which had been cured by reasoning the patient out of the idea that actual disease was present. The importance of thorough examination of every organ was dwelt on before any result could be looked for, but in many of the cases of neurasthenia and psychasthenia and allied states the mental attitude was often too lightly dismissed or even passed over altogether. He noticed the treatment of such conditions by reasoning, suggestion, and hypnotism, expressing distrust of a great deal that had been published in connexion with the last named.

Hospitals for the Insane.

The annual report of the Inspector-General for Victoria shows that there were on Jan. 1st, 1907, 4937 certified insane patients in Victoria. At the end of the year the number had increased to 5052, making 1 in 249 of the population. 219 cases were dismissed from the asylums as complete cures, 68 were relieved, and 16 without benefit. The recovery-rate was the lowest since 1897, but this was partly due to the fact that the cases dealt with at the receiving house were not included in asylum figures. An analysis of the probable cause of insanity in the 728 cases admitted during 1907 showed 169 due to unknown factors, 86 had suffered previous attacks, 64 were attributed to intemperance in drink, 57 to hereditary influence, 42 to mental anxiety, and 32 to domestic trouble. The conduct of the licensed houses was said to be all that could be desired. They could be made more useful by admitting patients on a voluntary boarder system. At Kew Asylum an outbreak of enteric fever occurred in which 61 cases were treated with 14 deaths. "It is a fact worthy of note," says the report, "that eight patients showed marked mental improvement after they had recovered from their illness." The cause of the outbreak has not been traced. It is recommended that the Lunacy Act should be amended so as to provide for the transfer without further certification of patients from the hospitals for the insane to private licensed homes and from the latter to the former. The expenditure for the year was £141,543, an increase of £5315 on the previous year.

Milk-supply of Sydney.

A deputation recently waited on the Lord Mayor in Sydney with reference to the establishment of milk depôts. The Lord Mayor pointed out that the council had no power to take any such action. Dr. W. G. Armstrong, the city health carbohydrate molecule should fail to become linked on to the bioplasmic molecule, what, it may be asked, would be the state of things produced? The sugar molecule would be left untouched, and would thence pass on into the circulation in a free state, which is tantamount to saying that there would be glycosuria proportionate in extent to the carbohydrate ingested and failing to become assimilated.

If the amboceptor is concerned in performing the office suggested in connexion with the appropriation of carbohydrate by incorporation into bioplasm, it may not unreasonably be considered to be similarly concerned in the transmutation of sugar into glycogen in the liver. The passage of sugar into glycogen constitutes a building-up operation. There are grounds for believing that the sugar in the first instance becomes taken into bioplasm. Afterwards, from the redundancy existing, a shedding off in the form of glycogen would follow, in conformity with what is conceived in circumstances of the kind to ordinarily occur. Viewed in this way, the amboceptor, if needed for the bioplasmic assimilative operation, may be reckoned to be also needed for the transmutation of sugar into glycogen in the liver.

Experience in connexion with diabetes points strongly to a fault of the nature here depicted, standing at the foundation of the show of sugar that occurs. In the passage of ingested carbohydrate to its natural destination, a certain chain of events is passed through. A faulty link in the chain, through such a defect as has been spoken of, would suffice to lead to a breakage of action continuity. A faulty cog in the metabolic mechanism is amply sufficient to account for the arrested progress of onward movement that renders itself perceptible through the sugar that comes into, and ought not to come into, view.

The theory of

GLYCOLYSIS, AS ENUNCIATED BY LÉPINE,

appropriately falls in here for consideration. As long as Lépine held to the canons of the glycogenic doctrine, which imply destruction, and thereby disappearance, of sugar in the transit of the blood through the systemic capillaries, there was a show of reason in seeking for an explanation of the disappearance. But how does the matter stand when he retires from his former position and denies the occurrence of the disappearance? This, in reality, is the issue of his recent experimental work, evidence being adduced by him showing the existence of more sugar (instead of less) in the blood returning by the veins than in that contained in the arteries. He, at the same time, speaks of a *virtuel* sugar (which I take to be the same as my combined or locked-up carbohydrate) as a source of the sugar that thus comes into view.

Lépine now endorses what I have all along contended for —namely, that there is not the evidence of sugar being destroyed in its transit through the systemic capillaries that was formerly taken to exist. If such be the case, glycolysis stands upon nugatory ground, and it has always been a mystery to me how a proposition resting upon so inconsistent and illogical a basis should have received the attention that has been given to it.

Even supposing there should be an element of truth contained in the results derived by Lépine from his pancreatic extract and blood incubation experiments, I think a different interpretation can be assigned to them from that which he has given. On the question of validity, the general opinion is that they are open to mistrust, but supposing any loss of sugar to have taken place, may it not have been

THROUGH INCORPORATION INTO BIOPLASM INSTEAD OF THROUGH DESTRUCTION?

He affirms that the leucocytes are mixed up with the action, and likewise that chyle, with its lymphocytes and absence of red corpuscles, possesses greater glycolytic power than blood.

The trend of all modern work is to point to the chemical actions connected with living matter being of an intramolecular nature, and it is difficult to conceive that action occurring outside the living molecule, as Lépine contends for, can constitute the mode of operation. No one thinks of structural formative power being otherwise than associated with the operations of actual living matter. Ought not the chemical phenomena to be viewed in the same way?

Under the assumption of the occurrence of glycolysis in the blood, Otto Cohnheim and others, particularly on the American side of the Atlantic, speak of diabetes being due to sugar failing to be *burnt* in the system. Nothing could be more gratuitous, unfounded, and misleading. There is not a particle of evidence to show that defective oxidising power exists in connexion with diabetes. The real fault is a condition antecedent to the oxidising operation. The food carbohydrate, when permitted to reach the general circulation in the form of free sugar through failing to be assimilated, cannot do otherwise than run off with the urine, and thence escape being placed in a position to undergo oxidation. In the case of the dissociation of sugar from built-up bioplasm in the "composite" type of diabetes, there is no ground for thinking that defective oxygenating power has anything to do with the matter. Whilst the sugar molecule is being thrown off by the operation of a wrong lytic action, oxidisation is proceeding in an ordinary way to permit of life being maintained.

I will now pass on to the consideration of a subject which holds a position of great importance in connexion with diabetes. I have dealt at some length with the incorporation of carbohydrate in the building up of bioplasm, and, under a redundancy, with its dissociation in the form of glycogen as a storage material to be subsequently brought into use when need may arise. As glycogen is of higher construction than the sugar which enters the molecular complex, the transmutation operation must be looked upon as constituting the result of building up.

Dissociation of carbohydrate in another form—that of sugar, occurs in association with

THE PATHOLOGICAL STATE EXISTING IN THE SEVERER KIND OF DIABETES.

To this kind of diabetes I have applied the term "composite," because the eliminated sugar is derived from a twofold source. It comes in part from defective assimilation of the food carbohydrate, and in part from the carbohydrate which has been previously put into combination, and is, from a wrong katabolic action, dissociated.

There must be a flaw of some kind or other in the bioplasmic mechanism to lead to this dissociation of sugar. When the normal katabolic procedure passes on to its proper destination, metabolism proceeds to the attainment of an exhaustion of the latent energy contained in the food-stuff products that are being utilised, and the end-products consist of carbon dioxide, water, and ammonia. In the place of progress to this natural destination, it is found, in the condition being referred to, that the chain of continuity in the bioplasmic mechanism is broken in a manner to lead to the dissociation of sugar. An influence is brought into play which leads to the sugar being broken off from the bioplasmic complex, and, perforce, carrying with it unutilised energy.

This

MOLECULAR DISRUPTION ATTENDED WITH THE DISSOCIATION OF SUGAR

stands, in reality, in the position of a reversed natural action, occurring in place of the line of change that ought to be passed through. The built-up molecule, under the influence of the environment existing, fails to continue functioning in a proper manner, and, instead, undergoes the dissociation observed. As we have already seen, a similar disruption occurs whilst blood impregnated with phloridzin is circulating through the kidney. Away from the kidney, phloridzin exerts no action, but in association with a condition supplied by the kidney structure, it brings about, after the manner of enzymic agency, the severance noticed.

I must here state that, because a certain amount of sugar is being eliminated upon what may be regarded as a properly restricted diet for diabetes, it must not necessarily be taken that the sugar is derived from the wrong breaking-down process being referred to. Meat contains a limited quantity of free carbohydrate. It also contains locked-up carbohydrate in its protein ingredient. From these sources, sugar may pass into the urine in a purely alimentary case of diabetes. If it does, the defect in carbohydrate assimilative power must be of an extreme character and closely border on the next step in which, in addition to the absence of assimilative power, there is a commencing breaking-down of protein in which carbohydrate has been previously locked up.

Facts can be adduced in substantiation of the proposition just set forth. I have now and then observed in cases of diabetes without the coexistence of associated elimination of the acetone series that, after a large quantity of meat taken details of a new hospital in Peking which promised to achieve a far-reaching success in the future. Mr. Daniel M. O'Connor, in proposing the toast of "The Association," roused his audience to great enthusiasm by his whole-hearted advocacy of the claims of Irish medical men and the proceedings terminated after the President had replied.

THE WEST OF ENGLAND EYE INFIRMARY, EXETER.—The committee of the West of England Eye Infirmary has received £2460 towards the £5000 required to erect a new wing which is to be built to celebrate the "centenary" of the institution. It is hoped that the remaining £2540 will shortly be subscribed.

A DINNER was given on Monday, Nov. 23rd, at the Trocadéro Restaurant to Sir Robert W. Burnet, honorary physician to H.R.H. the Prince of Wales, to celebrate the fact that Sir Robert Burnet has been recently knighted. Sir J. Dickson-Poynder, M.P., presided, and among the medical men present were Sir Thomas Barlow and Inspector-General J. Porter, Director-General of the Medical Department of the Royal Navy.

THE MANCHESTER CREMATORIUM.—The nineteenth annual meeting in connexion with the Manchester Crematorium, Limited, was held on Nov. 19th. The report stated that the accounts had been made up to August 31st instead of to Nov. 30th, and in future the financial year would close at the earlier date. There were 83 cremations from Dec. 1st, 1907, to August 31st last, and 1202 since the opening. There was a loss of £3 0s. 6d. on the working during the last nine months. The chairman said that there had been 26 cremations since the end of August, making a total for 11½ months of 109. This he thought compared very favourably with the returns from other towns. It is perhaps worth while to give the numbers from other places that he named. At Golder's Green 315 bodies were cremated during the year; at Sheffield, eight; Leeds, 21; Hull, 32; Bradford, five; Darlington, six; Birmingham, 22; Leicester, 12; Liverpool, 23; Woking, 103; Glasgow, 23; and City of London, 13.

THE INFANTS HOSPITAL.—Post-graduate classes have been started at this institution. They will each consist of six demonstrations to be completed in the course of a fortnight—three in each week, on Tuesdays, Thursdays, and Fridays, from about 4.30 to 6 P.M., the course being practical and clinical. Three of the demonstrations will be conducted in the research laboratory, when each member of the class will be able to carry out the experiments individually. These experiments, connected with the chemistry of milk in its relation to infantile digestion, will be arranged so as to have a direct bearing on the ordering and preparation of foods for infants and the treatment of their nutritional disorders. This practical work is considered to be essential, as by this means the practitioner will be able to obtain that accurate knowledge which can only be obtained from practical work. The remaining demonstrations will be clinical and will deal with the treatment of the diseases and disorders of nutrition, dietetic and otherwise. The classes will be limited by the available laboratory accommodation. All further information can be obtained from Mr. Alfred J. Small, secretary of the hospital, Vincent-square, Westminster, London, S.W.

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If the amboceptor is concerned in performing the office suggested in connexion with the appropriation of carbohydrate by incorporation into bioplasm, it may not unreasonably be considered to be similarly concerned in the transmutation of sugar into glycogen in the liver. The passage of sugar into glycogen constitutes a building-up operation. There are grounds for believing that the sugar in the first instance becomes taken into bioplasm. Afterwards, from the redundancy existing, a shedding off in the form of glycogen would follow, in conformity with what is conceived in circumstances of the kind to ordinarily occur. Viewed in this way, the amboceptor, if needed for the bioplasmic assimilative operation, may be reckoned to be also needed for the transmutation of sugar into glycogen in the liver.

Experience in connexion with diabetes points strongly to a fault of the nature here depicted, standing at the foundation of the show of sugar that occurs. In the passage of ingested carbohydrate to its natural destination, a certain chain of events is passed through. A faulty link in the chain, through such a defect as has been spoken of, would suffice to lead to a breakage of action continuity. A faulty cog in the metabolic mechanism is amply sufficient to account for the arrested progress of onward movement that renders itself perceptible through the sugar that comes into, and ought not to come into, view.

The theory of

GLYCOLYSIS, AS ENUNCIATED BY LÉPINE,

appropriately falls in here for consideration. As long as Lépine held to the canons of the glycogenic doctrine, which imply destruction, and thereby disappearance, of sugar in the transit of the blood through the systemic capillaries, there was a show of reason in seeking for an explanation of the disappearance. But how does the matter stand when he retires from his former position and denies the occurrence of the disappearance? This, *in reality*, is the issue of his recent experimental work, evidence being adduced by him showing the existence of more sugar (instead of less) in the blood returning by the veins than in that contained in the arteries. He, at the same time, speaks of a *virtuel* sugar (which I take to be the same as my combined or locked-up carbohydrate) as a source of the sugar that thus comes into view.

Lépine now endorses what I have all along contended for —namely, that there is not the evidence of sugar being destroyed in its transit through the systemic capillaries that was formerly taken to exist. If such be the case, glycolysis stands upon nugatory ground, and it has always been a mystery to me how a proposition resting upon so inconsistent and illogical a basis should have received the attention that has been given to it.

Even supposing there should be an element of truth contained in the results derived by Lépine from his pancreatic extract and blood incubation experiments, I think a different interpretation can be assigned to them from that which he has given. On the question of validity, the general opinion is that they are open to mistrust, but supposing any loss of sugar to have taken place, may it not have been

THROUGH INCORPORATION INTO BIOPLASM INSTEAD OF THROUGH DESTRUCTION?

He affirms that the leucocytes are mixed up with the action, and likewise that chyle, with its lymphocytes and absence of red corpuscles, possesses greater glycolytic power than blood.

The trend of all modern work is to point to the chemical actions connected with living matter being of an intramolecular nature, and it is difficult to conceive that action occurring outside the living molecule, as Lépine contends for, can constitute the mode of operation. No one thinks of structural formative power being otherwise than associated with the operations of actual living matter. Ought not the chemical phenomena to be viewed in the same way?

Under the assumption of the occurrence of glycolysis in the blood, Otto Cohnheim and others, particularly on the American side of the Atlantic, speak of diabetes being due to sugar failing to be *burnt* in the system. Nothing could be more gratuitous, unfounded, and misleading. There is not a particle of evidence to show that defective oxidising power exists in connexion with diabetes. The real fault is a condition antecedent to the oxidising operation. The food carbohydrate, when permitted to reach the general circulation in the form of free sugar through failing to be assimilated, cannot do otherwise than run off with the urine, and thence escape being placed in a position to undergo oxidation. In the case of the dissociation of sugar from built-up bioplasm in the "composite" type of diabetes, there is no ground for thinking that defective oxygenating power has anything to do with the matter. Whilst the sugar molecule is being thrown off by the operation of a *wrong lytic action, oxidisation is proceeding* in an ordinary way to permit of life being maintained.

I will now pass on to the consideration of a subject which holds a position of great importance in connexion with diabetes. I have dealt at some length with the incorporation of carbohydrate in the building up of bioplasm, and, under a redundancy, with its dissociation in the form of glycogen as a storage material to be subsequently brought into use when need may arise. As glycogen is of higher construction than the sugar which enters the molecular complex, the transmutation operation must be looked upon as constituting the result of building up.

Dissociation of carbohydrate in another form—that of sugar, occurs in association with

THE PATHOLOGICAL STATE EXISTING IN THE SEVERER KIND OF DIABETES.

To this kind of diabetes I have applied the term "composite," because the eliminated sugar is derived from a twofold source. It comes in part from defective assimilation of the food carbohydrate, and in part from the carbohydrate which has been previously put into combination, and is, from a wrong katabolic action, dissociated.

There must be a flaw of some kind or other in the bioplasmic mechanism to lead to this dissociation of sugar. When the normal katabolic procedure passes on to its proper destination, metabolism proceeds to the attainment of an exhaustion of the latent energy contained in the food-stuff products that are being utilised, and the end-products consist *of carbon dioxide, water, and ammonia*. In the place of progress to this natural destination, it is found, in the condition being referred to, that the chain of continuity in the bioplasmic mechanism is broken in a manner to lead to the dissociation of sugar. An influence is brought into play which leads to the sugar being broken off from the bioplasmic complex, and, perforce, carrying with it unutilised energy.

This

MOLECULAR DISRUPTION ATTENDED WITH THE DISSOCIATION OF SUGAR

stands, in reality, in the position of a reversed natural action, occurring in place of the line of change that ought to be passed through. The built-up molecule, under the influence of the environment existing, fails to continue functioning in a proper manner, and, instead, undergoes the dissociation observed. As we have already seen, a similar disruption occurs whilst blood impregnated with phloridzin is circulating through the kidney. *Away from* the kidney, phloridzin exerts no action, but in association with a condition supplied by the kidney structure, it brings about, after the manner of enzymic agency, the severance noticed.

I must here state that, because a *certain amount of sugar* is being eliminated upon what may be regarded as a properly restricted diet for diabetes, it must not necessarily be taken that the sugar is derived from the wrong breaking-down process being referred to. Meat contains a limited quantity of free carbohydrate. It also contains locked-up carbohydrate in its protein ingredient. From these sources, sugar may pass into the urine in a purely alimentary case of diabetes. If it does, the *defect in* carbohydrate assimilative power must be of an extreme character and closely border on the next step in which, in addition to the absence of assimilative power, there is a commencing breaking-down of protein in which carbohydrate has been previously locked up.

Facts can be adduced in substantiation of the proposition just set forth. I have now and then observed in cases of diabetes without the coexistence of associated elimination of the acetone series that, after a large quantity of meat taken details of a new hospital in Peking which promised to achieve a far-reaching success in the future. Mr. Daniel M. O'Connor, in proposing the toast of "The Association," roused his audience to great enthusiasm by his whole-hearted advocacy of the claims of Irish medical men and the proceedings terminated after the President had replied.

THE WEST OF ENGLAND EYE INFIRMARY, EXETER.—The committee of the West of England Eye Infirmary has received £2460 towards the £3000 required to erect a new wing which is to be built to celebrate the "centenary" of the institution. It is hoped that the remaining £540 will shortly be subscribed.

A DINNER was given on Monday, Nov. 23rd, at the Trocadéro Restaurant to Sir Robert W. Burnet, honorary physician to H.R.H. the Prince of Wales, to celebrate the fact that Sir Robert Burnet has been recently knighted. Sir J. Dickson-Poynder, M.P., presided, and among the medical men present were Sir Thomas Barlow and Inspector-General J. Porter, Director-General of the Medical Department of the Royal Navy.

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The agents producing the acidosis are the

β-OXYBUTYRIC AND DIACETIC ACIDS.

The former is the acid started with, and from it the latter is evolved by oxidation, and this, by escape of carbon dioxide, passes into acetone. The bodies are thus linked together into a series, and in speaking of their source, the question resolves itself into that of β-oxybutyric acid.

From chemistry we learn that butyric acid stands as a lower member of the class of fatty acids to the higher members of which belong stearic, palmitic, and oleic acids, components of the fats largely occurring in the human body. In the process of oxidation, it is usually the β carbon atom of the fatty acids which primarily, both inside and outside the living organism, becomes oxidised. By oxidations in the β position, followed by hydrolytic cleavage, descent can be made from a higher to a lower member of the fatty acid series. A succession of these downward steps leads to the formation of butyric acid, which subsequently passes, by oxidation, into β-oxybutyric acid. In this way, the derivation of β-oxybutyric acid from the normally occurring higher fatty acids can intelligibly be accounted for.

Now, such being the chemical position in which oxybutyric acid stands, ought we not to look to fat for its clinical source? Fat has been already spoken of as a constituent of the bioplasmic complex, thereby standing in the same position as carbohydrate. By wrong katabolism, we have seen that sugar is thrown off, and it is only an analogous procedure for the throwing off of oxybutyric acid likewise to occur. Under the existence of a redundancy, fat and glycogen are thrown off as a normal occurrence for storage purposes, and these are both of them principles suitable for storage on account of the non-diffusible property they possess. In the case, on the other hand, of the abnormal dissociations spoken of, in each instance alike the product thrown off is of a diffusible nature and thereby incapable of retention in the system. Hence the elimination of both the sugar and the oxybutyric acid with the urine.

Sugar, under the circumstances, is the result of a faulty molecular breaking down, and must not the same be said of oxybutyric acid? The two seem to stand in a parallel position, carbohydrate in the one case, and fat in the other, being implicated, but not necessarily acted upon by the same specific cause. As to what stands at the foundation of the intramolecular error that is attended with

DISSOCIATION OF OXYBUTYRIC ACID

is beyond us at present to discuss. The fact of the dissociation is a point of the deepest clinical interest, and I will proceed to give consideration to it, setting forth the information that we can claim to be possessed of, that will help us in dealing with the matter as medical practitioners.

It would seem, from the fact that acetone is not absolutely a foreign body in connexion with the normal state, that there must be some subsidiary action normally occurring in the direction of its production. Under certain conditions, the acetone bodies come into more prominent view. Amongst these may be mentioned, starvation and other conditions of a nature to lead to inanition, the exclusion of carbohydrate from the food as by restriction to a flesh and fat diet, and some febrile diseases, especially when occurring in children. In these cases, the bodies in question do not show themselves to a sufficient extent to produce any damaging effect; there is, however, another class of case with associated acidosis to which attention has been recently directed—delayed chloroform poisoning and cyclical or recurrent vomiting in children —where fatal effects as in diabetic coma have been observed to occur.

It is ordinarily in connexion with diabetes that the elimination of the acetone group assumes significance. With no other disease is it in a like manner associated. It had been for a very long time known that the urine and breath of diabetics might possess a peculiar odour, since found to be attributable to acetone, but until the recognition of diacetic acid in the urine by Gerhardt of Berlin in 1865, no idea existed of the intrinsic nature of this associated condition from which such serious consequences may arise in connexion with diabetes. Although the cleavage process that leads to the appearance of the bodies is virtually independent of that which leads to the dissociation of sugar, yet experience shows that some kind of relationship exists between the two. They seem, in other words, to march on in a parallel manner together.

If a case is dealt with in a way to permit of the elimination of a large quantity of sugar, which implies that the system is being subjected to the toxic influence of the sugar traversing it preparatory to elimination, sooner or later the acetone series may be expected to come into view. It is true it may happen, only very rarely have I seen it do so, that through want of proper attention being given to food, a more or less marked amount of sugar may be voided for several years without the acidosis condition becoming developed. At the same time, however, the patient, in the circumstances specified, is not exempt from the supervention of the other ill-effects arising from the toxic action of the sugar in the system, and has to pay the penalty for the injudicious course taken, by becoming the subject of neuritis, gangrene of the toe, carbuncle, cataract or some other concomitant trouble.

There can, I consider, be no doubt that individuality has much to answer for in connexion with the supervention of the

ACIDOSIS CONDITION.

With a sensitive, high-strung nerve organisation, experience leads me to look for a proneness to the appearance of acidosis. In persons of a worrying, restless, dissatisfied nature, its greater liability to show itself gives an increased gravity to this class of case. Perhaps the greater liability to show itself depends upon the nature alluded to constituting an unfavourable factor in connexion with the progress of the disease itself. In children, it is ordinary for it to set in close to the onset of the disease, and for it soon to assume a more or less pronounced character. Moreover, in children it does not usually disappear during the time the sugar is susceptible of removal by dieting, as it may do in the adult.

I have already stated that, apart from diabetes, the acidosis condition is susceptible of being evoked by, amongst other causes, absence of food. Deprivation of carbohydrate alone suffices to act in a similar way. Now, food is found to constitute an influencing factor on the elimination of the acetone bodies in the diabetic, and it here stands in a position to be invested with bearings of the deepest importance. According to the reading adopted of the results producible by food on the acetone bodies in diabetes, the medical practitioner may be conducted along a right or a wrong path in the treatment of the disease. In the interests of medical art, and, through it, of the patient, the subject therefore demands consideration of the broadest, the most substantially grounded, and the most judiciously weighed nature, that can be brought to bear upon it.

Experience shows that the acidosis which occurs in connexion with diabetes is influenced in the manner I will proceed to speak of by the

EFFECT OF THE RESTRICTION FROM CARBOHYDRATE FOOD

which is put into force in bringing down the sugar in the treatment of the disease. I have been in the habit, for several years past, of having the urine examined for the acetone series in all cases as a part of the examination conducted. The routine plan has been to look for diacetic acid, and this, in a multitude of instances, has been supplemented by looking also for acetone, and, in many instances, likewise for oxybutyric acid. In this way, some thousands of reports upon the point have passed under my notice, and when a positive result has been obtained, a measure of quantity has been inserted by + signs ranging from one up to five or six. It is upon this evidence that what I am about to state is founded.

As a preliminary, it must be mentioned that what is comprised under the term "restricted" diet has a very varied meaning. In reality it should mean the exclusion of carbohydrate as far as can be practically done, and this implies that the substitute for bread-stuff employed should be virtually, and not merely nominally, free from starch.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Children Bill.

THE Children Bill has passed through all its stages in the House of Lords. The assent of the Commons has still to be obtained for the amendments which have been introduced into it in the Upper House.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 25TH.

Education Authorities and Medical Inspection.

Mr. ASHLEY asked the President of the Board of Education whether the Board had taken upon itself under Section 13 (1) (b) of the Education (Administrative Provisions) Act, 1907, the task of deciding the relative status of educational and medical officers employed and paid by local education authorities.—Mr. RUNCIMAN replied: I am not sure what the honourable Member means but I am not aware of any decisions of the Board to which his description would apply.

Mr. ASHLEY further asked the same right honourable gentleman whether, as stated on p. 4 of the Board of Education Circular 576, relating to medical inspection, it was the duty of the Board, under the Education (Administrative Provisions) Act, to give directions to local education authorities regarding the method of inspection; and, if not, whether he would withdraw the circular so giving directions.—Mr. RUNCIMAN answered: The Circular No. 576 was obviously of a preliminary character as it was issued on Nov. 22nd, 1907. It was certainly the duty of the Board not to leave local education authorities without such advice and guidance in the initiation of the work of medical inspection as in the Board's opinion would conduce to efficiency and economy, and such advice and guidance have, in fact, been heartily welcomed by the local education authorities and their officers with a very few exceptions throughout the country. The question of enforcing the circular has not arisen, and, indeed, cannot arise.

Mr. ASHLEY also asked the right honourable gentleman whether the last three lines of page 8 of the Board of Education Circular 576 were the only part of that circular which it was not *ultra vires* for the Board to promulgate or to enforce; and whether, as stated on page 11, that circular was of a preliminary nature only.—Mr. RUNCIMAN said in reply: I do not think the circular can be properly described as in fact giving directions outside the Board's competence. The whole of the circular, (as was stated in paragraph 18, was of a preliminary nature only. The matter is now dealt with definitely in the code.

THURSDAY, NOV. 26TH.

Deaths in an Irish Orphanage.

Mr. MACCAW asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the circumstances attending the death of nine inmates of the Mount St. Vincent Orphanage at Limerick and the illness of 44 others, as the result of eating meat which had been kept five day [illegible] ked; whether this orphanage recei [illegible] ether it was inspected on behalf of [illegible] was intended to take any action [illegible] and lives of the inmates of this [illegible] RELL replied: My attention has been called to this case. The institution is [illegible] pitation grant from the [illegible] It also receives contri- [illegible] as always been regarded [illegible] eland. This unfortunate occurrence was a misadventure which might have happened anywhere and is deeply regretted by the managers of the school.

Deaths under Anæsthetics.

Mr. COOPER asked the Secretary of State for the Home Department whether his attention had been drawn to an inquest held on a boy named Alfred Lebathe, aged 12 years, who died at the Metropolitan Hospital during the administration of an anæsthetic and before an operation was commenced; and whether he had had any answer to his communication with the General Medical Council as to the advisability of in future [illegible] of anæsthetics should form a part of [illegible] dent. Mr. COOPER further asked the [illegible] her his attention had been called to [illegible] roner for the City of London that only [illegible] curring under anæsthesia in private [illegible] he registrar or coroner; whether the [illegible] neral showed that an average of three [illegible] of an anæsthetic occurred in the hospitals of England and Wales each week; and whether he would consider the advisability of appointing either a commission or making a grant to the Royal Society and asking that society to appoint a committee to inquire into all the facts of deaths under anæsthesia, and to advise generally as to the conditions to be observed and regulations to be carried out when an anæsthetic was administered.—Mr. GLADSTONE (by written answer) replied: I will answer both questions together. My attention has been drawn to several statements on this subject, including that of the coroner for the City of London, to the figures in the Registrar-General's report, and to many cases of inquests on persons who have died under anæsthetics. The Lord President of the Council, through whom I communicated with the General Medical Council, informs me that he understands a reply may be expected in a very few days from that body which is now in session. As I have stated before, the question of holding a formal inquiry must be postponed, at any rate till I know what action the medical authorities are prepared to take.[1]

Beri-beri on Merchant Ships.

Mr. COOPER asked the President of the Board of Trade whether he had received the report of the Special Committee of the Royal College of Physicians on the subject of beri-beri on merchant ships, and, if so, when it would be published.—Sir HUDSON KEARLEY (the Parliamentary Secretary to the Board of Trade) furnished t [illegible] A report by the Committee of the Royal Col [illegible] beri has been received, but it contains no [illegible] the subject and the Board of Trade does not propose [illegible] Committee suggested that a Commission which is at present at work at Kuala Lumpur on the subject of Beri-beri might throw some light on the matter and the Board of Trade is awaiting the report of that Commission.

MONDAY, NOV. 30TH.

The Sanitary Condition of Barracks.

Mr. ASHLEY asked the Secretary of State for War whether he would grant a return showing the barracks in the United Kingdom which were reported by the Army Medical Department to be in an indifferent sanitary state, as judged by modern standards.—Mr. HALDANE replied: It is quite obvious that owing to the date of the construction of the barracks many of our buildings must necessarily fall short of what is considered desirable in these days. I am not prepared to admit that any of them are in a dangerous condition and I cannot agree that the return asked for should be compiled.

Notification of Pauper Consumptives.

Mr. VIVIAN asked the President of the Local Government Board whether he could see his way in the proposed legislation for making compulsory the notification of consumption in the case of paupers to extend the proposal of compulsory notification to all cases of consumption.—Mr. BURNS answered: I do not contemplate legislation on this subject at the present time. The action I propose to take as regards the notification of consumption in Poor-law cases will be taken under the existing powers of the Local Government Board and must, I think, be limited to such cases.

TUESDAY, DEC. 1ST.

Malarial Fever in India.

Mr. REES asked the Under Secreta [illegible] malarial fever prevailed to an abnorm [illegible] parts of Bengal and Bombay; and if so, [illegible] taken by the Government of India to [illegible] epidemic.—Mr. BUCHANAN answered: Malarial fever has been exceptionally prevalent in the United Provinces and the Punjab, and to a less extent in Bombay, and has affected both the European and Indian population. The epidemic began in October last and a telegram received this morning reports it to be rapidly declining. To combat the disease [illegible] has been largely distributed free of charge, travelling dispensari [illegible] places much attention has been paid [illegible] The causation of the disease is under investigation [illegible] medical staff.

White Phosphorus and Necrosis.

The Earl of RONALDSHAY asked the Secretary of State for the Home Department how many manufacturers in this country employed white phosphorus in the manufacture of matches; and how many cases of necrosis there had been in each such factory in each of the last five years.—Mr. GLADSTONE said in reply: There are ten firms using white phosphorus in the manufacture of matches. One firm has had five cases of necrosis during the last five years; the other firms have had none. This result has only been attained by means of an elaborate and costly system of regulation. Moreover, as intimated in the memorandum prefixed to the Bill now before the House, recent events have shown that the existing regulations are insufficient to remove entirely the risk of necrosis, and that even more stringent regulations would be required if the use of white phosphorus were to be continued..

WEDNESDAY, DEC. 2ND.

The Inspection of Fever Hospitals.

Mr. WATT asked the President of the Local Government Board whether any independent inspection was made by his department of [illegible] ublic corporations; and if not, would he [illegible] instituted, in view of the fact that the [illegible] ortunity of judging of these than in the case of general hospitals.—Mr. BURNS replied: A fever hospital provided by a local authority would not be inspected by a medical inspector of the Local Government Board in the ordinary course. The responsibility for the proper administration of such a hospital rests with the local authority, though in some instances where there has been a complaint of mal-administration the Board have caused an investigation to be made. Moreover, where the district of a sanitary authority is inspected by a medical inspector he would include the hospital of the authority in his inspection. It does not seem to me necessary that any change should be made in the practice in this matter.

Mr. WATT: Arising out of that answer, may I ask whether my right honourable friend is aware that a number of these fever hospitals have in late months been found in a very unsatisfactory condition?

Mr. BURNS: If my honourable friend, or anyone else, will give me the instances I shall be pleased to break through the ordinary rule and send medical inspectors to look into matters.

HOUSING AND TOWN PLANNING BILL.

County Medical Officers.

Standing Committee "B" of the House of Commons had under consideration on Wednesday, Nov. 25th, Part III. of the Housing and Town Planning Bill, which deals with the appointment of county medical officers. Sir F. CHANNING presided. The first of the clauses imposes the duty on every county council to appoint a medical officer of health under Section 17 of the Local Government Act, 1888.

Sir F. POWELL moved an amendment to provide that the officer should not be removeable except by, and with the consent of, the Local Government Board.

Mr. BURNS could not agree to the amendment but he would accept certain amendments standing in the name of Sir John Dickson-Poynder. These were: "(1) A medical officer of health for the county shall be removeable by the county council with the consent of the Local Government Board, and not otherwise. (2) Any such medical officer shall not be appointed for a limited period only. (3) A medical officer of health appointed under this section shall not engage in private practice and shall not hold any other public appointment by the food principles—namely, that they became elaborated into chyle, which served as a feeder to the blood. It is only in more recent years, as I have previously notified, that the shunting on to a wrong track has occurred, and that, notwithstanding chyle so obviously consists of elaborated food, the food principles have been looked upon as reaching the circulation in an uncombined, small molecular state, for transmission in such state to the tissues.

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[1] See THE LANCET (current issue), p. 1682.

The view I am advocating not only fits in consistently from beginning to end with what I take to be properly read physiological considerations, but supplies a working basis for the treatment of diabetes which places us upon perfectly intelligible ground. It provides for the occurrence of assimilative action preparatory to the circulation being reached, and thereby for conveyance in an assimilated state to the seat of utilisation. Thus circumstanced, the digested food products are not in a condition to run off with the urine in traversing the kidney, but stand in the blood as a retainable reserve, ready to be drawn upon by the tissues as need may arise.

To mal-assimilation of carbohydrate food is to be assigned the error existing in diabetes, and what is wanted to be effected by treatment is

RESTORATION OF THE DEFECTIVE ASSIMILATIVE POWER.

Restore this power, and the patient will be no longer diabetic. Assimilative power being restored, he will then be able to take carbohydrate, and this, meeting with the power to assimilate it, will no longer pass through the system as sugar to be thrown out as waste material with the urine.

Restoration of carbohydrate assimilative power, then, is the goal of the medical practitioner in the treatment of diabetes. For the attainment of his object, it may without hesitation be said that food is the prime factor to be brought into play. Sugar in the system is the baneful agent, and unless this is brought down, no real good can be expected to arrive. The toxicity of the sugar will nullify every other effort. If the sugar can be reduced and removed, the foundation is laid for the desired restoration of assimilative power, whilst in the absence of its reduction, the condition, with varying degrees of rapidity in different cases, may be reckoned upon to grow worse and worse.

This being found from practical experience to be the case, any hypothesis which encourages the idea that it is a natural condition for free sugar to be reaching the circulatory system from carbohydrate food acts detrimentally to the interests of the art of medicine by suggesting the absence of the need for putting into force the one measure that the circumstances show to be essential for beneficial treatment. Upon these premises, the medical practitioner has ground for exclaiming against the misguiding influence derived from his physiological training. But physiologists see nothing of the testing of the truth of their teaching that is afforded by the application of endeavours to correct the physiological error constituting the source of diabetes, and they thereby are shut off from the enlightenment contributed by practical medical experience.

It will be seen that under this view the error is located in the first link of the metabolic chain instead of the last, which is assigned as its seat under the glycogenic doctrine. There is absolutely nothing to lend support to the view that the fault in diabetes (the simple or alimentary form of it) consists of a non-consumption of carbohydrate, except in so far as consumption is prevented by exit in the form of sugar with the urine in consequence of being permitted to enter the circulation as free sugar.

With faulty assimilation, as represented, at the foundation of diabetes, it is perfectly intelligible how it is that sugar finds its way into the urine from the food. From the principle of action involved, it is also explicable how the blood and urine under normal conditions remain unaffected, in relation to sugar content, in the face of the very varying quantities of carbohydrate ingested. Under all circumstances, alike in health and diabetes, as long as the carbohydrate taken is within the assimilative power existing, it becomes assimilated, and thence fails to reach the blood and urine as sugar, whilst should it surpass in amount the power existing to assimilate it, that which is not assimilated will find its way as sugar into both blood and urine.

This harmonises with what is observed in cases of diabetes in which the curtailment of carbohydrate tolerating power is susceptible of being displayed—that is, in the alimentary type of the disease. Experience tells us that varied extents of tolerating capacity are found to exist and that they are associated with a very sharp boundary line. The ingestion of carbohydrate within a given quantity fails to produce any visible effect, whilst if the given quantity is exceeded by ever so little, sugar is discoverable in the urine in proportion to the extent to which the line has been overstepped. It is easy to understand that there may be a definitely limited assimilative power—indeed, there is a definite limit to the assimilative power existing in the healthy state—and that whilst the power that exists surpasses that required for the work to be performed, there will be no show of anything wrong, whereas if the work to be performed—the amount of carbohydrate to be assimilated—should exceed the power to perform it, the effect will be that the work which escapes being performed will render itself manifest by the unassimilated carbohydrate passing into the circulation as sugar, and thence flowing off with the urine.

Regarded in this way our position in relation to the management of diabetes becomes one of great clearness and simplicity. We know precisely the ground upon which we stand, and can shape our measures into form with great definiteness to bring about a desired result. How, on the other hand, does the matter stand under the supposition that it is natural for the food carbohydrate to traverse the circulation in the form of sugar? Not the slightest relationship is discoverable between the proposition and the working result obtained. Whatever may be effected by the measure adopted, no rational explanation applicable to it can be educed from the proposition.

Restoration of carbohydrate assimilative power is, as I have said, the great object to be attained in the treatment of diabetes and, as I have further said, for the attainment of this object, it is necessary to reduce and remove, by dietetic measures, the sugar which is acting perniciously in traversing the system. The primary effect of the removal of sugar from the urine is to bring back health and strength to the patient. Virtually, as long as the urine is maintained in a sugar-free state, there is nothing to exert a damaging influence upon the system, and the only perceptible difference existing between a patient in this state and a healthy person is the different effect arising from partaking of carbohydrate food. Only when such food is taken beyond the power existing to assimilate it does the patient betray the existence of anything wrong.

Restoration of health is something for the patient to be thankful for, but this is by no means all that the removal of sugar from the urine by proper dieting effects. By maintaining a sugar-free state of urine—in other words, by maintaining a normal state of things within the system,—Nature steps in and starts mending what is wrong by reinstating the lost assimilative power. In this way there occurs a reversal of what happens whilst sugar is pervading the system, for here there is an advancing loss taking place, as is testified by the progressive growth of a case previous to the disease being recognised and dietetic treatment adopted. At first the condition may be mild, so much so as not to excite attention, when it may be taken that a considerable amount of assimilative power exists, and then, with the growth of the symptoms, a fall of power must obviously be taking place.

When a case falls under observation, everything depends, with respect to capacity for and

SPEEDINESS OF RESTORATION OF ASSIMILATIVE POWER,

upon the extent to which the disease has become developed. If only of recent onset, a few days may suffice for the removal of the sugar, and, shortly after, for signs to present themselves of returning power; whilst if the disease has, through faulty management, been allowed to run on into the development of a thoroughly established condition associated with marked acidosis, the prospect is a poor one of being able to bring about the requisite control of sugar elimination to permit of anything otherwise than continued progress in a wrong direction being looked for. The presence of acidosis is not by any means, it may be said, to be regarded as a bar to subsequent satisfactory progress. It is the point to which it has advanced that determines the issue. I have known cases where more or less return of assimilative power has occurred notwithstanding a considerable amount of acidosis has existed to start upon.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle-street.—House Surgeon. Salary £80 per annum, with board and residence.
LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, non resident, for six months. Salary at rate of £75 per annum.
LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing.
MANCHESTER ROYAL INFIRMARY.—Medical Officer for six months. Salary at rate of £100 per annum, with board and residence.
MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salaries £55, with board and residence.
MEDICAL MISSION HOSPITAL SETTLEMENT OF WOMEN WORKERS, Canning Town.—Assistant Doctor (female) for six months. Board, residence, and laundry.
MIDDLESEX HOSPITAL, W.—Medical Registrar, Surgical Registrar, and Obstetrical Registrar.
NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.
NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £50 per annum, with board, &c.
NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Also Assistant. Salary of former £180 per annum, and of latter £150 per annum, with apartments, attendance, light, &c., in both cases.
NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £80 per annum, with board, lodging, and washing.
PERTH *DISTRICT* ASYLUM, Murthly.—Assistant Medical Officer. Salary £110 per annum, with rooms, board, and washing.
PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and washing.
POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Radiographer
PRESTON ROYAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.
PRESTWICH UNION.—Medical Officer and Assistant Medical Officer. Salary of former £150 per annum, and of latter £140 per annum, with apartments, rations, &c.
ROYAL EAR HOSPITAL, Soho.—House Surgeon for six months. Salary at rate of £40 per annum.
ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.
ST. LUKE'S HOSPITAL FOR MENTAL DISEASES, Old-street, London.—Clinical Assistant, unmarried, for six months.
SALFORD ROYAL HOSPITAL.—Junior House Surgeon. Salary at rate of £50 per annum, with board and residence.
SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.
SOMERSET, WILLITON UNION.—Medical Officer for the Urban Parish of Watchet. Salary £22 10s. per annum, with fees. Also Medical Officer for the Williton District of the Union. Salary £55 per annum, with fees.
SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum.
THROAT HOSPITAL, Golden-square, W.—Assistant Surgeons.
WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.
WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Assistant Surgeon.
WEST RIDING OF YORKSHIRE.—Assistant Medical Officer. Salary £350 per annum, rising to £400.
WORCESTERSHIRE OPEN-AIR SANATORIUM, Knightwick.—Medical Officer and Wife. Joint salary £150 per annum, with board and house.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act for Paddington and Marylebone, and for St. Pancras and Islington in the county of London, and for Rothwell in the county of Northampton.

Births, Marriages, and Deaths.

BIRTHS.

BARTON.—On Nov. 27th, at Lingfield-road, Wimbledon, the wife of P. F. Barton, M.A., M.B., B.C., of a daughter.
BLACK.—On Dec. 1st, at The Willows, Hailsham, Sussex, the wife of George Black, M.B., B.S. Lond., of a son.
GREENWOOD PENNY.—On Nov. 28th, at Marazion, Cornwall, the wife of S. Greenwood Penny, M.R.C.S., of a son.
HENRY.—On Nov. 27th, at Tresco, Kennington-road, S.E., the wife of G. Noel Henry, M.B., C.M., of a son.
HERDMAN.—On Nov. 22nd, at 3, Foxhill-gardens, Norwood, the wife of Dr. Ronald Herdman, of a daughter.
MILWARD.—On Nov. 28th, at Botton Park-road, Edgbaston, the wife of F. Victor Milward, M.B., F.R.C.S., of a daughter.

MARRIAGES.

FENOULHET—CAPON.—On Nov. 4th, at the Cathedral, Rangoon, Burma, Andrew Edward Colin (late Captain, 3rd Battalion, Royal Berkshire Regiment), elder son of Dr. E. C. Fenoulhet, J.P., and Mrs. Fenoulhet, Herne Bay, Kent, to Mary Elfrida Blanche ("Elsie"), elder daughter of Dr. and Mrs. Herbert J. Capon, of 43, Upper George-street, Bryanston-square, W.

DEATHS.

COLMAN.—On Nov. 18th, Walter T. Colman, M.R.C.S., L.S.A.
ELLISTON.—On Nov. 27th, at Southorne House, Felixstowe, William Alfred Elliston, M.D., J.P., in his 68th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DISEASES IN SOMALILAND.

IN his report on the Somaliland Protectorate for the year ended March 31st, 1908, the Commissioner, Captain H. E. S. Cordeaux, C.B., C.M.G., mentions that the periods when sickness is chiefly prevalent are the spring and autumn, in consequence mainly of the lack of wool clothing among the natives, who use cotton almost exclusively, with a blanket at night when they can get it. The experience of the last three years has been that it is impossible to provide blankets for the hospital patients, as they are invariably smuggled out and sold. A considerable degree of care is called for in preventing the importation of infectious diseases, both from the interior of Africa generally and from Abyssinia in particular. The rice ports of India and the date-exporting centres along the Persian Gulf have also to be watched in this respect. The native Somali is essentially temperate and seems naturally liable to few diseases. When ill they, as a race, are inclined to disregard the matter. To travel from the locality where they happen to be at the time is looked upon as a universal panacea. Returns from the united coast hospitals show that malaria is on the increase, the cases recorded having been nine in 1904, 117 in 1905, 539 in 1906, and 751 in 1907. The causes leading to this condition of affairs are: (1) the increase of vegetation in the neighbourhood of the dwelling houses; (2) the existing unsatisfactory drainage system; and (3) the lack of measures to prevent the natives from digging or using wells in the native part of the towns. The number of cases of dysentery in 1907 was 135, as against 62 in the previous year, but all were of a very mild type. There were three cases of beri-beri in the local gaol. Scabies was almost epidemic during the year. The number of cases of syphilis presented for treatment was only 77. This figure is particularly misleading in estimating the prevalence of the disease. As a matter of fact, it increased very greatly during the year, but usually only the very advanced cases present themselves for treatment and those who are also very poor. The reason for this is that all who can afford to do so journey to a small spot on the Arabian coast named Sheikh Mohil, situated about a day and a half marching from Mocha, which is the usual landing port for those proceeding to the place. The treatment at Sheikh Mohil is conducted on the water-cure principle. The water is drunk on the first day or so; afterwards the treatment is chiefly confined to bathing frequently. The patients are allowed goats' meat and milk, sweet oil and rice, and two ounces of dates when the cure has shown signs of progressing favourably. The following articles of diet are not allowed—viz., meat or milk of camel, sheep, or cow. This point is considered worth recording, as very unusual and speedy cures have come under notice. During the year 65 cases of tuberculous disease were treated, with 12 deaths. The climate of the protectorate is a naturally dry and uniform one. Both the diurnal variations and the changes of the seasons maintain a regularity of mean variation that is remarkable. There are two distinct seasons—the hot, from May to September, when the coast belt becomes true desert, and the cool, from October to April. There are two ranges of temperature. These maintain a pretty uniform relation one to the other. The coast range of temperature exists over nearly a 50 mile belt inland, reaching to the hills, and is some 10° F. above the second, or highland, temperature.

DEROGATORY.

To the Editor of THE LANCET.

SIR,—The London County Council has a regulation in force to the effect that medical men who lecture on First Aid and Home Nursing must submit a *form at the end of the course signed by themselves and countersigned as being correct* by the "Responsible Teacher." In this form the date of the lectures and the fee claimed are entered. The same form has to be submitted by nurses giving similar instruction. I consider this countersigning of the application is derogatory to medical men (who are appointed by the County Council) and is quite unnecessary. I think the Lecturers should resent it *en masse*.

I am, Sir, yours faithfully,
Nov. 28th, 1908. M.D.

BRANDY SOLD UNDER A FALSE TRADE DESCRIPTION.

AT the Westminster police court recently Edgar Thompson Gideon, a publican, was summoned under the Merchandise Marks Act, 1887, for exposing for sale brandy to which a false description had been applied in the form of a label placed on the bottle bearing three stars, below which was another label with the words, "James Hennessey and Co., Cognac." The defendant had recently given up the public house at which the brandy was exposed for sale, and the excuse put forward was the suggestion that a barman if dishonest would keep up the stock under his charge by such expedients as putting deceptive labels upon bottles containing inferior spirits, and that this had occurred in the case in question. The defendant gave evidence but was unable to explain further than this how the brandy had got into a wrong bottle He was fined £5 with £5 5s. costs. The medicinal use of brandy, which in the case of patients in humble circumstances must usually by the food principles—namely, that they became elaborated into chyle, which served as a feeder to the blood. It is only in more recent years, as I have previously notified, that the shunting on to a wrong track has occurred, and that, notwithstanding chyle so obviously consists of elaborated food, the food principles have been looked upon as reaching the circulation in an uncombined, small molecular state, for transmission in such state to the tissues.

The view I am advocating not only fits in consistently from beginning to end with what I take to be properly read physiological considerations, but supplies a working basis for the treatment of diabetes which places us upon perfectly intelligible ground. It provides for the occurrence of assimilative action preparatory to the circulation being reached, and thereby for conveyance in an assimilated state to the seat of utilisation. Thus circumstanced, the digested food products are not in a condition to run off with the urine in traversing the kidney, but stand in the blood as a retainable reserve, ready to be drawn upon by the tissues as need may arise.

To mal-assimilation of carbohydrate food is to be assigned the error existing in diabetes, and what is wanted to be effected by treatment is

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Restore this power, and the patient will be no longer diabetic. Assimilative power being restored, he will then be able to take carbohydrate, and this, meeting with the power to assimilate it, will no longer pass through the system as sugar to be thrown out as waste material with the urine.

Restoration of carbohydrate assimilative power, then, is the goal of the medical practitioner in the treatment of diabetes. For the attainment of his object, it may without hesitation be said that food is the prime factor to be brought into play. Sugar in the system is the baneful agent, and unless this is brought down, no real good can be expected to arrive. The toxicity of the sugar will nullify every other effort. If the sugar can be reduced and removed, the foundation is laid for the desired restoration of assimilative power, whilst in the absence of its reduction, the condition, with varying degrees of rapidity in different cases, may be reckoned upon to grow worse and worse.

This being found from practical experience to be the case, any hypothesis which encourages the idea that it is a natural condition for free sugar to be reaching the circulatory system from carbohydrate food acts detrimentally to the interests of the art of medicine by suggesting the absence of the need for putting into force the one measure that the circumstances show to be essential for beneficial treatment. Upon these premises, the medical practitioner has ground for exclaiming against the misguiding influence derived from his physiological training. But physiologists see nothing of the testing of the truth of their teaching that is afforded by the application of endeavours to correct the physiological error constituting the source of diabetes, and they thereby are shut off from the enlightenment contributed by practical medical experience.

It will be seen that under this view the error is located in the first link of the metabolic chain instead of the last, which is assigned as its seat under the glycogenic doctrine. There is absolutely nothing to lend support to the view that the fault in diabetes (the simple or alimentary form of it) consists of a non-consumption of carbohydrate, except in so far as consumption is prevented by exit in the form of sugar with the urine in consequence of being permitted to enter the circulation as free sugar.

With faulty assimilation, as represented, at the foundation of diabetes, it is perfectly intelligible how it is that sugar finds its way into the urine from the food. From the principle of action involved, it is also explicable how the blood and urine under normal conditions remain unaffected, in relation to sugar content, in the face of the very varying quantities of carbohydrate ingested. Under all circumstances, alike in health and diabetes, as long as the carbohydrate taken is within the assimilative power existing, it becomes assimilated, and thence fails to reach the blood and urine as sugar, whilst should it surpass in amount the power existing to assimilate it, that which is not assimilated will find its way as sugar into both blood and urine.

This harmonises with what is observed in cases of diabetes in which the curtailment of carbohydrate tolerating power is susceptible of being displayed—that is, in the alimentary type of the disease. Experience tells us that varied extents of tolerating capacity are found to exist and that they are associated with a very sharp boundary line. The ingestion of carbohydrate within a given quantity fails to produce any visible effect, whilst if the given quantity is exceeded by ever so little, sugar is discoverable in the urine in proportion to the extent to which the line has been overstepped. It is easy to understand that there may be a definitely limited assimilative power—indeed, there is a definite limit to the assimilative power existing in the healthy state—and that whilst the power that exists surpasses that required for the work to be performed, there will be no show of anything wrong, whereas if the work to be performed—the amount of carbohydrate to be assimilated—should exceed the power to perform it, the effect will be that the work which escapes being performed will render itself manifest by the unassimilated carbohydrate passing into the circulation as sugar, and thence flowing off with the urine.

Regarded in this way our position in relation to the management of diabetes becomes one of great clearness and simplicity. We know precisely the ground upon which we stand, and can shape our measures into form with great definiteness to bring about a desired result. How, on the other hand, does the matter stand under the supposition that it is natural for the food carbohydrate to traverse the circulation in the form of sugar? Not the slightest relationship is discoverable between the proposition and the working result obtained. Whatever may be effected by the measure adopted, no rational explanation applicable to it can be educed from the proposition.

Restoration of carbohydrate assimilative power is, as I have said, the great object to be attained in the treatment of diabetes and, as I have further said, for the attainment of this object, it is necessary to reduce and remove, by dietetic measures, the sugar which is acting perniciously in traversing the system. The primary effect of the removal of sugar from the urine is to bring back health and strength to the patient. Virtually, as long as the urine is maintained in a sugar-free state, there is nothing to exert a damaging influence upon the system, and the only perceptible difference existing between a patient in this state and a healthy person is the different effect arising from partaking of carbohydrate food. Only when such food is taken beyond the power existing to assimilate it does the patient betray the existence of anything wrong.

Restoration of health is something for the patient to be thankful for, but this is by no means all that the removal of sugar from the urine by proper dieting effects. By maintaining a sugar-free state of urine—in other words, by maintaining a normal state of things within the system,—Nature steps in and starts mending what is wrong by reinstating the lost assimilative power. In this way there occurs a reversal of what happens whilst sugar is pervading the system, for here there is an advancing loss taking place, as is testified by the progressive growth of a case previous to the disease being recognised and dietetic treatment adopted. At first the condition may be mild, so much so as not to excite attention, when it may be taken that a considerable amount of assimilative power exists, and then, with the growth of the symptoms, a fall of power must obviously be taking place.

When a case falls under observation, everything depends, with respect to capacity for and

SPEEDINESS OF RESTORATION OF ASSIMILATIVE POWER,

upon the extent to which the disease has become developed. If only of recent onset, a few days may suffice for the removal of the sugar, and, shortly after, for signs to present themselves of returning power; whilst if the disease has, through faulty management, been allowed to run on into the development of a thoroughly established condition associated with marked acidosis, the prospect is a poor one of being able to bring about the requisite control of sugar elimination to permit of anything otherwise than continued progress in a wrong direction being looked for. The presence of acidosis is not by any means, it may be said, to be regarded as a bar to subsequent satisfactory progress. It is the point to which it has advanced that determines the issue. I have known cases where more or less return of assimilative power has occurred notwithstanding a considerable amount of acidosis has existed to start upon.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie). 4.30 P.M., Lecture-Demonstration —Mr. R. P. Brooks: Optic Neuritis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Fungous Diseases of Hair: (1) Hyphogenic Sycosis; (2) Tinea.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. A. Turner: Epilepsy.
FRIDAY.—3.30 P.M., Mr. Armour: Surgery of the Nervous System.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck-street, W.

THURSDAY.—5 P.M., Dr. K. D. Macnamara: Syphilitic Affections of the Nervous System.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Thursfield: Pyelitis.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, [illegible] s (1.30 P.M.), Royal Orthopædic (9 A. [illegible] Gt. Ormond-street (9 A.M. and 2 [illegible] 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 3rd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Nov. 27	30 27	S.W.	...	72	53	45	47	48	Fine
" 28	30 07	S.W.	...	70	54	46	47	49	Overcast
" 29	30·25	S.W.	...	59	54	49	51	54	Overcast
" 30	30·40	S.W.	...	59	54	50	51	52	Overcast
Dec. 1	30 42	E.	...	47	45	44	44	45	Overcast
" 2	30 38	S.W.	...	46	45	39	38	40	Overcast
" 3	30 23	E.	...	41	41	39	39	40	Overcast

During the week marked copies of the following newspapers have been received:—*Birmingham Post, Scientific American, Stafford Sentinel, Manchester Evening News, Glasgow Herald, Hull Morning News, Edinburgh Evening Despatch, Wellingborough News, Morning Advertiser, Daily Telegraph, Liverpool Courier, Sunderland Echo, Doncaster Chronicle. Hartlepool Mail, Keighley News, Kent Messenger, Dublin Times, Belfast Whig, Glasgow Citizen, Leamington Spa Courier, Worcester Journal, &c.*

in myxœdema. This something has not yet been discovered, but science ought sooner or later to place us in a better position than we at present stand in relation to the matter. We, however, know that metabolism is influenced through the instrumentality of the nervous system, and this is suggestive that it may, in connexion with the point under consideration, be likewise open to being influenced in a collateral way by drug agency. I am a strong believer in help being given towards promoting the restoration of carbohydrate assimilative power by the administration of opium and some of its derivatives.

THE AGGLUTINATING POWER IN TUBERCULOUS PATIENTS: SERUM DIAGNOSIS AND SERUM PROGNOSIS.[1]

BY PROFESSOR PAUL COURMONT,
OF THE UNIVERSITY OF LYONS.

THE serum diagnosis of tuberculosis is one of the most commonly employed and most certain of the laboratory methods for the diagnosis of tuberculosis. It is practised, like that of typhoid fever, by mixing the serum of the patient with a certain quantity of liquid homogeneous culture of the bacillus of tuberculosis.

I.—*Historical.*

It is known that the usual culture of the bacillus of Koch cannot be utilised for agglutination. It was Professor Arloing who, in 1898, having obtained a fluid homogeneous culture of the bacillus of Koch, produced agglutination by serum procured from tuberculous patients or animals, and thus introduced the serum diagnosis of tuberculosis. Professor Arloing and myself then perfected the method, determined the best manner of cultivating the homogeneous cultures, applied the sero-diagnostic method to hundreds of patients, and made observations on the agglutinating power of blood in them and in animals which had been rendered tuberculous. I have investigated from a diagnostic point of view the nature of morbid serous fluids by means of the agglutinating power of those effusions, and have also examined pleuritic effusions with a view of obtaining aid in relation to prognosis.

The Lyonese method is now employed almost everywhere; opinions on this question are very numerous; and many authorities can be cited who have confirmed our conclusions. If some observers have contested the importance and value of serum diagnosis this arises from their not having avoided the sources of error.[2]

II.—*Proofs of the Value of the Serum Diagnosis.*

The best proofs are the good practical results which have been obtained by means of serum diagnosis by a great number of observers. But there are two kinds of proofs which are specially conclusive.

1. *Statistical data obtained from bovine animals.*—In cows statistics can be collected in which the serum reaction can be confirmed by necropsy. Under these conditions Professor Arloing has proved that the serum diagnostic test is always negative when the cow is not tuberculous and positive in 90 per cent. when tuberculous lesions are present.

2. *Statistical data in regard to tuberculous pleurisy in man.*—In pleurisy occurring in the human subject the tuberculous or simple nature of the malady can be determined by the clinical phenomena and by means of inoculation and cytology combined. In such conditions amongst 112 cases we have never had a positive reaction with the pleuritic fluid when the pleurisy was not tuberculous; on the contrary, we had 76 per cent. of positive reactions when the pleurisy was tuberculous. If the results of the sero-agglutination with the blood serum of human beings (tuberculous or not) are apparently less easy to interpret, this is due to the variations of the agglutinating power according to the form, the gravity, the course, or curability of the lesions, according to the age of the subject.

III.—*Comparison of Serum Diagnosis and Tuberculin Reactions.—Advantages of Serum Reactions.*

If one compares the results given by serum diagnosis and tuberculin reactions (subcutaneous injections or ophthalmo-reaction) one sees that these methods give similar results but all advantages rest with serum diagnosis. With these three methods the results are positive in most cases of active tuberculosis, the cases which give no reactions being often the gravest; for instance, in advanced consumption. With these three methods the results are positive in a fairly large number of cases in which neither the clinical examination nor even sometimes the necropsy can discover tuberculosis. The concordance of the results proves that there is latent tuberculosis with very slight lesions often compatible with good health and which can only be discovered by very delicate laboratory methods.

It is also extremely remarkable that injection of tuberculin and serum diagnosis give about the same percentage of positive reactions in patients who are not evidently tuberculous (40 per cent. with serum diagnosis and 46 per cent. with tuberculin, according to Beck). It is also curious to see that the ophthalmo-reaction is positive in the typhoid cases just as the serum reaction is. At any rate, the few objections which one can make to serum diagnosis (errors occurring in feverish cases and in typhoid fever, and the too great sensitiveness of the method which responds to the slightest tuberculous conditions, even those compatible with health) apply equally to the injection of tuberculin and to the ophthalmo-reaction, as has been explained above.

The great advantages of the serum diagnosis are the following:—

1. *Absolute harmlessness*, since the taking of a little blood cannot give rise to accidents or inconvenience, which cannot always be said of the tuberculin and ophthalmo-reactions.

2. *Facility of application*, since a few drops of blood suffice and it is not necessary to watch the patients during the course of several days, as in the other two methods.

3. *Importance of the variations of the agglutinating power.*—Given the harmlessness and facility of application one can repeat the reaction as often as one likes, and the variations of the agglutinating power are of great importance not only for the diagnosis but also for the prognosis.

4. *Applications of local serum diagnosis*, which is impossible with any other method.

IV.—*Local Serum Diagnosis.*

The serum reaction is generally made with blood serum; in this case it gives only a general serum diagnosis, simply proving the general specific impregnation of the blood with a given infection, no matter where the lesions may be. But we have demonstrated recently the possibility and the good results of a local serum diagnosis. This is made with local effusion of the serous membranes, for instance, in pleurisy. We have proved that when a serous membrane is infected by tuberculosis a local reaction is produced and agglutinins are formed locally, independently of what happens in the blood. The positive serum reaction with the pleural fluid furnishes the proof of the local tuberculosis. Our numerous works on the subject (more than 200 cases of effusions, of which 115 were tuberculous pleurisies) have been confirmed by Mongour and Buard, Widal and Ravaut, Dieulafoy, Landouzy, Sabareanu and Salomon, Hawthorn in France; Bendix in Germany; Kazarinow in Russia; Marini, Marchetti, and Stefanelli in Italy, and other authors whose statistics are absolutely in accord with ours. The most conclusive results are given by pleuritic effusions. The fluid from tuberculous pleurisies produced agglutination (76 per cent. of the cases in adults out of 115 cases). Negative cases, although tuberculous, occurred almost entirely in the graver forms. The non-tuberculous fluids are not agglutinated even in a strength of 1 in 5 (with the exception of two or three doubtful cases). The agglutinating power of tuberculous fluids is ordinarily less powerful than that of the blood serum; but it may be sometimes more powerful, or can exist only in the pleuritic fluid and not in the blood. It would therefore seem that the pleural membrane can produce *in loco* an agglutinative substance.

In practice: 1. A positive serum reaction is a sign of great value in favour of the tuberculous nature of pleurisies. A careful comparison of the serum diagnosis with the cytology and the results of inoculation of fluid in the guinea-pig prove the absolute accordance of the three

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[1] Résumé of a paper read at the International Congress on Tuberculosis at Washington, 1908 (Section II.).

[2] The causes of error are discussed in detail in the paper published in the Proceedings of the Congress of Washington.

Three Lectures

ON THE

PATHOLOGY AND TREATMENT OF DIABETES MELLITUS, VIEWED BY THE LIGHT OF PRESENT-DAY KNOWLEDGE.

Delivered before the Royal College of Physicians of London

BY F. W. PAVY, M.D. LOND., LL.D. GLASG., F.R.S.,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL; HONORARY PHYSICIAN TO KING EDWARD VII. HOSPITAL.

LECTURE III.[1]

Delivered on Nov. 24th.

MR. PRESIDENT, COLLEAGUES, AND GENTLEMEN,—I will now give attention to the sugar that may fail to be assimilated at the seat of absorption. There are grounds for considering that, in the absence of any large ingestion of carbohydrate food, it becomes mainly disposed of at the seat of absorption. What, however, escapes being here dealt with, passes to the liver, and becomes checked from further progress by being taken into the cells and converted into glycogen. Thus the liver constitutes a second line of defence against the flow of absorbed sugar into the systemic circulation, obviating the production of more or less glycosuria that would otherwise ensue if the sugar flowed on instead of being stopped.

There is nothing in the

STOPPAGE OF SUGAR AND ITS CONVERSION INTO GLYCOGEN BY THE LIVER

cells but what is comparable to the effect that is capable of being produced by the agency of the living cells of yeast. By intracellular enzyme agency, condensation or synthesis of the sugar molecules with the elimination of water is evoked in like manner as is known elsewhere to occur, and the product constitutes a store ready to be drawn upon as need may arise.

It does not fall within the scope of the matter in hand to enter into the question of the transformation of carbohydrate into fat, but it may be stated that doubtless the liver performs a steatogenic office. It now stands as an established point that carbohydrate may constitute a source of fat, and the *foie gras* derived from the goose may be taken as affording an illustration of the liver being capable of functioning in this direction. The point to claim consideration is to see how the storage of carbohydrate under the form of glycogen in the liver can be transported to the seat of utilisation in the tissues without passing as free sugar, and thereby being placed in a position to flow off with the urine.. We learn from Bernard's puncture of the fourth ventricle, that if glycogen does actually escape from the liver in the form of sugar, the fact is revealed through the production of glycosuria, varying in intensity according to the amount present in the organ.

The glycogen of the liver constitutes simply a storage of carbohydrate derived from the food, and responds in amount to that of the sugar that may happen to be reaching the organ through the portal vein. There is nothing unintelligible connected with it. Its accumulation runs strictly in line with that occurring in unicellular organisms, of which yeast may be adduced as an illustration. It is open to common observation to find in living nature that redundant carbohydrate, wherever existing, is put for storage into a form like that of glycogen, starch, cellulose, &c., in which form it steadily remains till a demand for it arises, when enzyme action is brought into play, and it is broken down into suitably adapted molecules for appropriation to the purpose needed.

Glycogen is known to be a body of wide distribution in the various textures throughout the animal organism. Viewed in the manner represented, its origin is readily to be accounted for. Let it be supposed that carbohydrate is taken on by a biogenic molecular complex. If employed in the production of energy, it will be consumed and disappear. If not, and the supply of carbohydrate is kept up, it will be cleaved off and stored up under the form of glycogen.

The operation is analogous to what occurs in the case of fat.

FAT SIMILARLY ENTERING THE MOLECULAR COMPLEX,

if utilised will disappear, whilst if not utilised, may be thrown off and stored, accounting for the fat granules and globules discoverable in cells on microscopic examination. The term fatty degeneration is ordinarily applied to this condition, and it is viewed as pathological, but it is in truth representative of a widely occurring physiological operation. It is true, it may occur under circumstances where cell action has been interfered with by a damaged cell state. Here, certainly, it may be regarded as falling within the domain of pathology. Muscular growth in response to increased muscular work is truly a physiological phenomenon, but when the work which gives rise to the growth is of an abnormal nature, as, for instance, in the case of the heart under the influence of valvular disease or arterial sclerosis, the condition falls under the name of hypertrophy, and is regarded as pathological, although the line of action is the same. Thus, a line of action which may be claimed as pathological may be based upon a physiological operative procedure.

The gist of what I am endeavouring to urge is that it is within the protoplasmic molecular complex that the play of changes takes place which gives rise to the phenomena of life; that carbohydrate, fat, nitrogen-containing matter, and, in addition, oxygen enter this complex; that the interactions occurring are attended with energy production through the instrumentality of oxidation as a final result, and that when it happens that the oxidisable supply is taken on in excess of consumption by oxidation, it is cleaved off as storage material under the form of glycogen in the one case, and of fat in the other, and thus circumstanced, it is available for subsequent utilisation when demand for it may exist. What is observed to occur in connexion with the leucocytes of the blood, and with muscular fibres, stands in illustration of the two kinds of cleavage spoken of.

Glycogen, then, is to be regarded as simply a reserve of carbohydrate material, ready, as in the case of fat reserve, to be drawn upon and utilised when it becomes wanted. Its special accumulation in the liver is to be accounted for by the position in which the organ stands in relation to food-supply. The main purposes to which it becomes applied are bioplasmic growth and energy production. For the latter, the chief seat of utilisation is in the muscles, and here the storage amount present is found to be in a great measure dependent on the rate of usage. With limb muscles deprived of activity by nerve section or tendon division, observation has shown that a larger accumulation is met with than in the muscles of the other limb left intact. Conversely, observation has likewise shown that under exercise, as, for instance, when a muscle is tetanised, a decrease of glycogen takes place.

Külz showed by his experiments on previously well-fed dogs, that under very forced exercise, glycogen might be made almost completely to disappear from the muscles and the liver in about six to seven hours. As far as the muscles are concerned, the glycogen is lying close at hand and has simply to be taken by the bioplasmic material that uses it up. I consider it must be assumed that, as in the case of starch in the vegetable kingdom, the glycogen molecule requires to be broken down into sugar molecules before passing into the molecular complex in which consumption takes place, and it may be reasonably inferred that, in accord with what is commonly noticeable, there is concerted enzyme action set into play to bring about what is required.

With regard to the glycogen in the liver, which, as seen, equally disappears, this is seated at a distance from where utilisation occurs, and the point now to be considered is how it becomes transported from one spot to the other and meanwhile escapes being placed in a position to show itself in the urine. We know when it happens, as after Bernard's puncture of the fourth ventricle, that the glycogen passes into the blood in the form of free sugar, the fact is revealed through the medium of the urine, but we have no disclosure recorded of any glycosuric effect having been produced by forced exercise, notwithstanding the short period within which the liver has been found to have become emptied of its glycogen.

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[1] Lectures I. and II. were published in THE LANCET of Nov. 21st (p. 1499) and 28th (p. 1577), 1908, respectively.

No. 4450.

THE MILK-SUPPLY FOR INFANTS:[1] RECENT ASPECTS AND POSSIBILITIES.

BY WILLIAM EWART, M.D. CANTAB., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO ST. GEORGE'S HOSPITAL; SENIOR PHYSICIAN TO THE BELGRAVE HOSPITAL FOR CHILDREN, CLAPHAM-ROAD, S.W.

Human Infants as "Physiological Tests" for Sound Milk.

GOOD milk for infants is a national concern since physical deterioration of the race and depopulation by infant mortality and by tuberculosis are mainly milk questions. The general milk-supply, which has been a frequent channel for epidemic infections, has been the only one to receive legislative recognition and help. It gets the benefit of a vast experiment in which the test subjects are not animals but human infants and has enjoyed it long before the general adoption of this "physiological testing" for the proving of drugs and of poisons. There are no more sensitive reagents for the quality of milk than delicate infants; they are our expert milk tasters. From their verdict and too often from their painful and slow death (or, in summer, from their rapid decimation) we learn that our average milk as sold to the masses is not all that milk should be. For in our towns it is from the common supply that the plebeian infant as soon as weaned gets his pittance, losing at one stroke, through our neglect, that footing of equality with the well-to-do infant which nature had established for them in the shape of maternal milk and of its dairy substitutes.

Salus Infantum Suprema Lex.

The right of the infant to a sound milk-supply is the first of our liberties and its mother should show proof that it is being properly fed, not starved or poisoned. By law British subjects are not permitted to starve; and to guard them from disease everything is jealously watched—in the street, in the farm, and in the house. The only unprotected, and left to perish in their thousands, are the infants. "Infant starvation" is an ugly but true fact. Its causes are the hitherto inadequate teaching of the practical duties of woman; and, secondly, the exclusion of infants and children from that State protection which is extended to adult citizenship. There lies the great cruelty. But whilst we wait for State action a field is open for the benevolent in the practical prevention of cruelty to infants and children, not so much by prosecution as by help of example and of education.

It is appalling that hitherto no provision has been made for a "guaranteed" milk-supply for the infants of the poor. What may be retailed for their use nobody cares and nobody knows. Little wonder that the mortality from infantile diarrhœa should remain to this hour undiminished in spite of the conquests of hygiene in every other direction; for it is but too likely that summer diarrhœa really spells *summer milk poison.* We know, the dairyman may know, but the unfortunate infant's mother does not know. She is not even offered that warning notice of an unsuspected danger which the alternative offer of a "special" if not of a "guaranteed" supply for the infant might have given her.

The Guiding Principles in the Milk-supply for Bottle-fed Infants. Living Milk and Dead Milk.

A cursory review of this matter will suffice.

I. There is only one perfect milk for the infant—*the living milk* straight from the breast. This is confirmed by the clinical value of such makeshifts as asses' milk and goats' milk drawn at the infant's residence for immediate use. Among mammalia there is only one instance, our own, of any storage of dead milk for the young.

II. One of the perfections of mother's milk is that it is *highly specialised* for the infant. For it there is no complete substitute, and a satisfactory approximation is often difficult to find.

III. *Singleness of supply* is another of nature's principles. "To each infant its own cow," provided the best cow for it can be found. But in practice well-known objections are apt to arise.

IV. *Sustained quality* of the single supply is the most important but the least probable attainment. The quality of mother's milk will often vary, but its fluctuations are human. Those due to bovine distempers are more serious to bear and slower for infants to get over. It may be best to seek safety in numbers, and after all to administer herd milk—on the plan of inuring the infant to constant variety—for in milk feeding habit plays its part as in the rest of physiology.

V. Again, in its composition nursery milk should be the nearest approach to the maternal. This involves an artificial rearrangement of the constituents of dairy milk, and this is the great principle of *percentage milk,* which Professor T. Morgan Rotch of Boston has elaborated and applied, and to which further reference will be made.

VI. *The sine quâ non is absolute freedom from the agents of disease,* whether as in scurvy-rickets they be special to the milk or, as in tuberculosis and all other infections, imported into it. Absolute safety from infection must be insured in infants' milk at any cost, and by some method which cannot possibly ever fail in the working. An absolutely sterile milk is the only adequate safeguard. But so long as we cannot avoid using dead milk we must be quite sure that it has not lost those qualities of living milk which are essential.

The Defects and Risks of the Common Milk-supply.

We cannot but marvel at the insecure equilibrium of our safety among many modern dangers too giddy for thought. And this applies also to our milk-supply. Day after day nothing happens (at any rate perceptible at the surface) until something does happen, and it is a catastrophe in the shape of some epidemic. The best of dairy systems for the million must accidentally break down now and again, and it seems to have been hitherto impossible to guarantee any milk in the slums. Nevertheless, great improvements have taken place within the last few decennia under the persistent pressure of professional opinion and of the medical press and through the untiring efforts of our public health officers. Thanks to legislation, and also, it is only fair to add, to the willingness and coöperation of the rank and file of the milk trade, the average quality of the ordinary milk as a food, particularly in respect of the percentage of its normal constituents, has improved considerably and we have heard much less of milk epidemics. But it is our business to criticise, and there is still much to be done.

From the special point of view of infants the inherent evils or imperfections are the following: (1) the evil of promiscuousness of supply, (2) the evil of seasonal and alimentary fluctuations, and (3) the evil of health fluctuations in the cow. To these must be added: (4) the prevalent but avoidable evil of chemical adulteration with milk preservatives. Accidental risks are also ever present—namely: (5) the risk of pollution,[2] (6) the risk of infective contamination, and (7) the risk of fermentation.

Special attention has been called to the magnitude of the evil from *adulteration with preservatives* by the report of the Departmental Committee of Inquiry into the Use of Preservatives in Food, London, 1901. This evil had passed unsuspected, though comparatively little milk had escaped drugging, leaving often no practical alternative for the local consumer. Infants who are exclusive milk feeders are with a few invalids the only ones to tell the tale, as a mixed diet confuses the issue. By them any adulterant is ingested in a much higher proportion to the total food-supply and up to a poisonous dose. This is shown by a growing distaste, dyspepsia, and finally absolute intolerance for the milk, which at last is immediately rejected. After unsuccessful trials of further dilutions milk feeding from the common supply comes to an end. Our infants are thus made to serve as our physiological poison tests; but whilst they turn from the cup we continue to use it. Their health or their life will have been sacrificed in vain if the conclusion is not enforced that milk preservation by chemicals must cease.

As regards contamination, in addition to the original pollution, the "open system" of retailing in the slums is also a remediable danger. All milk used for infants should be sealed. But in view of practical impossibilities the great majority of infants must depend upon herd-milk. The risk is then multiplied by the number of the herd, although it is true that the individual faulty milk, if there be any, is proportionately diluted.

The sealed supply of our best kind of fresh milk for infants is good and, with certain reservations, reliable. It is the glycogen molecules must be broken down into molecules of sugar. Now comes the important point bearing upon what next transpires. The *condition* is unassociated with hyperglycæmia, but hyperglycæmia should be present if the sugar molecules passed as such into the blood. It seems to me that we are driven to the conclusion that the *sugar* molecules must enter into combination with a constituent of the blood and then become set free again by the influence brought to bear when the kidney is reached. If a transport of sugar in one way or another occurs, as the evidence before us denotes it does, and it is not effected by passage in a free state, the only inference to be drawn is that the sugar is thrown out of sight by entering into a combined state.

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[1] From notes of a demonstration held at the Medical Graduates' College and Polyclinic on Oct. 20th, 1908.

[2] Cf. THE LANCET, editorial article, The Pollution of Milk, Oct. 24th, 1908, p. 1226.

Physiologists accept this

EXPLANATION OF THE PHENOMENON OF TRANSPORT

connected with phloridzin glycosuria. If admitted here, why should it not be equally admitted as applicable to what happens in connexion with the ordinary occurrences of life? Forced exercise leads to a rapid emptying of the liver of its glycogen, without producing any show of the passage of sugar through the circulation in a free state. If the sugar goes into combination in the one case, why should it not do so in the other? The circumstances stand in reality upon an analogous *footing*. The abstraction of carbohydrate from the blood to compensate for its consumption in the muscles during forced exercise, will create a demand for its replenishment, and thence lead *to the store of glycogen* in the liver being drawn upon. In the case of phloridzin glycosuria, the outflow of sugar that occurs in the kidney will, similarly to forced exercise, draw off carbohydrate and give *rise* to a demand for reinstatement *from* the glycogen store. The line of procedure is the same in the two cases, but the initial condition that leads to the demand for the replenishment of carbohydrate in the blood is different.

Support is given to the view that has been set forth by the modified

CONDITIONS BELONGING TO PANCREATIC GLYCOSURIA.

Here hyperglycæmia precedes the glycosuria. The disappearance of glycogen occurs just as in phloridzin glycosuria, but the source of disappearance is conversion into sugar at the seat of storage. The kidney simply eliminates the sugar that is conveyed *to it in the* blood, and if the elimination is prevented by extirpation of the kidneys, the sugar goes on increasing, with the result of exceedingly high percentages having been noticed. The abnormality *proceeds* from a local transformation of glycogen into sugar, which recognisably passes into the blood in a free state, and subsequently flows off with the urine.

The instance that has been cited in reality shows what occurs when *sugar from* vanishing glycogen reaches the blood in a free state. In phloridzin glycosuria, there is equally a disappearance of glycogen, but nothing is seen, as far as the blood is *concerned, of the sugar derivable* from it. Proof is given that the sugar has not undergone destruction by the fact of its coming into view when the kidney is reached. It is simply for the time being concealed by entering, as may be legitimately assumed it does, into combination with a *constituent of the blood.* If, in the presence of these circumstances, things can run on in this way, is it not permissible to assume that sugar may be transported in a locked-up state from the intestinal *seat of food* absorption, and from that of glycogen storage, to where it is required for service? By admitting this, all difficulties at once disappear.

I have previously referred to Professor Macleod's article in Leonard Hill's "Recent Advances in Physiology and Bio-Chemistry" and criticised *the* grounds upon which he has sought to maintain the validity of the glycogenic doctrine. Although, in dealing with this point, he contends that there is a functional transit of sugar through the circulation in a free state, he falls in with the view of transit in a combined state, declaring *in the first* place (p. 319) "there is reason to believe that a loose chemical compound—of a colloidal nature—exists between serum globulin and dextrose"; next remarking (p. 363), that the mother *substance* of the sugar eliminated in phloridzin glycosuria is undoubtedly the serum proteid; and then saying (p. 364) that the proteid which has been thus deprived of its sugar "becomes re-combined with more of it during its circulation through the rest of the body." This, it will be seen, precisely represents what is claimed as constituting the physiological mode of transit.

There are further facts connected with phloridzin glycosuria that give support to the view that has been expressed. If repeated administrations of phloridzin are employed in a well-fed animal, continued elimination of sugar occurs without any material alteration of the associated nitrogen elimination. The carbohydrate of the food, in the first part of its onward march after absorption, follows the normal course, but *afterwards, through the agency of what occurs* in the kidney, becomes diverted into a wrong direction and flows off with the urine as sugar. This is what happens whilst there is

FOOD-SUPPLY OR A GLYCOGEN RESERVE TO BE DRAWN UPON,

and the circumstances are compatible with the carbohydrate being linked on as a side-chain to a blood-contained molecular complex.

With the absence of food, and when the glycogen has been swept away from its seats of storage, the position of things with regard *to the relative elimination of* sugar and nitrogen becomes altered. The sugar falls until it arrives at a fixed relationship to the nitrogen, and when this point is reached, it is assumable that both sugar and nitrogen are being derived from the breaking down of the molecular nuclear centre that was constructed at the time of the building up of the protein molecule. Evidently, in the one case, the carbohydrate is liberated without the destruction of the molecule, and in the other, the liberation is an accompaniment of *molecular disintegration.*

I have just spoken of the elimination of sugar in phloridzin glycosuria being connected with food supply. The carbohydrate in the food runs off as *sugar in the urine*, and it does this without showing itself as sugar in the blood. The only deduction that can be drawn from this occurrence is that it passes in a state of combination, and, in view of the intensity of the glycosuria that is sometimes observed, it is evident that the capacity for transit in this state must be very great. In pancreatic diabetes, the *eliminated sugar* is similarly connected with food supply, but the carbohydrate of the food reaches the circulation, and passes through it to the kidney in the form of free sugar. Thus, in both these conditions, the food carbohydrate passes through the system and *makes* its appearance in the urine as sugar. In connexion with the one, it passes through in a concealed (combined) state, as I contend happens in its conveyance in the healthy person to the *tissues for* utilisation. In connexion with the *other, it passes through* in a free or uncombined (unassimilated) state, just as it does in ordinary diabetes. Herein, then, it may be considered that we have

THE TWO MODES OF TRANSIT, THAT IN HEALTH AND THAT IN DIABETES, REPRESENTED.

I must not allow the remarks made by Professor Halliburton, in his advocacy of the glycogenic doctrine, contained in the article that has been already referred to on "Diabetes Mellitus from the Physiological Standpoint" inserted in the July number of the *Practitioner*, 1907, to pass without comment. At the present stage a fitting place is offered for referring to them, and I will proceed to avail myself of it. The question of the sugar formation by the liver is being spoken of, and the following line of reasoning *is set forth.* "*At the present* day, the prevalent opinion among physiologists is of the nature of a compromise between the two extreme views. The liver is, no doubt, able to convert part of its glycogen into fat, but most of its glycogen is regarded as leaving the liver as sugar (dextrose). In coming to the latter conclusion, physiologists are influenced by what they learn from *surviving organs* generally. An excised organ is undoubtedly on the road to death, but *while it still* retains vitality, the phenomena it exhibits are similar in kind to, though they may be different in degree from, those which it exhibits during life. It is impossible to suppose that, at a given moment, arbitrarily called death, an organ can turn round and do what it never did before. Even in the case of blood coagulation, which appears to be a direct instance *to* the contrary, there is no doubt, from recent research, that *the* blood is always *tending* to clot even during life, and is prevented from doing so by the production of anti-substances (anti*thrombin* produced in the liver), which neutralise the activity of the thrombin or fibrin ferment."

It is a matter of

SURPRISE TO ME TO FIND THAT PROFESSOR HALLIBURTON HAS WRITTEN IN THIS WAY

in the face of what is contained in my work on "Carbohydrate Metabolism and Diabetes," a presentation copy of were cold and there was increasing pallor until the face became ashy grey. The skin was dry; there was no cold, clammy perspiration, as in an ordinary fainting attack. Consciousness was never lost, but there was present the sense of impending death. The pupils dilated in the worst attack and in all the eyelids were kept separated; the eyes rolled slightly and blinking was almost arrested for the time. The pulse became exceedingly infrequent, of low tension, and at times almost imperceptible to the touch; the breathing was shallow, hurried, and costal in type. The patient did not willingly speak but answered in monosyllables if spoken to. She was so "bowled over" that she had no energy even to call attention to her condition. Until the nurse was told to be on the watch for the attacks she would have one and recover without its being noticed, and she would merely remark afterwards that she had felt "dished" again. The attacks ended with a deep-drawn breath or sigh and if anyone was sitting by her she would remark, "That's all over now, I am better again." The attacks were very alarming. They in no way resembled an ordinary fainting attack. Their duration was about ten minutes.

Frequency of attacks.—She definitely remembers the first attack she had, which was while she was in East Africa. Subsequently she had them at intervals of weeks and later of days after any severe exertion. When she came under observation she was having one about every other day, except on one occasion when she had two in one day.

Mental state.—Sir William Gowers notes in his lecture "that with the vagal symptoms there is often a slight mental change and disturbance of the vaso-motor centre causing constriction of the vessels and coldness especially of the extremities." In addition to the extreme sensation of fatigue felt at the commencement of the attacks the patient was in a very unstable mental state generally. At times she would be very excited, her condition resembling the first stage of alcoholic intoxication. She would be intensely funny, make the most ludicrous, sometimes clever and sometimes senseless remarks; she would be very restless, "longing to get out of bed, and fly away." She followed up suggestions rapidly and talked and laughed incessantly. These attacks if uncontrolled lasted hours, but she could calm herself by a great effort of the will in from half to three-quarters of an hour. As she recovered, these excitable states lessened in frequency and severity, simply showing themselves in high spirits. The excitable state generally followed a condition of extreme depression with or without a definite "vagal attack." During these depressed periods she would be very irritable and melancholic. Both the excitable and the depressed states began and ended suddenly. She was wont to liken herself to Mother Hubbard's dog, whose mistress—

"Went to the joiner's to buy him a coffin,
And when she came back the dog was a 'laffin'."

A vaso-motor change was also noticed in connexion with these states. During the former she had a good colour, was even flushed, and looked very fit. During the latter she was pale, thin, and drawn, and often grey looking.

Treatment.—The general treatment was a modified Weir Mitchell. She was kept absolutely in bed and at rest and had abundant but not excessive diet, four pints of milk in 24 hours in addition to three substantial meals. The attacks themselves were shortened by the use of brandy or sal-volatile or both, and on several occasions hypodermic injections of strychnine had to be given. Easton's syrup was beneficial but she developed spasm of the abdominal muscles even with small doses of strychnine, so a mixture resembling Easton's syrup but with digitalis substituted for strychnine was ordered. The latter drug was more useful than anything else. It was not tried at first on account of the slow pulse. After she had been taking this mixture for some time she developed strangury and frequency of micturition. The spasm was so severe as to squeeze out some drops of blood. As there was nothing abnormal in the urine, I thought it probably due to some ingredient in the mixture, and added tincture of belladonna. She continued to take this without further trouble. The rapidity with which she developed poisonous symptoms with quite small doses of drugs which otherwise were acting so beneficially made the case somewhat difficult to treat.

Present state.—For a month there was little improvement in her condition, but from that time there has been steady progress. The attacks became less frequent and she was apparently well as long as she was resting in bed. The exertion of getting up caused a recurrence of the attacks at first, but a few days' rest in bed enabled her to repeat the experiment without ill effects. The same results occurred each time she made a fresh effort of any kind. She was under close observation for 14 weeks and then went into the country for two months. Although the attacks ceased she still had definite bouts of extreme fatigue and a feeling of old age. At these times, which occurred distinctly at the end of each fortnight, she would be very sallow, lacking energy, and drowsy, often sleeping day and night. They usually ended in a burst of excitement. She also had occasionally a feeling in the cardiac region which she described as "if the blood wanted to get through the heart but could not." At these times she was breathless. She is now able to undergo considerable muscular exertion, has bicycled, and apparently is perfectly well. She has gained in weight, has a good colour, and sleeps soundly. Her mental state is normal. She is still taking digitalis with carminatives, but without iron and quinine, as when she stops this she develops unpleasant sensations in the cardiac region and feels fatigued.

Subsequent note.—Nov. 23rd, 1908. The patient's condition has improved considerably. She had two slight "attacks" in January of this year, but none since. Her mental state is normal and she can lead an ordinary life. The day following any special exertion she gets breathless and the heart drops a beat at varying intervals. There is no regularity in the intermission of the beats, the intervals between the missed beat being never the same twice. In addition to the digitalis mixture I find trinitrin useful for this irregularity but she requires 1-20th of a grain to produce any effect.

Comments.—Although the attacks were so exceedingly serious and threatened to end the patient's life, yet there was apparently nothing in the local condition of the heart to point to a serious lesion. Between the attacks the patient suffered from no heart symptoms, no dyspnœa, œdema, palpitation, or flushing. Her condition, taken as a whole, seemed to indicate instability of the circulatory mechanism. Whether this was due to an affection of the vaso-motor centre in the brain (possibly dependent upon an attack of sunstroke while in East Africa), or to the effects of tropical heat or light on the blood-vessels of the surface of the body, or to some toxin circulating in the blood affecting the heart or vaso-motor system is uncertain. Dr. F. W. Hewitt in his lectures on General Surgical Anæsthesia[1] describes the clinical phenomena of circulatory surgical shock as slowing, feebleness, and irregularity of the pulse, coupled with pallor, coldness, and perspiration of the nose, forehead, and other parts, separation of the eyelids, a lessening in the depth of respiration, and in severe cases dilatation of the pupils. Apart from the perspiration this is an exact description of the condition of the patient during an attack. Later he says: "The clinical phenomena.. ... would seem to indicate that the surgical stimuli acting through sensory or sympathetic nerves primarily affect in most cases both the cardio-inhibitory and vaso-motor centres, with the result that a fall in blood pressure takes place ...... According to Crile, the condition is principally one of vaso-motor paralysis brought about by the nerve injury paralysing the main vaso-motor centres, the result of the paralysis being a fall of blood pressure and an accumulation of blood within the venous system and particularly within the vessels of the splanchnic area."

Whether in this case there was some affection of the vaso-motor centre alone which secondarily caused the bradycardia or whether the cardio-inhibitory centre was also affected is uncertain. The evidence seems to point to a primary affection of the brain centres as there was nothing to show the attacks could have had a reflex origin from nerve irritation. If the attacks were not of vaso-motor origin at all another possible explanation seems to be that after any special exertion the heart, as it were, went on strike and a functional disturbance resulted showing itself in slow and insufficient muscular action. But were the cause of the attacks primary muscular insufficiency with normal blood pressure dilation would probably have occurred. This evidently did not happen, as neither the symptoms nor the physical signs showed that condition.

It is of interest that the attacks should usually be traced when transmission through a cell membrane is wanted. This operation, followed by saponification, provides for the transmission, and then, should the conditions be such as to lead to neutral fat coming into view, a re-synthetic action is brought into play. What has been stated stands in accord with the teachings of the present day, and it is seen that the line of procedure in the case of fat fits in with that appertaining to carbohydrate.

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[1] THE LANCET, July 27th, 1907, p. 212.

These phenomena cannot for a moment be conceived to issue from the effect of mere chemical action working independently of the influence of living power. Everything tends to show that actual

INCORPORATION IN LIVING MATTER PRECEDES METABOLIC ACTIVITY.

Living matter is made up of more or less highly complex molecules, and, thence, saying that a body enters into the constitution of living matter is tantamount to saying that it enters into the composition of the complex molecules of which it is made up. This renders it justifiable to speak of living action as resulting from incorporation of food-stuff in the bioplasmic molecules and its subjection to the influences that are there existing. Intramolecular activity in this way stands at the foundation of living action.

Now, taking carbohydrate and fat, it has to be said of them that they both, in a suitably hydrolysed state, become linked on to the bioplasmic molecules. What subsequently occurs depends upon the circumstances at the time existing. If they are oxidised, they disappear in the form of carbon dioxide and water, giving rise to the liberation of a concordant amount of energy of one kind or another. If they are not consumed in this way, and the supply of nutrient material goes on, they become dissociated and laid by as storage stuff—the carbohydrate in the form of glycogen, and the fat in the form of glyceride or neutral fat.

I strongly demur to the terminology that is in common use among pathologists in connexion with this matter. It is a "terminological inexactitude" to speak of these operations as falling generically in the category of degenerations. They are virtually in themselves of a physiological nature, and, moreover, constitute representations of, it may be said, the largest and the widest spread class of action occurring in the living world. Look at the production of starch, cellulose, &c., and of fats in the vegetable kingdom, and of glycogen and fats in the animal kingdom, as the issue of indisputable physiological procedures. It is through bioplasmic agency that the phenomenon is brought about. Either carbohydrate or fat, entering the bioplasmic complex and not being oxidised or consumed, will not remain fixed there, but be dissociated or thrown off in one form or another, according to the potential conditions existing. Carbohydrate may enter and be thrown off as carbohydrate, and fat as fat; or, it may be, that carbohydrate may be taken on and fat cleaved off, or fat enter and carbohydrate be cleaved off.

Illustrations demonstrative of these actions are readily obtainable from the vegetable kingdom. With respect to the production of fat from carbohydrate, I may cite a passage from Sachs, quoted in my "Physiology of the Carbohydrates" (p. 247): "Before maturity such [oily] seeds contain no fat, but only starch and sugar. Such unripe seeds (e.g. of *Pœonia*) may be detached from the mother plant, and allowed to lie in moist air with the result that the starch disappears and is replaced by fatty oil." With respect to the production of carbohydrate from fat, the growth of the oily seed suffices to afford a demonstration. From the oily seed placed in contact with water, a young plant springs, just as happens with its starchy congener, the fat obviously constituting the source of the cellulose that comes into existence. Concordantly, there cannot be any doubt about fat emanating from carbohydrate as a metabolic procedure in the animal kingdom, but concerning the production of carbohydrate from fat, I do not consider that any point of evidence is yet before us that can be definitely said to settle the question.

I submit that, in the dissociation process of which I have been speaking,

CARBOHYDRATE AND FAT STAND UPON IDENTICALLY THE SAME GROUND.

The matter is very simple and intelligible. Both form an integral part of bioplasm. If in excess, arising from supply, or from production within as in the case of fat from carbohydrate, of the consumption taking place, they become dissociated as storage material.

The dissociation seems to play a balancing rôle. What is not used is for the time thrown off. This is well seen in the case of yeast cell growth in association with a plentiful supply of sugar. The sugar is taken, and that which is in excess of application is thrown off as glycogen. The adipose tissue cells, although replete with fat, go on taking it if it is presented to them. Because it is not actually wanted does not stop the process of taking on. When the supply fails and it is wanted elsewhere, then a reverse action occurs, and it is taken back and transported to where it is needed for consumption, just in the same way as occurs with carbohydrate. What I submit is that, as a general principle of action, the taking on does not necessarily cease when what is taken on is not consumed.

Here lies the

FOUNDATION OF THE SO-CALLED DEGENERATIONS.

They simply represent thrown off material which has been incorporated into bioplasm, or produced within it, in excess of consumption. The liver is full of activity in this way. Standing in the position it does in relation to food, it is brought into contact with supply material to a greater extent than happens elsewhere, and do we not accordingly find that in this organ, more than anywhere else, accumulation of fat and carbohydrate is observed to take place?

Thus far I have been dealing with the supply as standing at the foundation of the condition that may happen to be met with. Taking the other side of the question, a check to consumption may be the determining cause of accumulation. Whilst consumption is balanced to supply, no opportunity exists for the occurrence of dissociation. Should consumption, however, fall short, surplus material will come into existence and show itself as a dissociated product. The two main sources of dissociation of this kind are deficient supply of oxygen and inactivity. From whatever cause arising, these conditions are known to give rise to accumulations of both fat and glycogen. Damage of cell bioplasm through toxic agency, as for instance from diphtheria, &c., will, by the instrumentality of its check to activity, give rise to the condition that is being considered.

Under the view set forth, the whole matter is placed upon a rational basis and made clear and intelligible. Degradation of protein into fat, after the manner that was formerly entertained, does not enter into the question. The operation, in fact, consists of a throwing off, precisely as is done upon a most extensive scale, as a normal metabolic procedure, in both kingdoms of living nature. The act of throwing off, as has been seen, is subordinated to the influence of the collateral conditions existing. When these conditions are normal, the process is a physiological one, and there is nothing of a degenerative nature about it. It is only when the throwing off is occasioned by a pathological state that the term "degeneration" can be justifiably applied to it. The distinction that applies to the terms "growth" and "hypertrophy" is strictly applicable in connexion with the point under consideration. To use the term "degeneration" in the manner that is too often done, is absolutely unscientific and misleading.

We learn, both experimentally and clinically, that

THE PANCREAS IS MIXED UP WITH CARBOHYDRATE METABOLISM,

and let me now pass to the consideration of this subject, and see the kind of reading that may permissibly be put upon the facts that have been disclosed in connexion with it.

Our predecessors of many years back recognised that disease of the pancreas was from time to time met with in the post-mortem examination of persons who had died from diabetes. The recognition in modern times that diabetes follows experimental extirpation of the pancreas, stands in conformity with this, and, as it is found experimentally that for the production of the effect the extirpation must be complete, so from modern clinical experience it is learnt that partial disease of the organ may exist without being attended with diabetes, whilst with extensive disease of it, diabetes may be expected to be found as a concomitant.

Something, then, derived from the pancreas is apparently concerned in contributing to the normal metabolism of carbohydrate, inasmuch as in the absence of this something, carbohydrate shows itself as sugar in the system in a manner that does not occur when the proper passage to utilisation is carried out. Now, in the proper passage of food molecules to utilisation, a preliminary linking on to the various bioplasmic molecules of the body is, at the present time, pretty

A CASE OF

LATERAL SINUS THROMBOSIS WITH PYÆMIC PULMONARY AND PERICARDIAL COMPLICATIONS, ETC.;

OPERATION; RECOVERY.

BY JOHN MACKIE, L.R.C.P. EDIN.,
AND
H. BELL TAWSE, M.B. ABERD., F.R.C.S. ENG.

NOTWITHSTANDING the almost weekly reports of recovery after lateral sinus thrombosis we consider the following case sufficiently uncommon to be worthy of addition to the list.

The patient, a well nourished boy, aged 15 years, had constant discharge from the left ear for eight years, with attacks of earache when the discharge lessened. The pain abated after poulticing, and free discharge of foul pus relieved the other symptoms. For the past two or three years these attacks were accompanied by mastoid pain, which in recent months was more acute. Lately more severe symptoms had been superadded during an attack and giddiness, distressing tinnitus, sickness and vomiting, with acute general headache, restlessness, and delirium developed, before a copious discharge of pus—a discharge so profuse that seemingly it could not have come from the tympanum alone—relieved his condition. On Sept. 26th, 1906, a more severe attack than usual led his parents to call in Dr. Harvey Francis of Arnold, who recognising the serious nature of the case telephoned for Mr. Mackie. The boy was found to be exceedingly ill with all the symptoms of serious extension of his ear trouble. The left meatus was full of foul granulations, and appliances for the removal of these being at hand it was decided to clear these out and to await developments for a few hours. At this time there were pain and tenderness over the mastoid and the temperature was 104° F., but there was no evidence of a thickened jugular vein and the cervical glands were not enlarged. On the next day there was no improvement. If anything the patient seemed worse. His temperature had ranged from 105° to 97°, accompanied by rigors and sweating, leading to a diagnosis of lateral sinus thrombosis. Immediate operation was decided upon. The mastoid process was exposed by the ordinary incision behind the ear, and on chiselling through the cortex the anatomy was found in rather a confused state. The mastoid antrum was continuous with the cavity of a seemingly chronic extradural abscess, the tegmen antri and tympani being replaced by soft, pulpy, foul-smelling granulation tissue. On removal of this the dura mater was exposed over a large area, and working backwards towards the sinus through dirty washleather-looking material the sinus was reached, the vein wall being unrecognisable as such. The thrombosis was not disintegrated and came away quite easily, free bleeding being established from both ends. No pus was found in the sinus. On commencing the operation the question of tying the vein was left an open one, and at this stage, taking into account the collapsed condition of the patient and the free bleeding from both ends of the sinus, it was decided to leave the vein alone. As the disease had practically performed the radical mastoid operation the wound was partially closed and provision was made for free drainage. For the next two days the patient was naturally in a critical condition. He had daily rigors, followed by rapid rise of temperature. On one occasion the temperature fell from 104° to 96·2° in a few hours. Nevertheless, the patient expressed himself as relieved, took nourishment freely and retained it, and had an average pulse of 80 beats to the minute. On the third day after operation (Sept. 30th) the temperature fell to subnormal and remained there a few hours and the patient seemed to be doing very well, but towards the evening of that day his breathing became laboured and on the next day left basal pneumonia and pericarditis were added to his troubles. Little could now be done but watch the case. The patient was full of pluck and, apparently unaware of his critical condition, was making a good fight. He remained in much the same condition till Oct. 6th—nine days after the operation and five days after pneumonia was recognised—when the temperature, after running up to 106·2°, in three hours dropped to 95°—a fall of 11·2°. There were almost daily rigors but the pulse remained fairly strong. The appetite was good and the patient frequently expressed himself as being "all right." After this, and contrary to all expectations, matters improved and on Oct. 9th the temperature had been normal for 48 hours. On the 10th it suddenly rose to 104·2°, a severe rigor was experienced, and the temperature fell to 99·4°, and soon after about half a pint of thick foul-smelling blood-stained greenish pus was expectorated, evidently from a pulmonary abscess. The patient's general condition remained fairly satisfactory, with occasional rises of temperature to 101° until the 13th, when he complained of sore throat and pain about the angle of the jaw on the left side and along the course of the internal jugular vein. A swelling soon appeared in the neighbourhood of the angle of the jaw and it gradually increased until the 19th, when the neck was laid open from the mastoid tip to the sterno-clavicular-articulation. The internal jugular vein, which was small and feebly pulsating, was tied at its junction with the subclavian. The ligature of the vein was temporarily followed by unilateral facial cyanosis which rather alarmed the anæsthetist. A large abscess was evacuated at the upper part of the neck, a drainage-tube was inserted, and a gauze drain was introduced down to the site of ligature. Stitches were put into the rest of the wound and were left untied until four days later. The wound healed by first intention, the abscess cavity gradually filled up and closed, the temperature remained normal, and the patient was discharged on Oct. 31st with a healthy granulating wound over the mastoid. This soon healed up and now he is in excellent health. The cervical scar became painful and markedly keloidal, but the application of x rays has materially reduced the thickening and dispelled the pain.

It seems very probable that in this case there was an extradural abscess of some standing, which had at intervals filled up and discharged through the meatus and that ultimately the sinus wall became involved and a thrombosis resulted. This, perhaps, is not an unusual occurrence, but to have recovery after such complications as pulmonary abscess and pericarditis is certainly very rare.

The case showed a few interesting points, such as the fall of 11·2° of temperature in three hours, the unilateral cyanosis after ligature of the jugular vein, and the remarkable physical and mental stamina of the patient, who never realised the seriousness of his condition. Thickening along the course of the internal jugular vein, reported in most text books as being present in sinus thrombosis, was absent in this case—in fact, neither of us has seen it in previous cases.

Nottingham.

A SIMPLE METHOD OF OBTAINING A PREPARATION OF LIVING ISOLATED LEUCOCYTES.

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(From the Cambridge Pathological Laboratories.)

THE following method of preparing a field of living leucocytes, free from the other elements of the blood, was evolved during the course of a piece of research work, and it seemed to me that it might be useful to those working with leucocytes and could also be used to demonstrate to the student in a striking way the living entity of the white blood cell.

No unusual apparatus is necessary. A warm stage, made by a strip of copper, one end of which is heated, while the other, resting on the microscope, has a hole corresponding to that in the stage; a white porcelain staining dish for washing the slide; and a material which can be obtained anywhere, "plasticine," or modelling clay, which is used to prepare the blood-chamber hereinafter described, are all that is required. An incubator at blood temperature is a useful refinement. A bath of warm, normal, saline solution (0·75 per cent.) at blood temperature is to be prepared in the porcelain dish, and can be kept ready by resting it on the hotter end of the copper strip. A point can easily be found where its temperature will not vary more than a degree or two from 38° C. This simple arrangement is shown in the diagram (Fig. 1).

The mean of the figures yielded came out at 2·03 per 1000, the maximum being 2·47 and the minimum 1·57.

In four experiments of a similar nature with levulose, the mean figures stood at 2·07 per 1000 with the maximum at 2·56 and the minimum at 1·74.

One experiment was conducted with the injection of the raw extract of pancreas in association with dextrose. The injection proved immediately fatal, and the figures met with were 1·04 per 1000. These low figures are not surprising, seeing that the physical effect of the injection of the sugar solution would be to lead to a dilution of the blood, firstly from the fluid injected, and next from the hypertonicity given to the blood leading to fluid being drawn into it from the tissues.

Five experiments are recorded with the subcutaneous, instead of intravenous, injection of pancreatic extract and dextrose. The mean figures stood at 1·77 per 1000, the maximum being 2·09, and the minimum 1·52.

In one experiment of a like nature with the employment of levulose, the figures stood at 2·30 per 1000.

With reference to the precise signification of these experiments, all that is at the present moment needed to be done is to urge that they suffice to show that the pancreatic extract really exerts an action in relation to the passage of sugar into amylose carbohydrate. I will now enter upon the question of *modus operandi*.

The amboceptor in immunity phraseology seems to stand as the representative of the co-ferment concerned in enzyme action. It is now known that enzymes are dual bodies, and that the two parts are capable of being separated from each other. When separated, neither possesses any enzymic power. One is destructible by heat and seems to be the active agent, corresponding with the complement in immunity language. The other does not lose its virtue by subjection to boiling, and thus stands in the position of that which gives power to thyroid and suprarenal extracts. Taking the expressed juice of yeast, which contains zymase—the enzyme which converts sugar into alcohol and carbonic acid—a given quantity of the fresh juice has been found experimentally to have its enzymic power doubled by the addition of an equal quantity of boiled juice. This means that an extra quantity of the co-ferment, which possesses no inherent active power, gives increased power to the essentially active principle of a "complement" nature that is present in the juice.

The effect of the co-ferment is seen to be comparable to that of the pancreatic extract, and both, on account of having been exposed to a boiling temperature, must be devoid of energy-exerting power. It is obvious that the co-ferment must, in some way or other, contribute the assistance to the potential part of the enzyme which enables it to bring about the increased effect that has been spoken of. The possession of a linking-on power of an

AMBOCEPTOR

nature would suffice to supply what is wanted, and in functioning in this way, an explanation is afforded of its mode of action which satisfactorily fits in with the explanation given in connexion with operations of another, but probably allied, nature.

In the case of hæmolysins and bacteriolysins, it seems to have been experimentally reduced to demonstration that a something becomes developed within the blood which plays the passive part of connecting a lytic body (complement), present as an ordinary constituent of the blood, with that which undergoes dissolution. Without the aid of this connecting body (amboceptor), the red corpuscle and the bacterium fail to be attacked, notwithstanding they are surrounded by "complement." The amboceptor is reasonably assumed to possess a linkage capacity which leads to its joining up the complement with the red corpuscle or the bacterium, and thus placing it in a position to exert its lytic influence upon them, which, in the absence of the junction, it is powerless to do.

Through the instrumentality of the amboceptor, then, the complement is linked on to the bioplasm, and until this occurs no action takes place. The food molecule also requires, as I have before said, to be linked on to bioplasm before it can be turned to account. I think it is now pretty generally admitted that it is within, or as an integral part of bioplasm, that it is made use of, and that whilst outside bioplasm, it can no more be metabolised than a toxin molecule that has had its linking-on capacity abolished can produce a toxic effect.

Molecular configuration has been spoken of in connexion with the chemical union of bodies and it has been asserted that there must be a mutually adapted configuration to permit of junction taking place. Now, why may it not happen that amboceptor aid is required for linking the sugar molecule on to bioplasm? The facts before us bearing on the position held by the pancreas in relation to the matter under consideration suggest that it is. Acceding to the proposition that an amboceptor is needed for the linking-on of the sugar molecule to bioplasm, and that the pancreas is concerned in its supply, everything fits in and becomes placed on a clear and intelligible footing. If the aptitude does not exist for the monosaccharide molecule to be linked on to bioplasm, it becomes placed in the same position as a disaccharide molecule, which, whilst remaining as such, plays no part in connexion with living matter, and, if reaching the system, becomes thrown off with the urine in the same way as any other extraneous or unutilisable material.

The point reached is that the facts before us suggest that

THE PANCREAS SUPPLIES AMBOCEPTORS

which, by effecting the attachment of the sugar molecule to the bioplasmic molecule, place it in a position to be disposed of according to the existing environment. It may undergo oxidation and disappear with the liberation of energy. It may become transmuted into glycogen (amylose carbohydrate). For this, it must be conceived to pass in the first place into bioplasm, in the same manner as the hydrolyte is conceived to pass into union with the enzyme preparatory to being converted into another form. Or it may be transformed into fat by a process analogous to that of transmutation into glycogen—that is to say, as a result of a molecular rearrangement taking place within the bioplasmic complex. The liver cells, in a marked manner, afford illustrations of the capacity existing in bioplasm of producing glycogen and fat from sugar. The action is comparable to that of a ferment, in so far that a body enters in one form and is thrown off in another.

In the case of the intravenously injected sugar without the pancreatic extract, it has been seen that a small increase in the amount of amylose carbohydrate obtained upon that normally obtainable, occurred. This may be taken to be attributable, under the view adopted, to amboceptor derivation from the pancreas normally existing in the blood. The linking-on agency would be increased by the association of the pancreatic extract with the sugar solution, and here the amylose carbohydrate was found in a very distinct manner to be further augmented. The facts exist with which the reading given fits in as a rational deduction.

I look upon the leucocytes of the blood as one of the

AGENCIES CONCERNED IN THE PRIMARY METABOLISM OF CARBOHYDRATE MATTER.

They admittedly feed upon material that may chance to be present in the blood, and in this way extrinsic nutrient matter that may happen incidentally to reach the blood may be appropriated and built up into bioplasm, which, like that of the lymphocytes, may pass by autolysis into the blood proteins. We have here an agency that may be instrumental in putting available matter of any kind that may in any way get into the blood, into a condition of elaborated blood pabulum.

As yet I have only applied the line of argument adduced to action occurring in the blood. But the blood is not the medium designed for the food carbohydrate to be dealt with. The work of construction into bioplasm is performed before the blood is reached by the agency of the lymphocytes. Upon this subject I have already fully spoken. Leucocytes are little masses of growing bioplasm. Lymphocytes are, in this sense, the same, and the same train of occurrences in connexion with growth may be reasonably assumed to ensue. By analogy the line of working with respect to the point before us may be carried from the one to the other. If the amboceptor is in operation, as a means of linkage of the sugar molecule to the bioplasmic molecule in the leucocyte, it may be equally taken to be similarly in operation in the lymphocyte.

This brings the amboceptor factor into connexion with the broad question of the passage of carbohydrate into the assimilated state. That it does become an incorporated constituent of protein is regarded as an accepted fact. With this before us, let it be supposed that through faulty action the was heard, just at nightfall, by a peasant, who brought assistance. Two days later a radiogram made at the Zürich University Clinic confirmed the diagnosis of a rupture of the ligamentum patellæ. Professor Schlatter opened the knee-joint by a vertical incision over the patella and the ligament, removed the accumulated blood clots, and fixed the ligament, which was completely torn through, to the lower border of the patella by strong silk sutures. The leg was immobilised. There were some fever, pain, and an increasing swelling of the joint, symptoms which a puncture proved to be due to a turbid serous exudation, necessitating a second intervention of the surgeon a week after the first operation. After reopening the wound and removing a few stitches, incisions were made on both sides of the joint and the articulation was kept drained for a fortnight. The first incision healed by granulation, leaving a big scar adhering to the patella and the ligament. After several months of massage and exercise I was able to engage in most sports except climbing. Going down steep slopes is still, six years after the accident, very difficult for me. The leg can be bent to an angle of about 30 degrees.

Yokohama.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

LARYNGOLOGICAL SECTION.

Exhibition of Cases, Specimens, and Models.

A MEETING of this section was held on Nov. 6th, Dr. J. DUNDAS GRANT, the President, being in the chair.

The PRESIDENT showed a case of Extrinsic Epithelioma of the Larynx in a woman, aged 28 years.—Sir FELIX SEMON remarked on the extreme rarity of cancer of the larynx in women, and stated that when it was present it was invariably of the extrinsic variety.—Dr. WILLIAM HILL objected to the word "extrinsic" and suggested that the nomenclature of the disease should be revised.—Dr. J. JOBSON HORNE and Dr. R. H. SCANES SPICER took part in the discussion.—The PRESIDENT replied.

The PRESIDENT also showed a case of Thyro-lingual Sinus in a boy.

Sir FELIX SEMON showed (1) a case of Epithelioma of the Left Vocal Cord; and (2) a case of Extensive Epithelioma of the Larynx.—The question of the advisability of operating in the second case was discussed by Dr. STCLAIR THOMSON, Mr. HERBERT TILLEY, and the PRESIDENT.

Mr. TILLEY demonstrated a case of Interarytenoid and Subglottic Infiltration of Fifteen Months' Duration causing Difficulty of Breathing, which necessitated tracheotomy, by means of Brüning's apparatus for direct examination.

Mr. CHARLES A. PARKER showed a case of Malignant Disease of the Right Maxillary Antrum involving the Outer Wall of the Nose and the Cheek in a male aged 68 years.

Dr. P. H. ABERCROMBIE showed a case of Perforation of the Soft Palate following on a severe attack of scarlet fever in childhood.—Sir FELIX SEMON, Dr. PATERSON, Dr. HILL, and Dr. R. E. SCHOLEFIELD discussed the case and agreed that while similar cases were almost invariably due to syphilis, yet scarlet fever, measles, and traumatism might all cause similar conditions.

Dr. STCLAIR THOMSON exhibited a case of Laryngeal Vertigo in Early Tabes.—Sir FELIX SEMON suggested that laryngeal crises would better describe the condition.—Dr. H. LAMBERT LACK, Dr. H. W. FITZGERALD POWELL, Mr. C. A. B. HORSFORD, Mr. PARKER, and the PRESIDENT also discussed the case.

Mr. J. GAY FRENCH showed a case of Extensive Fracture of the Walls of the Frontal Sinuses.

Mr. HAROLD S. BARWELL showed a case of Congenital Occlusion of the Right Posterior Naris.—Dr. J. B. BALL, Dr. P. WATSON WILLIAMS, Dr. SPICER, Dr. MCDOUGALL, Dr. PATERSON, Mr. E. CRESSWELL BABER, and Mr. H. CLAYTON FOX discussed the origin and the best means of operating in such cases.

Dr. HILL showed a case of Epithelioma Primarily in the Posterior Wall of the Pharynx now invading the Œsophagus and Larynx.

Dr. DAN MCKENZIE showed a case of Tuberculous Disease of the Larynx.

Mr. W. STUART-LOW exhibited (1) a case of Recurring Epistaxis, and (2) a Woman with Rhinoscleroma (microscopic slides were shown).

Dr. G. C. CATHCART showed a case of Deflected Septum causing Complete Occlusion of the Right Side of the Nose.

Dr. LAMBERT LACK showed a case of Lupus Erythematosus of the Face, with Patches in the Mucous Membrane of the Palate and the Inside of the Cheek.—Dr. BALL and Mr. T. J. P. HARTIGAN discussed the case.

Dr. L. H. PEGLER exhibited a case of Primary Tuberculous Granuloma of the Triangular Cartilage.

Dr. JOBSON HORNE showed a case of Intrinsic Laryngeal Growth in a Woman aged 64 years.

Mr. E. W. ROUGHTON showed a case of Malignant Disease of the Thyroid Gland.

Mr. ARTHUR H. EVANS showed the Right Half of a Larynx (removed by operation) showing a large carcinomatous growth of the arytenoid cartilage.

Dr. WATSON WILLIAMS showed Models of Operations for Pansinusitis.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Nov. 27th, Dr. EDMUND CAUTLEY being in the chair.

Dr. CECIL E. FINNY described a case of Duodenal Ulcer in a child, aged two months, terminating in perforation, and showed the specimen.—In the discussion Dr. CAUTLEY said that although such ulcers gave rise to pyloric spasm and the pylorus was constricted after death, yet there was no evidence of any distinct hypertrophy of the muscle of the pylorus, and this was in favour of the view that pyloric spasm did not cause hypertrophy. Another striking feature was the absence of definite evidence of pain.—Mr. W. MILNER BURGESS asked whether there was any suspicion of diphtheria in the case, to which Dr. FINNY replied in the negative.

Dr. CAUTLEY showed two specimens of Congenital Morbus Cordis.—Dr. G. CARPENTER also showed a specimen. In his case the child had never been blue at any time.

Mr. DUNCAN C. L. FITZWILLIAMS showed a case of Congenital Scoliosis, probably due to the development of an incomplete vertebra, and gave a *résumé* of similar cases of the kind.

Dr. CARPENTER showed specimens from a case of Congenital Dilatation of the Colon in a child aged six months. The child had been constipated from birth and the colon contained hard fæcal lumps. The specimens showed the great hypertrophy of the wall of the colon and illustrations drawn to scale comparing the microscopical appearances with those of a normal gut were passed round.—Dr. CAUTLEY referred to a case under his own care which died at the age of eight weeks. The abdomen was distended, especially across the upper part. The stools were dark brown and of the consistence of wet sand. There were no scybala. A circular perforation was found eight inches above the anus. He thought that in congenital cases there were not usually fæcal masses but only semi-solid contents. He asked whether Dr. Carpenter had considered the possibility of treating such cases by appendicostomy and careful irrigation to allow the colon to contract.—Dr. F. W. HIGGS mentioned a similar case, now four years old, in which treatment had so far been successful. He thought that the chief danger was the occurrence of stercoral ulcers.—Dr. F. PARKES WEBER remarked that the hyperplasia of the elastic tissue had frequently been found and that it had been suggested that the muscular hypertrophy was compensatory to this. Some of the cases certainly lived for a long time. He thought that the patients were at their best when scybala were present.—Dr. CARPENTER, in reply, stated that having been unsuccessful in treating another case by operation he did not adopt that means for this one. Although the child died he did not think surgical interference would have done any good.

Mr. H. M. RIGBY showed a case of Ectopia Vesicæ in a child, aged 14 months, treated by implantation of the ureters into the rectum. The operation was done extra-peritoneally. The child was now able to control the passage of urine.—Mr. HUGH LETT congratulated Mr. Rigby on the result and referred to a number of cases in which operation had at a meal, there has been a show of sugar in the urine, whilst after a moderate quantity, there has been none. Two large helpings of meat, in other words, might give rise to an appearance of sugar when one might fail to do so. This agrees with results that I notice recorded showing the effects of the ingestion of meat on the elimination of sugar in experimental pancreatic diabetes. If reference be made to Hill's "Recent Advances in Physiology and Bio-chemistry," 1906, p. 348, it will be found that an experiment on a dog is mentioned in which, in the absence of food, the sugar fell to 0·77 gramme in the 24 hours, and that, after then giving meat, it rose in the first 24 hours to 3·61, and in the next to 6·09.

Allied to the sugar elimination that has its source in a wrong breaking-down of the bioplasmic molecule may, I consider, be classed the

ELIMINATION OF THE ACETONE SERIES OF BODIES.

This constitutes one of the most important matters connected with diabetes, inasmuch as it is through its instrumentality that the fatal termination of the disease is ordinarily brought about. Sugar, in proportion as it is present in the blood, produces toxic effects of various kinds, which may lead indirectly to death, but it does not, in a direct manner, kill. With regard to the acids belonging to the acetone series, however, the same cannot be said. Their effect in the blood is to interfere with the performance of one of the necessary functions of life.

The continuance of life is dependent upon the elimination of the carbon dioxide produced as a result of vital activity. The sodic carbonate, and, to a certain extent, the sodic phosphate, are the cardinal agents for conveying the carbon dioxide from the tissues to the lungs. If, through any abnormality, there should be an entry of acid into the blood, establishing what is known as a state of acidosis, the alkaline base will be appropriated by it, and thence be prevented contributing to the transport function, as normally designed it should do.

With such circumstances present, and with the acidosis condition growing in intensity, as it will proceed to do, unless it should happen, as where the diabetic state has not attained too advanced a stage, to prove susceptible of being checked, death must sooner or later prove an inevitable result. For vital activity, as for enzyme activity, it is necessary that the products of change should become removed. Their accumulation leads to a stoppage of action, and the issue in connexion with diabetes resolves itself into a question of when the non-removal has attained a sufficient height to reduce the occurrence of action to a point that is no longer consistent with the continuance of life. If, preparatory to this stage being actually reached, a fresh power be given to the blood to take up carbon dioxide, as by the intravenous injection of a sodic carbonate solution or the ingestion of it by the mouth, a speedy restoration of activity temporarily, but unfortunately only more or less temporarily, ensues.

The view here detailed was brought forward by me in an article, published in THE LANCET in 1902,[3] entitled

"ON THE ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA."

In this article I state that "writers speak of the altered constitution of the blood by the reduction of its alkalinity as the cause of the coma connected with acidosis and refer the result to the effect of the altered condition of the blood on the tissues of the body. This, however, amounts only to an assertion which gives no insight into the actual pathogeny of the coma." I then open out the view I have mentioned, and in what has preceded, reference is distinctly made to its having been discovered that, in connexion with the acidosis, a great fall in the carbon dioxide content of the blood has been observed. Not long after the article was published, exception was taken by Dr. A. P. Beddard, Dr. M. S. Pembrey, and Dr. E. I. Spriggs to the view I had announced, and they have based their conclusions upon the meaning they give to the fall of carbon dioxide in the blood noticed in their experiments. I will avail myself of this opportunity to give an answer to what they have said.

They have furnished an elaborate series of experiments which, judging from appearances, may be credited with having been carried out in a commendably careful and painstaking manner. These experiments, however, throw no additional light upon the subject. They simply give confirmation and precision to what had been ascertained before, rendering it quite evident that the acidosis in diabetes is attended with an advancing fall in the carbon dioxide content of the venous blood, and, secondarily to this, with a fall of it in the pulmonary alveolar air. A major point, in the eyes of the experimentalists, belonging to the matter, is the effect produced upon the blood by the hyperpnœa that shows itself in diabetic coma. I agree with them to the extent that hyperpnœa has something to answer for in connexion with the reduced carbon dioxide content of the blood associated with the coma. It is only naturally to be expected that the exalted respiration should contribute to the reduction that occurs, and the hyperpnœa may be looked upon as constituting an effort of Nature to rectify the defect existing in connexion with tissue respiration, by producing, through reduced carbon dioxide tension in the blood, as favourable a condition as possible for promoting the drawing off of carbon dioxide from the tissues.

The conditions belonging to the blood, however, represent only one side of the question. On the other side, there is the tissue production of carbon dioxide as an act concurrent with life, and the necessity of its removal when formed, in order to sustain the continuance of life. The supply of oxygen and the removal of carbon dioxide are necessary factors in connexion with vital activity. Arrest either operation, and vital activity will cease. To give greater security to life, the mechanism of respiration is brought into concerted action with the demand existing for its functional activity. Does anyone say that exalted respiratory action is not induced by a deficient supply of oxygen on the one hand, or a defective removal of carbon dioxide on the other? By a stimulus generated within the body by the existence of either of these conditions, a response is called forth from the respiratory nerve centre, which leads automatically to the result that follows. The recent work of Haldane and Priestley stands in accord with this view, and it is supported by the still later work of Hill and Flack.

According to my opponents, however, things are to stand on a different basis, and a new factor is gratuitously invoked, holding a place altogether outside the realm of respiratory action. Through the prolonged acidosis, they suggest that the protoplasm of the cells is made more sensitive to the stimulating influence of any acid body produced during metabolism, and thus, by the direct action of acid, the diabetic coma becomes evoked. To quote their own words, they say:—"It is suggested that the following process is taking place in the nerve-cells of the medulla: the decreased 'reactivity' of the protoplasm of the cells due to the prolonged acidosis renders their reaction more easily disturbed by, and therefore makes them more sensitive to, the stimulating influence of any acid body, including carbon dioxide and other acids produced during metabolism."[4]

Now, no need exists for going outside respiratory action and bringing in a vague, unsubstantiated, extraneous explanation of the kind here offered. The effect of acidosis is to lessen the carbon dioxide transport service performed by the sodic carbonate and sodic phosphate of the blood in proportion to the extent to which the base of these salts becomes appropriated by the acids present. Carbon dioxide is constantly being produced as a result of living action, and I think no one will contend that it does not require to be removed *pari passu* with its production. Observation shows that in enzymic and living action the effect of retention of the products generated is to inhibit, in proportion to their retention, the continuance of action, and thus, in the case under consideration, to slow down the production of carbon dioxide. This is the essential point connected with the matter, and to it the experimentalists referred to have given no attention, thereby, I consider, placing themselves upon false ground by taking too narrow a view of the subject. Their work has been limited to a study bearing on the blood, which only plays a secondary part by effecting the removal of the carbon dioxide produced, and, obviously, if the alkaline bases of it are placed in a position to be unable to contribute to the removal of the carbon dioxide, the production of it must be interfered with, and the amount entering the blood lowered, as is found to be the case in advancing acidosis. I do not consider that what is said about the blood in diabetic coma still possessing in the circumstances named some absorbing power over carbon dioxide can be taken to invalidate the considerations depression bordering on melancholia. The use of local anæsthetics for tooth extraction has grown very common and is responsible for much post-operative sepsis, gangrene, and necrosis. All must be familiar with cases of neuroses or neuritis due to oral sepsis. I will not enumerate all the remote infections and results of toxæmias due to the same cause, but I trust the discussion will educe many important and interesting clinical experiences.—Dr. G. LOVELL GULLAND thought there was a danger of confusing oral sepsis with the results of bad teeth present. A great many of the evils were due to the latter, e.g., imperfect mastication. The risk of infection of the stomach was much less in healthy conditions when the hydrochloric acid was present in its normal amount, but where there was a deficiency of acid, there was no inhibition to the growth of organisms, and hence gastritis might result. Mouth breathers were specially liable to suffer from oral sepsis. He had no belief in the connexion between oral sepsis and pernicious anæmia; this disease usually commenced after middle life when the mouth was as a rule perfectly clean.—Dr. GEORGE M. ROBERTSON said that he always paid great attention to the condition of the mouth in his cases. There was a lessened resistance to the invasion of organisms in the insane; thus tuberculosis and puerperal fever were more common amongst them. The opsonic index was lower in the insane than in average persons. Lunatics were very susceptible to the toxins which produced cell degeneration as well as nerve fibre degeneration. They were especially susceptible to alcohol which was the touchstone of mental equilibrium. Toxins might pass along the lymphatics of the fifth nerve and so might produce mental disturbance. There was a constant absorption of small amounts of toxins from the mouth and these might exert a most deleterious influence. In dementia præcox the tongue was not much used and oral sepsis was well marked in such cases. He thought that a dentist should always be one of the staff in asylums.—Mr. ALEXANDER MILES alluded to the extreme importance of attention to the teeth in the treatment of syphilis. Affections of the mucous membrane were very severe in bad cases of oral sepsis. He had found that peroxide of hydrogen was the best means of cleansing such mouths. He had noted a marked influence which mercury had in women as contrasted with men, the latter being salivated after from seven to ten days' inunction.—Mr. A. A. SCOT SKIRVING thought the necrosis of the jaw which followed the use of local anæsthetics might be due to want of care in sterilising the syringe and the mucous membrane. He would like to know whether dentists employed strict antiseptic precautions.—Dr. JAMES CARMICHAEL said that he had seen many evils resulting from oral sepsis, and especially in children. The affection of the lymphatic glands was a most important sequela and depended almost entirely on some condition in the mouth or naso-pharynx. He advised a careful examination of the mouth and repeated and periodic visits to the dentist.—Dr. J. S. FOWLER said that chronic cough in children was usually due to pharyngitis and might be relieved by attention to the teeth. In the septic condition of the mouth in infants much harm was often done by attempting to cleanse the mouth and he advised rather attention to sterilising the food.—Dr. NORMAN WALKER asked whether when the medical man found evidence of syphilis in a patient who required dental treatment he should communicate his diagnosis to the dentist.—Dr. BYROM BRAMWELL alluded to the direct communication between the ear and the mouth and to the reflex gastro-intestinal and general disturbances which were set up by decayed teeth. These might be due to absorption of toxins from the teeth and gums or might be due to defective teeth leading to faulty mastication or to the pain from carious teeth. He never could accept Dr. William Hunter's views because in many cases there was no chance of oral sepsis, the teeth having gone. The glossitis which was often present in pernicious anæmia was probably due to the same cause which induced the disease. He had commenced to treat these cases with arsenic so long ago as 1877.—Mr. GEORGE L. CHIENE said that local anæsthetics might contain a fairly large proportion of carbolic acid and this, when injected into a very dense tissue, was likely to induce sloughing.—Mr. J. S. FRASER said that in an examination of over 2000 mouths it was very rare to find a perfect set of teeth. He had noted that the mucous membrane under dentures was often very much inflamed and in conditions of oral sepsis he had seen the mucous membrane of the throat and pharynx congested and acute tonsillitis and peritonsillar abscesses were frequent.—The PRESIDENT said that the toilet of the mouth was of the greatest importance, especially in children. He preferred a solution of chlorate of potassium to carbolic lotions as a mouth purifier. He had treated an elderly lady for melancholia; when three teeth which were suppurating at the roots were removed she recovered her mental health. The sepsis had affected her nervous system.—In reply, Mr. GUY said that it would be wise for the dentist to meet the medical man in consultation in such cases as Dr. Norman Walker had referred to. Quite apart from oral sepsis, a large number of teeth might be functionless and so gastric disturbances might arise from faulty mastication. Out of 10 or 12 cases of pernicious anæmia which he had examined only one had a septic condition of the mouth. Of all parts of the body he thought that the alveolar ridges were the least suitable for the injection of local anæsthetics on account of their denseness. The character of the anæsthesia was here largely due to pressure and this must of necessity in a large number of cases be followed by necrosis. He thought that it was better to extract than to stop the teeth in children of the masses. He recommended for cleaning the teeth chalk used in considerable quantity, much more than was usually employed, together with a little clove oil and saccharin which was an excellent antiseptic. After extraction an antiseptic lotion (as carbolic acid and carbonate of soda) should invariably be used. Women's mouths were as a rule much dirtier than those of men.

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[3] THE LANCET, July 12th, 1902, p. 64 et seq.

[4] Journal of Physiology, 1908, vols. xxxvii. and xli.

Dr. BYROM BRAMWELL gave a Lantern Demonstration of a series of cases of unusual interest: 1. Typical Lymphatic Leukæmia developing at the remarkable age of 77 years. 2. Hæmorrhage extending from the top of the Pons Varolii to the bottom of the Medulla Oblongata; death a month after the occurrence of the first symptoms; patient not unconscious until just before death. 3. Acute Encephalitis involving the brain and pons Varolii; numerous micro-organisms in the affected tissues. 4. Aneurysm of Basilar Artery; rupture 90 hours before death; (?) previous rupture seven weeks before death; mitral stenosis. 5. Typical Pseudo-hypertrophic Paralysis with most remarkable changes (apparently artefacts) in the spinal cord. 6. Tumour of the Pituitary Body and Infundibulum with most marked Diabetes Insipidus; paralysis of both third nerves, &c.; other tumours in the groin, thyroid, pancreas, and kidney.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on Nov. 20th, Dr. A. R. PARSONS, the President, being in the chair.

Sir JOHN W. MOORE exhibited specimens of a Double Mitral Lesion. A girl, aged 14 years, was admitted to the Meath Hospital on August 11th, 1908. She died on Sept. 14th. She had been seriously ill for five weeks before her admission, complaining of pain about her heart and of short breath. Her weight was 6 stones and ½ pound. Physical examination showed that she was suffering from the effects of rheumatic endocarditis, unmistakeable evidence that compensation had failed being present. As to the heart itself, a double murmur was audible at and near the seat of impulse, a presystolic murmur with slight valvular thrill indicating mitral obstruction, while a systolic murmur heard over an extensive area from the apex beat to the left side and back indicated mitral leakage. The latter murmur was conducted upwards towards the aortic area, where it was faintly heard, but it quite failed to reach the carotids by convection. There was, therefore, no clinical evidence of any lesion of the aortic valves. The patient made satisfactory progress through rest in bed and on three-grain doses of citrate of iron and quinine, and compensation seemed to be almost restored, when on Sept. 11th she suddenly became unconscious and vomited freely. She soon recovered consciousness in part, that is in two hours from the seizure, but vomiting recurred at intervals during the day. When she at a meal, there has been a show of sugar in the urine, whilst after a moderate quantity, there has been none. Two large helpings of meat, in other words, might give rise to an appearance of sugar when one might fail to do so. This agrees with results that I notice recorded showing the effects of the ingestion of meat on the elimination of sugar in experimental pancreatic diabetes. If reference be made to Hill's "Recent Advances in Physiology and Bio-chemistry," 1906, p. 348, it will be found that an experiment on a dog is mentioned in which, in the absence of food, the sugar fell to 0·77 gramme in the 24 hours, and that, after then giving meat, it rose in the first 24 hours to 3·61, and in the next to 6·09.

Allied to the sugar elimination that has its source in a wrong breaking-down of the bioplasmic molecule may, I consider, be classed the

ELIMINATION OF THE ACETONE SERIES OF BODIES.

This constitutes one of the most important matters connected with diabetes, inasmuch as it is through its instrumentality that the fatal termination of the disease is ordinarily brought about. Sugar, in proportion as it is present in the blood, produces toxic effects of various kinds, which may lead indirectly to death, but it does not, in a direct manner, kill. With regard to the acids belonging to the acetone series, however, the same cannot be said. Their effect in the blood is to interfere with the performance of one of the necessary functions of life.

The continuance of life is dependent upon the elimination of the carbon dioxide produced as a result of vital activity. The sodic carbonate, and, to a certain extent, the sodic phosphate, are the cardinal agents for conveying the carbon dioxide from the tissues to the lungs. If, through any abnormality, there should be an entry of acid into the blood, establishing what is known as a state of acidosis, the alkaline base will be appropriated by it, and thence be prevented contributing to the transport function, as normally designed it should do.

With such circumstances present, and with the acidosis condition growing in intensity, as it will proceed to do, unless it should happen, as where the diabetic state has not attained too advanced a stage, to prove susceptible of being checked, death must sooner or later prove an inevitable result. For vital activity, as for enzyme activity, it is necessary that the products of change should become removed. Their accumulation leads to a stoppage of action, *and the issue in connexion with diabetes resolves itself into* a question of when the non-removal has attained a sufficient height to reduce the occurrence of action to a point that is no longer consistent with the continuance of life. If, preparatory to this stage being actually reached, a fresh power be given to the blood to take up carbon dioxide, as by the intravenous injection of a sodic carbonate solution or the ingestion of it by the mouth, a speedy restoration of activity temporarily, but unfortunately only more or less temporarily, ensues.

The view here detailed was brought forward by me in an article, published in THE LANCET in 1902,[3] entitled

"ON THE ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA."

In this article I state that "writers speak of the altered constitution of the blood by the reduction of its alkalinity as the cause of the coma connected with acidosis and refer the result to the effect of the altered condition of the blood on the tissues of the body. This, however, amounts only to an assertion which gives no insight into the actual pathogeny of the coma." I then open out the view I have mentioned, and in what has preceded, reference is distinctly made to its having been discovered that, in connexion with the acidosis, a great fall in the carbon dioxide content of the blood has been observed. Not long after the article was published, exception was taken by Dr. A. P. Beddard, Dr. M. S. Pembrey, and Dr. E. I. Spriggs to the view I had announced, and they have based their conclusions upon the meaning they give to the fall of carbon dioxide in the blood noticed in their experiments. I will avail myself of this opportunity to give an answer to what they have said.

They have furnished an elaborate series of experiments which, judging from appearances, may be credited with having been carried out in a commendably careful and painstaking manner. These experiments, however, throw no additional light upon the subject. They simply give confirmation and precision to what had been ascertained before, rendering it quite evident that the acidosis in diabetes is attended with an advancing fall in the carbon dioxide content of the venous blood, and, secondarily to this, with a fall of it in the pulmonary alveolar air. A major point, in the eyes of the experimentalists, belonging to the matter, is the effect produced upon the blood by the hyperpnœa that shows itself in diabetic coma. I agree with them to the extent that hyperpnœa has something to answer for in connexion with the reduced carbon dioxide content of the blood associated with the coma. It is only naturally to be expected that the exalted respiration should contribute to the reduction that occurs, and the hyperpnœa may be looked upon as constituting an effort of Nature to rectify the defect existing in connexion with tissue respiration, by producing, through reduced carbon dioxide tension in the blood, as favourable a condition as possible for promoting the drawing off of carbon dioxide from the tissues.

The conditions belonging to the blood, however, represent only one side of the question. On the other side, there is the tissue production of carbon dioxide as an act concurrent with life, and the necessity of its removal when formed, in order to sustain the continuance of life. The supply of oxygen and the removal of carbon dioxide are necessary factors in connexion with vital activity. Arrest either operation, and vital activity will cease. To give greater security to life, the mechanism of respiration is brought into concerted action with the demand existing for its functional activity. Does anyone say that exalted respiratory action is not induced by a deficient supply of oxygen on the one hand, or a defective removal of carbon dioxide on the other? By a stimulus generated within the body by the existence of either of these conditions, a response is called forth from the respiratory nerve centre, which leads automatically to the result that follows. The recent work of Haldane and Priestley stands in accord with this view, and it is supported by the still later work of Hill and Flack.

According to my opponents, however, things are to stand on a different basis, and a new factor is gratuitously invoked, holding a place altogether outside the realm of respiratory action. Through the prolonged acidosis, they suggest that the protoplasm of the cells is made more sensitive to the stimulating influence of any acid body produced during metabolism, and thus, by the direct action of acid, the diabetic coma becomes evoked. To quote their own words, they say:—"It is suggested that the following process is taking place in the nerve-cells of the medulla: the decreased 'reactivity' of the protoplasm of the cells due to the prolonged acidosis renders their reaction more easily disturbed by, and therefore makes them more sensitive to, the stimulating influence of any acid body, including carbon dioxide and other acids produced during metabolism."[4]

Now, no need exists for going outside respiratory action and bringing in a vague, unsubstantiated, extraneous explanation of the kind here offered. The effect of acidosis is to lessen the carbon dioxide transport service performed by the sodic carbonate and sodic phosphate of the blood in proportion to the extent to which the base of these salts becomes appropriated by the acids present. Carbon dioxide is constantly being produced as a result of living action, and I think no one will contend that it does not require to be removed *pari passu* with its production. Observation shows that in enzymic and living action the effect of retention of the products generated is to inhibit, in proportion to their retention, the continuance of action, and thus, in the case under consideration, to slow down the production of carbon dioxide. This is the essential point connected with the matter, and to it the experimentalists referred to have given no attention, thereby, I consider, placing themselves upon false ground by taking too narrow a view of the subject. Their work has been limited to a study bearing on the blood, which only plays a secondary part by effecting the removal of the carbon dioxide produced, and, obviously, if the alkaline bases of it are placed in a position to be unable to contribute to the removal of the carbon dioxide, the production of it must be interfered with, and the amount entering the blood lowered, as is found to be the case in advancing acidosis. I do not consider that what is said about the blood in diabetic coma still possessing in the circumstances named some absorbing power over carbon dioxide can be taken to invalidate the considerations organic disease. The same might be said, too, of choline, but the tests for choline were difficult to carry out clinically. The absence of dextrose which occurred in normal cerebro-spinal fluid was characteristic of many cases of meningitis. In tuberculous meningitis a lymphocytosis was found, as also in tabes, in general paralysis, and in cerebro-spinal syphilis. Polymorphonuclear leucocytosis indicated an acute inflammatory condition of the meninges. It was possible, by means of lumbar puncture, to classify the various forms of meningitis and to diagnose anomalous forms. The operation helped also to differentiate meningitis from cases of so-called meningism and from uræmia. In a few cases it was possible to diagnose cerebral hæmorrhage from thrombosis or embolism. In no case of cerebral tumour had it helped in diagnosing the actual nature of the lesion, although a few cases were recorded where valuable information had been obtained. As a therapeutic agent lumbar puncture deserved more credit than it received. It did temporary good in probably all cases of meningitis and in some effected a permanent cure. It was a very valuable procedure in cases of increased intracranial pressure. Three cases were cited—cerebral tumour, subacute nephritis, and fractured base of the skull—in which it had led to recovery from coma which would otherwise apparently have proved fatal.—Dr. Thos. Robertson showed: 1. A case of Banti's Disease in a boy. There was a history of anæmia and hæmorrhages. At present there are a slightly enlarged spleen, enlarged liver, persistent jaundice, leukopænia, and anæmia of the chlorotic type. There had been great improvement under arsenic. 2. A case of Paramyoclonus Multiplex in a boy; this was the third case in the same family.—Dr. Arthur J. Hall read a paper on Diabetes Mellitus. He called attention as to whether this disease was increasing or not. In order to clear up this point he had obtained statistics of the Registrar-General for England and Wales and also those of the city of Sheffield. From these it was seen that during the two decades 1887-96 and 1897-1906 the number of deaths from diabetes per 1,000,000 of the inhabitants living had increased from an average of 64 during the first decade to 88 during the second in England and Wales, whilst in Sheffield the increase during the same two periods was from 42 to 66. A further inquiry into the possible explanation of this great increase showed that it had occurred practically in the two sexes, but that the increase was much greater in those whose age at death was above 45 years than in those whose age at death was below. The most marked increase is in those dying between 55 and 75 years of age. From these results it seems probable that whilst there appears to be a slight increase in the number of cases of acute diabetes affecting younger or middle-aged adults, the great increase seen from the Registrar-General's reports is chiefly due to an increased number of cases of diabetes occurring in older people or at least not causing premature death. The subject of treatment of diabetes was then alluded to, particularly the question as to the value of opium or its alkaloids and secretin. Tables showing a series of clinical observations on the effect of opium in numerous cases were exhibited and from these various points were illustrated. In conclusion Dr. Hall pointed out that whilst as regards therapeutics of diabetes the profession stands much where it did nearly a century ago, yet the advance in our knowledge of the pathology of the disease has been considerable and the prospect of future clinical application of that knowledge is not without hope.

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[3] THE LANCET, July 12th, 1902, p. 64 et seq.

[4] Journal of Physiology, 1908, vols. xxxvii. and xli.

Æsculapian Society.—A meeting of this society was held on Dec. 4th, Dr. Alexander Morison, the President, being in the chair.—Dr. T. G. Stevens read a paper on the Diagnostic Value of Pain in Gynæcology. He said: Pain is a well-marked symptom in diseases of women but it is often difficult to localise so as to be helpful in diagnosis, so that we often have to neglect pain distribution and rely on physical signs for diagnosis. Visceral pain in general is either (1) deep-seated peritoneal pain, always associated with inflammatory diseases and with malignant growths, is more or less generalised, and elicited by deep pressure; or (2) reflected pain—a skin sensation. The skin can be mapped out into areas corresponding to certain segments in the cord and these areas represent pain corresponding with certain visceral lesions. Inflammatory diseases of the ovaries always give hypersensitiveness to pain in the area supplied by the tenth dorsal nerve; the uterine cervix and lower part of the body correspond to the tenth, eleventh, and twelfth dorsals, and the second, third, and fourth sacrals are particularly connected with the body of the uterus. In connexion with pain in general they must not forget neurasthenia, which is a general lowering of the central nervous system in its powers of bearing and localising pain. Acute pain coming on quite suddenly points to threatened abortion, ruptured tubal gestation, ruptured ovarian cyst, or torsion of the pedicle of an ovarian cyst. Acute pain with a gradual onset is seen in inflammatory diseases developing slowly, such as pelvic peritonitis, gonorrhœa as it spreads to the vulva, infection of Bartholin's gland, and retroverted gravid uterus. Periodic menstrual pain may be premenstrual, coming on two, three, or seven days before the flow and due to congestive dysmenorrhœa. If the pain is with the flow—spasmodic dysmenorrhœa—it is associated with imperfect development of the uterine muscle. Periodic pain may occur without menstruation due to the uterus being undeveloped or to retained menses. Again, periodic pain may be intermenstrual, occurring regularly between each menstrual period, the so-called "middle pain"—the Mittelschmerz, so fully described by the Germans but first described by Sir William Priestley. Chronic pain in the back is nearly always associated with common diseases of women, such as endometritis, retroversion of the uterus, prolapse, impacted fibroid in the uterus, &c. Chronic pain is mostly lateral and, as pointed out by Herman, oftener on the left side. Pain in cancer of the cervix is generally a late symptom and it is quite common to see patients with inoperable cancer with little or no pain. Simple ovarian cysts usually give rise to no pain, but malignant ovarian growths nearly always give rise to pain due to implication of the peritoneum. In uterine fibroids, especially small ones, pain as a rule is absent, but pain may be marked if the fibroid gets impacted in the pelvis or compresses the neck of the bladder or rectum. In tubal gestation pain often is a premonitory symptom of rupture. Pain of an intermittent character, deep-seated in the pelvis, in a woman who has missed a period is very suggestive of a tubal gestation, due to the distension of the tube from hæmorrhage around the embryo.

Glasgow Medico-Chirurgical Society.—A meeting of this society was held on Nov. 20th, Dr. Robert Jardine, Vice-President, being in the chair.—Mr. Cuthbert S. Wallace delivered an address on Some Problems connected with Diseases of the Prostate. The internal sphincter was, he said, the true bladder sphincter. By means of lantern slides he pointed out that in advanced cases of prostatic enlargement an explanation of the symptoms was easy, but that in early stages there was little physical alteration to account for symptoms. He considered that, in this country at least, chronic prostatitis was rare and that most of the symptoms were those that belonged to sexual neurasthenia. The appearances of chronic inflammation were wanting in the specimens which he had examined. The best case of prostatic enlargement for operation was that with large resistant prostate with well-marked symptoms. The suprapubic route was best. The small hard prostate was best left alone if the symptoms were not marked and if attacked the low route was best. The signs of carcinoma were a small hard prostate unilobular bulging of the rectum, a plaque-like extension into the inter-vesicular area or into the base of the bladder, and a thickened condition of the urethra. Hæmorrhage was not common; pain might be extreme. Other symptoms were the same as in simple enlargement, except that the duration of illness was usually less. He referred to the possibility of diagnosing the condition while the cancer was still confined to the gland. Regarding the possibility of diagnosing carcinoma while still confined to the gland, it was pointed out that the most remarkable symptom—viz., the upward extension on to the bladder base—was no good, as when such had occurred it was obvious that the growth was already outside the gland. Also there was no doubt that metastasis occurred in distant parts, though there was little local infection. The neighbouring glands might escape while the pleura was infected. He referred to cases illustrating the fact that a patient might live in fair comfort for three years after the microscopic diagnosis of cancer. Even piecemeal removal of the gland behind the urethra was successful in relieving symptoms, though useless from a curative point of view. The operation of real, total prostatectomy would take its place in the future, though the mortality was bad at present. It was

There are foods of this kind to be obtained from establishments in London, whose praiseworthy and successful efforts have been brought to bear to produce it. Unfortunately another side presents itself that nowhere escapes being encountered, and here the foods contain a varying amount of starch, which may even, in some cases, be found to reach that belonging to the bread-stuff food in common use. A moment's reflection will suffice to show that no proper knowledge can be obtained with reference to the matter under consideration in the absence of a knowledge of the actual state of the food consumed by the patient.

Generally, at an early stage of the disease (children excepted), the effect of putting the patient on a restricted diet is not attended with the production of an appearance of the acetone bodies. At a later stage, in the case where dieting has not been in a proper manner carried out, and where sugar has been all along voided, the effect of cutting off carbohydrate food may be expected to lead to a certain amount of show of the acetone bodies. Afterwards, when, as a result of the dieting, the sugar is reduced and subsequently removed; the acetone bodies may also, in the course of a little time, be counted upon to make their disappearance.

In a case of a somewhat advanced nature, where the acetone bodies have already become present, the change of diet leads to a certain amount of augmentation of them, but the augmentation that shows itself does not afterwards intrinsically tend to proceed further. In fact, the future issue is dependent upon the stage of disease that has been reached. If too advanced to admit of rectification, the disease and its associated acidosis make headway together till it happens that the acidosis becomes greater than the power of the system to withstand, and death ensues. If not sufficiently advanced inevitably to lead to this issue, and the case should be of a suitable type subsequently to yield, the sugar, as time goes on, may be found to become more and more reduced and ultimately to disappear, and, with this, the acetone bodies may be expected to follow a similar, but more tardy, course. In this way, from what may have seemed at the beginning a very unpromising state, progress may be made through the instrumentality of the influence exerted by the food in bringing down the sugar, for this is at the root of the change induced, to the attainment of a condition in which a totally new aspect is given to the life tenure prospects.

There have been those who have deprecated the strict diet in the treatment of diabetes on account of the relation that has been referred to between acetonuria and the exclusion of carbohydrate from the food. The effect of the acids of the acetone group in leading up to coma should, it has been suggested, demand first consideration and prohibit the cutting off of carbohydrate food. If such a *maxim* were acted upon, diabetics would stand, as indeed they did in former times before dieting was applied as it is now, in a very bad position. It is within my own recollection to have known that the outlook in diabetes was vastly different from what it is now. Experience shows that the

WAY TO GET RID OF THE ACETONE BODIES

is to bring the sugar down, and if this is not done, all that can be looked for is that they will go on increasing. The sugar in the system, by its direct toxic influence, may, be regarded as a main factor in causing the acidosis in the first place to set in, and then to grow. In a case where sugar and the acetone bodies have existed, and, by cutting off carbohydrate, have become removed, as long as sugar-free urine is maintained, there is no return of the acetone bodies. Let sugar reappear by relaxation of diet, and a return of the acetone bodies may be expected to likewise occur. I could cite many cases where such has happened, and have further observed a renewed disappearance on a return to the proper food.

The effect of what I have stated is to suggest that, in ordinary cases, the cutting off of carbohydrate should at once be put into force for the purpose of dealing with the acetone bodies. At the same time, however, I do not mean to say that cases may not now and then present themselves in which it would be unwise to adopt such a course. In extreme cases, where the patient is on the brink of the supervention of coma, a little increase in the acidosis existing may suffice to turn the scale and bring about a fatal issue. The sudden withdrawal of carbohydrate has been seen to lead to such increase, and thereby a demand is created for the exercise of judgment in connexion with the course to be adopted.

The frailness of the condition as a whole, in the circumstances under consideration, has also to be taken into account. We know how easily, through the general state, the acetone bodies may be increased. A severe attack of migraine, for instance, may send them up, and influenza, pneumonia, &c., may do so sufficiently to suddenly bring about the supervention of coma. There is too much instability of system to withstand the influence of sudden change, and thus an added condition presents itself to that emanating from the direct action of the cutting off of carbohydrate on the dissociation process, which tends to promote the augmentation of the acetone bodies passing into the blood.

I have entered at some length into the question of acidosis and its bearings on food treatment in diabetes in my work on "Carbohydrate Metabolism and Diabetes," and at pages 117-22 will be found what I have said upon the subject.

Mal-application of carbohydrate food within the system constitutes the essential error existing in diabetes, and what is wanted to be effected by

TREATMENT

is to bring conditions back into line for it to be again turned to proper account. In a state of health, carbohydrate is taken and can be followed to the seat of absorption belonging to the alimentary canal. Here, however, it becomes lost to view. Neither the blood nor the urine affords evidence of the absorption that manifestly occurs. Physiologists say, notwithstanding they are confronted with this fact, that passage of the absorbed sugar into the blood occurs, but that its removal by the tissues prevents its coming into view. This constitutes an assumption which is not only not supported, but is opposed by experimental evidence. In former times, when it was held that a tangible disappearance of sugar took place in the passage of the blood from the arteries to the veins, some show of foundation presented itself for the entrance of sugar into the circulation, but now that it is admitted that no such disappearance is to be recognised, the entrance could only lead to presence in the blood and outflow with the urine, which represents the state of things existing in diabetes. For sugar to reach the circulation without showing itself in the urine, it would be necessary for a capacity to exist for effecting its instantaneous removal, and that no such capacity is present is made evident by the experimental injection of minimum quantities intravenously.

To keep sugar out of the urine, it must be kept out of the circulation, and any hypothesis explanatory of the procedure connected with the physiological application of carbohydrate must be based upon this principle. To regard it as falling within the natural course of events that the food carbohydrate should pass through the circulation to the tissues in the form of sugar is tantamount to taking the pathological as representative of the physiological state, seeing that it is just such passage which is productive of diabetes.

To escape from diabetes, the food carbohydrate must not be allowed to reach the general circulation in the form of sugar. This is

THE BASIS TO PROCEED UPON,

and the view that has been enunciated in these lectures fits in with it. It is contended that the absorbed sugar becomes dealt with at the seat of absorption, and, in company with the products derived from protein digestion, is, by the bioplasmic action attending lymphocyte growth, put into an elaborated state. The process falls under the denomination of assimilation, and when the sugar is thus disposed of and incorporated as a constituent of the large newly-constructed molecule, it is placed in a position to be secure from running off with the urine during the transit of the blood through the kidney.

Looked at in this way, the error in diabetes consists of a faulty assimilation of the sugar absorbed from the alimentary canal. Digestion prepares for absorption, and assimilation, which follows immediately upon it, puts the absorbed digestion products into an elaborated state, in which form they pass through the thoracic duct into the blood and there constitute the pabulum from which the tissues draw their nutrient supply. This agrees with what used to be the idea entertained by physiologists with regard to the course taken

Reviews and Notices of Books.

The Origin of Vertebrates. By W. H. GASKELL, M.D. Cantab., F.R.S. London: Longmans, Green, and Co. 1908. Pp. 537. Price 21*s.* net.

FOR 20 years the papers from which this book has been compiled have been published at short intervals, and to their author it is a subject of wonder and regret that they have not been criticised as are other papers of a like calibre. That they have not been so criticised does not imply want of notice, for probably few scientific papers have been more extensively or fully read, but it does seem to imply that the leaders of morphological thought have realised that they must adopt one of two courses: (1) allow the essential truth of the theory and at the same time admit that the foundations of embryology as at present taught are unsatisfactory; or (2) ignore the wonderful sequence of morphological researches and deductions because they do not fit in with our present conception of embryology.

It is quite childish to pretend that the importance of the subject does not justify the trouble necessary to expose any fundamental error there may be in the chain of constructive argument and probably the inadequate notice which Dr. Gaskell's papers have received is the greatest tribute that could be paid to him. In trying to be altogether just we must recognise the possibility that critics were waiting until the work was presented as a whole before crushing it or admitting its substantial validity, though against this it has to be realised that there is no living morphologist who has devoted 20 years to the study of the origin of vertebrates or who could fairly criticise the subject from every point of view. To those who have not read the original papers, most of which appeared in the *Journal of Anatomy and Physiology*, we suggest that after reading the introduction they begin the book with Chapter XIV. on page 455. This is on the principles of embryology and if, after reading it, they are convinced that the epiblast and hypoblast could not change places with one another as the theory demands they need go no farther. If, however, any suspicion of the sanctity of the three germinal layers arises the constructive part of the book should be read with the care which it undoubtedly deserves.

The author's object is to show good reasons for deriving the vertebrates directly from the arthropods, and that the central canal of their brain and spinal cord is the arthropod's alimentary canal; that the infundibulum, leading to the pituitary body and pharynx of the vertebrate embryo, is the mouth of the arthropod, while the neurenteric canal represents the more primitive anus. Incidentally the various parts of the invertebrate brain fall into their places, the supra-œsophageal ganglia become the fore brain, the supra-œsophageal commissure the anterior commissure of vertebrates, the infra-œsophageal ganglia become the hind brain, while the parœsophageal connectives are the crura cerebri. So, too, the cephalic stomach of the arthropod becomes the ventricles of the brain, while the fore brain retains its original communication with the olfactory and optic nerves and the hind brain with the nerves concerned in mastication and respiration.

The nearest living arthropod to the vertebrate progenitor Dr. Gaskell regards as the king crab (*Limulus*), a close ally to the trilobites which were so plentiful in Silurian times. The trilobites, sea scorpions, and king crabs are included in the group Palæostraca from which the Crustacea, Arachnida, and Vertebrata were gradually evolved. The earliest vertebrates known are fish without jaws, in this resembling the lamprey, and they first appear in Silurian times. Dr. Gaskell insists that their nearest living representative is not the amphioxus of our orthodox text-books, but ammocœtes, the larval lamprey. Very interesting to the anatomist are the chapters devoted to the evolution of the pineal body, the thyroid body, the notochord and ductless glands; but the author is in harmony with most modern thought in insisting on the importance of the nervous system as the master organ the development of which determines the winners in the struggle for existence.

Whatever the line of descent of the vertebrates may be there can be no doubt as to the wonderful deductive powers of the author or the patience and skill of his 20 years' research. What the plain man will ask is, "How much is he keeping back?" and "Is he, like some brilliant theorists, using only the facts which support his case?" As to this we, like the author, must await the verdict of the experts. If they know anything beyond the embryological difficulty which makes his case impossible it can still be said, though the wonder is that knowing it they have not said it already.

Military Hygiene: a Manual of Sanitation for Soldiers. By Lieutenant-Colonel R. H. FIRTH, R.A.M.C. London: J. and A. Churchill. 1908. Pp. 299. Price 3*s.* 6*d.* net.

THIS comprehensive little work has been presented by the author in order to explain the bearing of the principles necessary for the preservation of health. It is especially valuable as, according to the provisions of Army Order 3 of 1908, sanitation is a compulsory subject of examination for promotion to the rank of Captain. The importance of sanitation is at length becoming fully recognised in our army, for it is now manifest how disease will produce absence from the effective ranks, and thus the prevention of disease is synonymous with military efficiency. We entertain our recruits after an examination as to their personal fitness; the aim henceforth should be to retain them, so far as medical science can retain them, in this state of personal fitness. Those in authority must know for this purpose how soldiers should be housed, fed, clothed, and equipped. These details this work undertakes to teach to those concerned, and admirably has it effected its object.

The author commences his subject by a consideration of military morbidity and mortality as influenced by locality, age, and length of service; he shows *inter alia* that the loss due to discharge as invalids is not materially increased by foreign service, although the death-rate is distinctly raised thereby. *En passant*, we see that that class of disease—the venereal—which is so important in the army, is present in its highest ratio in the American army, the British army coming next, whilst the Germans enjoy the greatest freedom from it. The causes of disease are considered, after which Lieutenant-Colonel Firth enters on the subject of the chief preventable diseases of soldiers, including venereal diseases, malaria, dysentery, infectious diarrhœa, cholera, typhus fever, enteric fever, plague, Malta fever, yellow fever, scurvy, and cardiac affections. The principles of the prevention of disease are detailed and here we see the good effects of inoculation against enteric fever admirably portrayed. The agencies by which organised sanitary effort is carried out are then dealt with. Next we come to the points to be considered in enlisting recruits, followed by a chapter on their physical training.

One of the best chapters in the book now follows—viz., that on barracks. This includes matters relating to the site, the disposition of the buildings on the site, the planning of the barrack-rooms, the ablution rooms, the method by which cleansing should be carried out, questions concerning the storage of food, the washing-up of plates and dishes, the latrine accommodation, and especially the consideration of tropical barracks. It closes with

When the setting in of restoration of carbohydrate assimilative power will occur, cannot in any case be predicted. It may be within a few weeks, or a few months, or it may be delayed for a few years. A striking instance of long delay is afforded by the following case of a patient who was 42 years of age when he first came to me on Oct. 14th, 1904. He was then in a very broken-down state and his urine contained 71·4 per 1000 of sugar associated with a certain amount of diacetic acid and acetone. Notwithstanding close attention to a properly restricted diet, the declining sugar did not disappear till the end of about six weeks. On Nov. 18th there was a little sugar present, but on Dec. 3rd there was none. The patient became restored to health and continued on the strict diet till July 28th, 1906, before any sign was afforded of returning assimilative power. Acting upon the indication then presented, three ounces of ordinary wheaten bread per diem were tried and found to be tolerated. At the end of September there were indications of further restoration of assimilative power, and the bread was increased to four and a half ounces per diem without any return of sugar. No further indication of growth of power has since appeared, and the patient, who was last seen on Nov. 14th, 1908, is so far maintaining a perfect state of health with food adjusted to the curtailed carbohydrate assimilative power that he possesses.

The

RETURN OF ASSIMILATIVE POWER IS REVEALED BY UNMISTAKEABLE SIGNS.

These consist of a fall in weight and a bodily feeling of sinking or food want. As long as there is no return of assimilative power, the restricted diet suffices to meet the requirements of the system, and a proper state of equilibrium exists within. Not so, however, when restoration of carbohydrate assimilative power has taken place. Here the restricted diet, as in the healthy person, fails to meet the demands of life and Nature reveals it through the signs that have been referred to. Whilst no carbohydrate assimilative power exists, a supply of carbohydrate cannot be needed by the system. When, however, the power becomes restored, carbohydrate becomes immediately to a proportionate extent wanted—a fact that is plainly shown by Nature's revelations. These revelations, associated with sugar-free urine, may be safely read as meaning the setting in of returning assimilative power, and that action should be taken accordingly. The action needed is the supply at first of a limited amount of starchy food. The urine immediately tells the tale if too much is given. Afterwards, the starchy food must be increased as the restoration of power advances, always keeping the amount given within the boundary line of the power existing.

The

EXTENT TO WHICH THE ASSIMILATIVE POWER BECOMES RESTORED

varies greatly in different cases, but in each a sharply defined line throughout the progress exists. In a certain number of instances it becomes restored completely, which implies that the attack of diabetes has been in a direct manner thrown off. It is usual for it to become restored up to a certain point, and there to remain more or less fixed. If a patient, in the presence of these circumstances, should take carbohydrate food beyond the power existing to assimilate it, and thus give rise to a renewal of the transit of sugar through the system, the assimilative power will again decrease, and should a marked amount be allowed to pass through, the condition may be expected in the course of time to become as bad as it was at the beginning, if not even worse. It is in this way that relapses take place, and for the maintenance of a satisfactory state, the maintenance of sugar-free urine constitutes a *sine quâ non*. The sugar that pervades the system as an effect of the disease thus becomes a paramount factor in relation to issue.

The class of case upon which the remarks I have made have been based is that belonging to the "alimentary" type, which is the common form met with in patients above the middle period of life. Ordinarily in young subjects the case at the beginning runs upon the lines that have been depicted, but later, on account of the existence of an inherent progressiveness, the treatment which at one time succeeded in keeping things right fails any longer to do so, and a relentless onward march ensues. Progress into the "composite" or bad type is not always to be averted in later years, but it is very much accelerated by improper dietetic management, and when the advanced stage is reached, the case, on account of sugar being derived from tissue disintegration as well as from food, is naturally no longer susceptible of being influenced by diet in precisely the same manner as whilst belonging to the "alimentary" type. Unfortunately for the training of the student, the class of case that is usually met with in the hospital belongs to the "composite" and not to the "alimentary" type.

It is something to achieve to be able to effect a restoration of assimilative power that will permit of a certain quantity of starchy food being taken. The patient is placed in a much less difficult and much more comfortable position. I first hinted at the recovery of the power in the supplementary Croonian lecture delivered by me at the Royal College of Physicians of London in November, 1897,[5] and subsequently, in a communication published in THE LANCET in 1900[6] under the title of "Differentiation in Diabetes," I entered into a detailed consideration of the matter. The subject has also been fully dealt with in the section on diabetes contained in my work on "Carbohydrate Metabolism and Diabetes," 1906, and notwithstanding the light that the information throws upon the whole question concerned, and the satisfactory basis that it supplies in connexion with the application of treatment, I have not seen that the attention it deserves has been given to it.

It follows from what has preceded that the physician is dependent for success in treatment upon the character of the food that is available for his patient. Through the incentive that has been created for meeting the demand that has arisen for a pure and palatable

DIABETIC BREAD-STUFF,

endeavours have been successfully applied in the direction needed, and there are now establishments in London from which the diabetic can reliably obtain his required supply. At the same time, there are foods produced and sold under the name of diabetic foods that are not entitled to receive this designation, and they constitute the source of a great amount of harm. Many are no better than ordinary domestic foods, and others contain too much carbohydrate to permit of its being possible, in the usual run of case, to get rid of the sugar from the urine.

In illustration I may refer to some foods that fell under my notice about a year ago in the following way. In connexion with the case of a boy patient, a physician from Paris on a visit to London was, at the request of an uncle residing in France, permitted to see the patient, and on his return home dispatched a parcel of diabetic foods obtained from a well-known supply establishment in Paris. Here are the figures showing the percentage of carbohydrate expressed as starch that they contained in the water-free state, into which, for apt comparison, all foods should be brought previously to analysis:—

	Carbohydrate as starch.
Gluten flour	72·0 per cent.
,, bread	50·0 ,,
,, biscuit	54·7 ,,
Granulated gluten	63·9 ,,

Food supplied by Rademann of Frankfurt was referred to when I was speaking of Professor von Noorden's "oat" cure. Samples were obtained from this maker at the early part of the present year, and the figures here given show the percentage of starch present in the articles in the water-free state. An improvement is perceptible upon the figures previously yielded:—

	Carbohydrate as starch.
Diabetic white bread	47·2 per cent.
Diabetic Graham bread	40·8 ,,
Diabetic black bread	41·9 ,,
"D.K." bread	74·5 ,,
Diabetic rusks	46·5 ,,
Diabetic cakes	44·4 ,,
Diabetic meal	62·0 ,,

I have said nothing about drug treatment, and for the reason that I know of nothing that by itself exerts a direct and immediate arresting influence over the elimination of sugar. In reality, something is wanted to set metabolism right, in like manner as it is set right by the thyroid extract two heads, Ectoparasites and Endoparasites. The former or external parasites are worthy of notice, mainly because of their possible rôle in the life-history of some of the internal parasites. In this section mention is made of the lice that infest grouse, and the flies, fleas, mites, and ticks which are to be found from time to time on this bird. The endoparasites are of more pathological significance, since some of them are responsible for serious outbreaks of disease. There are several varieties of platyhelminthes which, however, appear to do little harm. Of the nematode worms the strongylus pergracilis is the cause of serious epidemics of Klein's disease. The syngamus trachealis is very rarely found and no disease has as yet been traced to it. Similarly the trichotrachelidæ have one representative which occurs sparingly in the duodenum. Dr. L. Sambon has described a microfilaria in the blood of the grouse; he also with Dr. C. G. Seligmann has recently described a leucocytozoon, one of the hæmosporidiæ, which they found in the blood of a grouse. No disease analogous to the one which is so fatal to turkeys caused by an amœba has been observed in the grouse. The work has not been carried out under the most favourable conditions and the amount of original observations accurately described redounds to the credit of the investigators. We look forward with pleasure to the completed report of the committee, which will appear in due course.

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[5] Brit. Med. Jour., 1897, vol. ii.

[6] THE LANCET, June 16th, 1900, p. 1706 et seq.

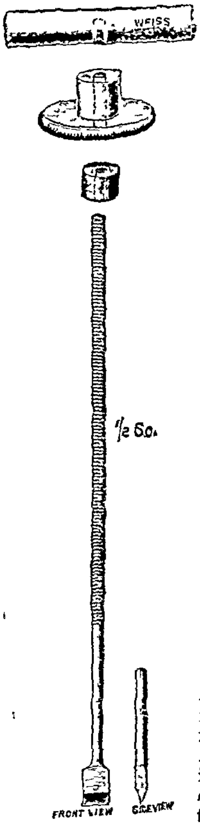
Some Characteristics and Requirements of Childhood. By ALICE RAVENHILL, F.R.San.I. Leeds and Glasgow: E. J. Arnold and Son, Limited. 1908. Price 9*d.* net.—Miss Alice Ravenhill has written an interesting little book which has arisen out of the desire to draw the attention of those whose time does not permit them to study more detailed works on the subject to the significance of childhood. The characteristics and requirements of childhood are well and clearly set down, the educational needs of the children are considered in a temperate manner, and the educational needs of the school child are well catered for. There are shoals of publications purporting to cover this ground—either this only or this and a great deal more. Of some of these, particularly the more ambitious, we have had occasionally to say uncomplimentary things, but here it is our pleasant duty to be laudatory. Miss Ravenhill has set down clearly the salient characteristics of childhood and has indicated the chief requirements which the child ought to expect from those in charge.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by Professor WILLIAM OSLER, Dr. J. ROSE BRADFORD, Dr. A. E. GARROD, Dr. R. HUTCHISON, Dr. H. D. ROLLESTON, and Dr. W. HALE WHITE. Vol. II., No. 5. October, 1908. Oxford: At the Clarendon Press. Subscription price 25*s.* per annum, single numbers 8*s.* 6*d.* each.—The contents of this number are: 1. Extensive Atheroma and Dilatation of the Pulmonary Arteries without marked valvular lesions as a not very rare cause of fatal cardiac disease in Bengal, by Major Leonard Rogers, I.M.S., with four plates. This paper is a study of ten cases, one of which was correctly diagnosed during life, being the first in which this has been achieved. Major Rogers states that this condition of extensive atheroma of the pulmonary arteries with no marked disease of the systemic vessels and without any valvular affection occurs in Bengal and produces great hypertrophy and dilatation of the right cavities of the heart. It causes palpitation, dyspnœa, and dropsy, from tricuspid regurgitation, and in some cases terminates in hydropericardium to which the fatal result may be due. The cases nearly always occur between the ages of 20 and 40 years and they are almost certainly of syphilitic origin. 2. A paper on a case of Complete Heart-Block, by Dr. A. M. Gossage. The patient was a woman, aged 61 years, with complete heart block, the auricles and ventricles beating quite independently of one another. The case was associated with attacks of giddiness and convulsion of Stokes-Adams type. 3. A paper on Rheumatic Myocarditis, by Dr. Carey P. Coombs, in which it is shown that hypertrophy of both ventricles may occur without obvious mechanical cause and that dilatation is constant. Various histological lesions are described and these are of so special a kind as to support the conception of a specific rheumatic infection. 4. A paper on Mongolism and its Pathology, by Dr. W. Bertram Hill. This is a careful analysis of eight cases and affords an interesting study of the condition. The clinical features are discussed in detail and the pathological results obtained in two necropsies are described and compared with those found in other recorded cases. 5. A paper on the Medical Aspects of Pyelitis in Pregnancy, by Dr. E. Ward. The name of encyopyelitis is proposed for this condition which is stated to be more common than is generally supposed. It is due to infection of the renal pelvis with organisms, usually the bacillus coli communis. The prognosis is worse than has hitherto been recognised. 6. A Critical Review of Polycythæmia, Erythrocytosis and Erythæmia, by Dr. F. Parkes Weber. The extensive literature of these interesting conditions is reviewed and abstracted. A very long list of references is appended and the article should be of considerable value for purposes of reference.

New Inventions.

A SPHENOIDAL CHISEL.



OCCASIONALLY it is desired to open the sphenoidal sinus on account of annoying symptoms arising from an accumulation of pus within this sinus. The chisel described below is recommended by the author as an aid to performing this operation. The instrument consists of a round rod of steel ⅛ in. in diameter and of a total length of 6 in., which includes a terminal chisel ⅛ in. thick, ¼ in. broad, and ⅜ in. long, with a central cutting edge. The chisel proper is rectangular in section. A screw thread is cut on the first four inches of the proximal end of the rod. Upon this thread is fitted a threaded collar of blue steel ¼ in. in length which can be easily manipulated with the fingers. This collar is so adjusted that its terminal extremity occupies a position on the rod which corresponds with the external skin on the septum, when the cutting edge of the chisel is carefully placed against the anterior wall of the sphenoidal sinus. When the surgeon has adjusted the chisel and while he holds it in proper position an assistant will tap gently the proximal end of the rod with a lead mallet until the proximal end of the collar corresponds with the external skin of the septum. The rule for placing this chisel correctly is to hold the blade of the chisel vertically, to rest the rod on the floor of the nostril, and to pass it inwards in contact with the lower margin of the superior turbinated bone, in which case the chisel will enter the sphenoidal sinus without fail when it is driven down to the proper distance. As a result of this manipulation a hole is made parallel with the septum ¼ in deep, ¼ in. broad, and ⅛ in. thick into the sphenoidal sinus. With the use of methods. The serum diagnosis has the advantage of greater facility and rapidity; one does not need the constant presence of the patient, a few drops of fluid suffice, and one can easily carry this little quantity of fluid for examination. 2. Negative reaction only constitutes a presumption against the diagnosis of tuberculosis. One must in this case repeat the test. 3. The comparison of the agglutinating power of the blood with that of pleural fluid would give interesting results. One can apply the same conclusions to the diagnosis of other pathological fluids (especially ascites and hydrarthrosis) except the cerebro-spinal, which is never agglutinative.

V.—*Serum Prognosis.*

The general idea of serum prognosis in disease and the signification of the agglutinating reaction in the evolution of the infectious maladies was proposed by us for the first time in 1896-97 *àpropos* of typhoid fever. We have demonstrated that the degree of the agglutinating power of the blood is the more powerful if the infection is less grave and the resistance of the subject is greater. This is probably applicable to all infectious diseases running a typical course. For tuberculosis the question is more complicated on account of the variability of the forms and the duration of the illness. But it would be as important as it is difficult to establish the prognosis of the illness by the varying agglutinating power in tuberculous patients. Since this date we have said[3] with Professor Arloing: "The agglutinating power seems to be inverse to the gravity of the infection"; and in 1900 we arrived at the same conclusions by animals rendered artificially tuberculous.

The principal arguments on which serum prognosis is based are the following:—

1. *General statistics.*—In tuberculous subjects in whom the serum is not agglutinative from 10 to 15 per cent. are nearly all very seriously ill. The subjects who have advanced consumption, miliary tuberculosis, caseous pneumonia, and meningitis have nearly all a negative serum reaction.

2. *Experiments in animals rendered artificially tuberculous.*—The development of the agglutinating power is the more marked when the tuberculosis is less virulent and the animal more resistant and conversely.

3. *Variations of intensity in the agglutinating power of the tuberculous.*—These variations appear to be dependent on the gravity and progress of the disease. Very marked reactions are found especially in subjects in whom the tuberculosis is slight or becoming quiescent (local tuberculosis of the viscera, fibroid tuberculosis of the lungs, primitive pleural tuberculosis of Landouzy, &c.). Reciprocally slight agglutinations are found especially in patients more seriously ill.

4. *Variations of the agglutinating power in the same subject.*—If one watches for a long period of time a particular tuberculous subject one frequently sees the agglutinating power of his serum rise if the patient improves, and on the contrary fall if the illness becomes worse, and at times even disappears completely. Here are some examples of these two variations:—

(*a*) *Tuberculous pleurisy with a favourable serum prognosis.*—G——, aged 18 years, suffering from tuberculous pleurisy, with effusion, without any other complications; prognosis considered favourable.

Agglutinating Power of Pleuritic Fluid.

Ninth day	+ 5
Fourteenth day	+10
Twenty-first day	+15

(*b*) *Tuberculosis with an unfavourable serum prognosis.*—M., aged 28 years; pregnancy; double pleurisy with fever, secondary phthisis; death in 96 days.

Agglutinating Power.

	Of blood.	Of pleuritic fluid.
Twentieth day	+10	... ... +5
Fiftieth day	+ 5	 0
Eightieth day	0	 0
Ninty-fifth	0	 0

In the first case one sees the agglutinating power increasing until recovery ensues, and in the second fall until death ensues.

5. *Mortality of tuberculous pleurisy considered in relation to the agglutinating power of the pleuritic fluid.*—We have studied more than 120 cases of tuberculous pleurisy and kept in touch with the patients during eight years. If one compares the mortality of patients in whom the pleuritic fluids were agglutinous with that of patients of whom the fluid was not agglutinous one arrives at the following conclusions: 75 per cent. of cures in cases of positive reaction; 73 per cent. of deaths in cases of negative reaction.

Conclusions.

1. *Value of the method.*—The agglutinating power of serous effusions in tuberculous patients must be considered as a very important point in diagnosis and prognosis. It must be studied in all its variations, according to the ages of the patients, localisation, form and degree of lesions, and also in relation to the subsequent reactions which may be obtained.

2. *Necessary precautions.*—In order to make the investigation valuable sero-reaction must be looked for under the most exact conditions as regards the choice of the culture and the general technique of the reaction.

3. *Limitations of the method.*—Given that the agglutinating power of normal serum varies according to age and also to the animal species investigated, serum reaction has a diagnostic value only when the degree of agglutination is higher than the ordinary degree of agglutinating power of the serum of normal individuals of the same age and belonging to the same species.

4. *Serum diagnosis.*—For practical purposes serum reaction must be applied with great clinical discrimination; its results must be compared with the other symptoms and not interpreted blindly. It would not be wise to regard a patient as clinically tuberculous for the sole reason that his serum agglutinates Koch's bacilli. The reaction can have no diagnostic value unless there are other reasons justifying the suspicion of tuberculosis. *In such cases, however, a positive serum reaction has a great value:* negative reaction is of less value. Diagnostically, serum reaction can be considered from different points of view:—

(*a*) *General reaction* (with blood serum).—It does not give information as regards the location of the lesions and indicates only that the system has been or is actually under the influence of tuberculosis. It will be the clinician's task to interpret this information and to derive from it conclusions concerning the localisation of lesions. The serum diagnosis will be of especial use in children, in old people, and also in adults suffering from chronic or latent forms of tuberculosis. Results pointing to the frequency of latent tuberculosis in adults who clinically do not appear tuberculous are almost the same with serum reaction as with tuberculin test (either subcutaneously or in the eye).

(*b*) *Local serum reaction.*—It consists in testing the agglutinating power of serous effusions and indicates the site of the lesions. It is particularly useful for the diagnosis of tuberculous pleurisy, and its results are in accordance with those given by inoculations or cyto-diagnosis.

5. *Nature and prognostic value of serum reaction in tuberculous patients—serum prognosis.*—As is the case in many other diseases the agglutinating power of blood serum and other organic liquids in tuberculosis is proportional to the resisting power of the patients; furthermore, it is in an inverse ratio with the virulence of infection. Serum reaction is frequently absent in very serious or very advanced cases of tuberculosis. It reaches its maximum height in cases which are in the process of healing. It can diminish or disappear sometimes before death; it can, on the contrary, increase when there is a tendency towards healing or towards arrest. It seems to be an index of the protective reaction of the system.

6. *The study of serum reaction and its variation has a real value in prognosis.*—In tuberculous pleurisy with effusion an increasing agglutinating power carries with it a good prognosis, but failing any reaction one must be prepared sooner or later for a fatal result.

Lyons.

HOSPITAL SUNDAY IN PLYMOUTH.—As a result of the recent Hospital Sunday collections at Plymouth the sum of £739 has been handed to the treasurer of the South Devon and East Cornwall Hospital.

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[3] Congress on Tuberculosis in Berlin.

THE LANCET.

LONDON: SATURDAY, DECEMBER 12, 1908.

The Treatment of Incipient Insanity.

IN an address recently delivered before the Forfarshire Medical Association Dr. A. R. Urquhart made certain suggestions for bridging or avoiding the gap which is so often apparent between an insane patient's home and the asylum. He referred to the work that had been done in Glasgow in this connexion. There the fact that a person is mentally afflicted is reported to the medical man who visits and deals with him in a systematic manner. It is plain that it is not necessary to remove every person so afflicted from his home, even though he be certifiably insane, and if it be desirable to remove him from his home it is by no means invariably desirable to place him in an asylum, and for such cases provision is made in the Eastern District Hospital where the patients are placed under observation, care, and treatment until recovery takes place or removal to an asylum becomes imperative. Dr. Urquhart suggested that at Dundee, where he was delivering his address, two small wards with 30 beds would be sufficient. The name of such wards was a matter of considerable importance and such terms as "mad wards" or "asylum wards" could not be permitted. Dr. Urquhart laid much stress on the necessity of regarding insanity as an affair of medicine and he urged his audience not to be diverted from the path of correct treatment or to be obstructed therein by the law. The law imposed upon them a primary consideration of conduct, while medicine imposed upon them the recognition and investigation of disease and the endeavour to remedy or to assuage its ravages. Their plain duty was the recovery of the curable, the care of the incurable, and the after-care of the convalescent. Professor MacEwan also addressed the meeting and pointing out that it was one of the most noticeable features of modern medicine that it endeavoured to deal with cases of disease from their earliest beginnings, so as to make some impressions before the patients became incurable, stated that in insanity the patients did not get any treatment until they had become insane, that is, until they could be certified for detention in an asylum. He argued that cases of incipient insanity should be treated in a general hospital and his ideal would be that there should be a department in the hospital for nervous diseases and that the term insanity should disappear.

In these columns we have from time to time advocated similar schemes and in the report of the Commission upon the Feeble-minded provision to meet such requirements is urged upon the nation. There is without doubt a large class of unfortunate mental patients for whom the profession, the charitable public, and the State have failed to make sufficient provision. Too often the medical man, able to recognise insanity when it has become certifiable, fails, from lack of special knowledge, to regard as serious certain symptoms which are, in fact, the prelude to mental breakdown or, recognising them, is at his wits' end to know what to do or where to place his patients before the moment arrives when certification is no longer to be avoided. So also have the charitable public failed to recognise that the insane person is a sick person and that his illness is one that can often be successfully treated if treatment is commenced early and that the longer treatment is postponed the less good can it effect. It is as if the public should think that a patient cannot have a pulmonary tuberculosis until he has had a hæmoptysis. To the alienist the most heartrending experience is to note the neglect of treatment at that stage of the disease when complete restoration to health is still possible and the slow declension of the mental faculties which he knows must eventuate in such an outbreak that even the public must recognise that disease is present. That the State has to a certain extent been responsible for this unfortunate state of affairs is obvious. In its desire to bring every mental patient under its cognisance it has created a dislike for the publicity of certification, which only induces the friends of patients to take them to the alienist when certification has become absolutely necessary; it has erected a barrier between the medical man and his mental patient which can only be broken down by certification or by the ignoring of the law on the part of the medical man, and it has induced a general impression that an asylum is a species of prison to which persons must go against their will, in which they are "confined," and from which they sometimes "escape," and to which, if "caught," they can be taken back by the constable.

It is pleasing to reflect that this heavy wastage of the mentally sick to the ranks of the certified insane, which is to a large and as we believe to a hitherto unsuspected extent preventable, is to be combated in London by the beneficence of a distinguished alienist, Dr. H. Maudsley. We trust that his scheme may before long be realised. We cannot, however, but regret that the projected hospital for mental diseases cannot be coupled, to some extent, with a hospital for nervous diseases. One of our hospitals for diseases of the nervous system is shortly to be rebuilt on a large scale and is possibly to be provided with accommodation for so-called "borderland" cases and this would seem to afford an opportunity of considering the desirability and the feasibility of establishing such a relationship. That in the out-patient departments of our hospitals for nervous diseases many cases are to be met with which are, in fact, mental cases is a well-recognised fact, and it is in those departments that is most acutely felt the problem of what to do for the accommodation of the unfortunate sufferers.

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The Progress of the Housing and Town Planning Bill.

IN spite of, or it may be because of, the small attendance at some of the meetings of the Standing Committee of the House of Commons which has been considering the Housing and Town Planning Bill, the labours of the Committee are now completed. Clause 13, which amends the greater pity that its quality must remain *a matter of trust* and not of demonstration. Absolute security based upon strict evidence cannot be obtained day by day for each day's supply. There is no simple test to be applied on the spot like the test which we apply to a coin. Our position is one of uncertainty: *Caveat emptor.*

In conclusion, it would perhaps not be far wrong to say of the present milk-supply that at its best it is still precarious, that in its lower grades it needs reform, and that *in regard to the infants* of the poor it is a scandal and a scourge.

The Personal Factor in Digestion and the Individual Quality in the Milk.

We cannot overlook the fact that there are unusual subjects and unusual conditions not suited by ordinary supplies, besides the so-called "milk idiosyncrasies" where even mother's milk may not be tolerated. As regards cow's milk, incompatibility is the exception. The majority of cows yield digestible milk and the great majority of infants put up with the milk supplied to them. Absolute idiosyncrasy against all milk of any kind whatsoever is rare. But the genuineness of this absolute exclusiveness has perhaps not had its full test in the past for want of a sufficient assortment of milks.

Acquired intolerance, induced by gastro-enteritis or some other accident of health, is fortunately temporary and not intractable. The beginning of some of these gastro-intestinal catarrhs may be an insidious, ingravescent dyspepsia from long-continued alimentary disappointment in susceptible stomachs. The larger group illustrating the personal factor is that in which an idiosyncrasy exists for some milks only. For some of these infants vomiting is the safeguard against the risk of indigestion. But others, deficient in selective instinct, do not protect themselves in this way and incur the resulting apepsia and athrepsia. Some special milk has to be found which may chance to suit and to be properly digested, and if found the supply had better be continued. For all these cases a wider range of choice in milk would be a boon. Infants for whom bottle milk has to be provided may therefore be arranged into three groups: Group 1, the normal infants; Group 2, the normal infants accidentally turned into milk dyspeptics; and Group 3, the abnormal infants, with varying degrees of idiosyncrasy—a growing class in our generation.

The requirements special to the three groups, and percentage milk.—It is in the management of the temporary difficulties of Group 2 and of those permanently belonging to Group 3 that Rotch's system is most helpful. It goes beyond the principle "for each infant its own milk," in undertaking to supply "for each infant's mood its own milk." For the present we cannot work it on the vast scale required for the masses. As a fact it is most needed by a relatively small number; and it is superfluous to make provision for the mass just on the narrow lines suited for the minority. Percentage feeding is required every day for the sick stomachs of Group 2; and in its absence it taxes the highest skill, and too often baffles the mother, to find a life-sustaining substitute. This may perhaps be more readily found in the near future. At any rate our policy is clearly that of *prevention* by providing for Group 1 the good, health-preserving milk-supply which has been wanting. If only given a fair chance in this the vast majority of infants will cause little trouble.

The Infant as a "Strong Feeder."

Non-dyspeptic adults, with little thought for longevity, are hardened sinners against the law of percentage feeding. They are "strong feeders"—indifferent to the dead weight which exercises the vigour of their peristalsis. Strong feeders, too, are their breed. The ordinary infant thrives on the excess of his intestinal fulness and function and qualifies from the cradle for a "big eater" through overflowing supplies from the cow. The frugality of percentage feeding might correct that bias. But the objection might be whispered that it is an "unwise concession." It has been alleged that we have already sacrificed the hardness of our teeth to the softness of our food. Is it to the advantage of the race that we interfere with the primitive roughness of these intestinal athletics? We can afford to waive that discussion, as the urgently needed remedy is not at present obtainable from that quarter. What we do want is *an absolutely sound and absolutely reliable constant supply of best quality milk for infants.* The easy fulfilment of this requirement is perhaps in our hands this day.

[Dr. Ewart here exhibited to his audience samples of the stored milk supplied to him by the Vacca Milk Company, Limited, of Amsterdam, to which he had given an extensive trial at the instance of Mr. A. F. Bilderbeck Gomess. Dr. Ewart instanced a bacteriological report made by Dr. Klein to the effect that the milk had been effectively sterilised without boiling and retained in a sterile condition without the use of preservatives, while he quoted from the analytical reports of THE LANCET[3] as emphasising the fact that no "boiled" flavour was present. He added the results of his clinical inquiry to show that the milk, which has been used for export to the tropics rather than for the feeding of infants, might have a great future in the latter direction as it is digestible, produces no scorbutic symptoms, and children thrive upon it.]

A CASE OF NEURASTHENIA COMPLICATED WITH (?) "VASO-VAGAL ATTACKS."

BY MILDRED M. BURGESS, M.D. LOND.

IN THE LANCET of June 8th, 1907, a lecture by Sir William Gowers is published on the subject of "Vagal and Vaso-Vagal Attacks." The patient, whose condition is described below, suffered from "attacks" which apparently come under the same category.

History of the case.—The patient was a woman, aged 39 years. Her father and one sister died from morbus cordis, the former from aortic disease and the latter from "enlarged heart and dropsy." Before the present illness began she had lived an exceedingly active, energetic, and vigorous life. She was brought up in the country and went in for sports of all kind. At about the age of 23 years she trained as a nurse at a London hospital and subsequently did district nursing. Although full of energy she was never very robust and had been told that she had a "weak heart." Four years ago she went to South Africa and for six months was sister at a miners' hospital. She worked at very high pressure as she was single-handed. While she was there an epidemic of typhoid fever occurred, during which time she took day and night duty continuously for a month, getting only snatches of sleep in a deck chair. After leaving the hospital she went up to East Africa and camped out there for seven months. She thought that she had "a touch of the sun" during this period. From that time until she came under treatment in March last she never felt well. Two years ago she returned home and has since done occasional nursing, but not without much mental and bodily fatigue.

General condition.—The object of this article is to describe the definite "vaso-vagal attacks," but apart from these the patient also showed typical neurasthenic symptoms. She was always more or less tired, was very irritable at times, had lost all power of concentration, and occasionally was melancholic. She was thin and sallow, had no appetite, and was very constipated. There were tremor and twitching of the muscles of the hands and the tongue was tremulous. She complained that at times she felt very "dished," but this was the only indication she gave, in describing her symptoms, that she was suffering from definite "attacks." The nature of these was only discovered when the patient was under close observation. The physical examination was interesting as showing absolutely nothing organically wrong in any part of the body. The heart was not enlarged and the only irregularity was an occasional systolic murmur at the apex. The action of the heart was feeble, at times irregular; the sounds at the base were hardly heard in a recumbent position. The rate of the heart beats was inordinately quickened on moving from a recumbent to an upright position. The pulse ordinarily was slow, ranging between 60 and 70. The temperature was nearly always subnormal, ranging from 96·8° to 98·4° F., the latter being reached only six times in three weeks.

Description of "vaso-vagal attacks."—The attacks came on quite suddenly with a sense of extreme fatigue, amounting almost to loss of power. The patient usually turned to one side and lay quite flaccid and motionless. The extremities employment of the unqualified assistant ceased, the defendant found himself unable to pass his final examination and apparently took to practising without a qualification. In May of the present year it became necessary that a batch of recruits destined for the Spennymoor detachment of the 6th Battalion of the Durham Light Infantry should be medically examined before enrolment, and the colour-sergeant of the company called in Ross to make the examinations under the impression that he was a registered medical practitioner. He made the examinations and signed necessary certificates over the words "medical officer" printed on the official form, receiving 17*s.* as remuneration for doing so. According to the evidence of the colour-sergeant the defendant had acted on previous occasions in a similar manner but had not received fees for doing so and his certificates had been accepted without question; on the recent occasion he had signed the receipt for the 17*s.*, adding the word "surgeon" to his signature, and this was charged as a second offence. The magistrates who heard the case practically treated the matter as one breach of the law, ordering the defendant to pay the fees of the court, amounting to 5*s.* 6*d.* on the first charge and a fine of £3 inclusive of costs on the second. He appears to have been dealt with adequately, as no doubt he will not repeat his offence and as the carelessness of the military authorities in employing him laid him open to temptation.

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[3] THE LANCET, March 8th, 1902, p. 675.

The official examination of recruits for military service is, however, one of importance to the State and an unqualified person pretending to perform it necessarily deprives of an emolument a medical practitioner who has not failed to qualify himself as such. A case of this kind, however, even more than those of the more ordinary class to which reference has been made, exposes to criticism the attitude of the law and of the public which acquiesces in it towards the practice or pretended practice of medicine by the unqualified. A man situated as the defendant was may be fined for signing his name on an official form after examining a recruit for the Territorial Army. If the same recruit chooses to consult in civil life an absolutely ignorant and illiterate quack, whose flamboyant advertisement in the pages of a local newspaper or on a hoarding has attracted his notice, the law, regarding him as an independent agent selecting his own medical adviser, affords him no protection whatever. The quack knows the law and as a rule manages to steer clear of the one risk which it places in his course. He knows, that is to say, that so long as he says and does nothing which can be construed as the use of a title implying registration as a medical practitioner, he can fleece his victim and endanger his health or his life with impunity. Members of the medical profession in a spirit of thankfulness for small mercies, perhaps ought to consider it a matter for self-congratulation that the public allows them some measure of protection against the competition of unscrupulous and fraudulent pretenders, but they may well marvel that the same public should so contentedly fail to protect itself, and in particular that it should leave the humbler and less educated portion of the community to the tender mercies of unscrupulous rogues. There are charlatans, no doubt, who make their living out of the credulity of those who ought to know better than to trust them but they are few in number and harmless in the results which they bring about in comparison with those who reap their harvest among the working classses. Such a state of affairs is inconsistent with the high honours accorded by the State to men distinguished in the practice of medicine and surgery, and it is to be hoped that the anomaly may be corrected soon.

The General Medical Council is proving itself alive to the importance of the matter, as was shown by the report unqualified practice prevention committee, an accou which we published in THE LANCET last week. The contained full information as to the prevention of un fied practice in other countries, and as a result of its ado the General Medical Council has signified to the Council that in this country persons requiring medica are not sufficiently protected by law from quacks and asked for the appointment of a Royal Commission to inq into the evil effects of unqualified practice.

Annotations.

"Ne quid nimis."

A DEPARTMENTAL COMMITTEE ON THE MIDWIVES ACT.

A Departmental Committee has been appointed by t Lord President of the *Privy Council* to consider the workin of the Midwives Act, and in particular with reference to th supply of midwives and the cost of training, the remunera tion of medical men summoned on the advice of midwive under the rules in pursuance of the Act, and the delegatio of their powers by county councils under the Act. Th chairman of the committee is Mr. Almeric W. FitzRoy, clerk of the Council, and the members are: Mrs. Charles Hobhouse, Mr. J. S. Davy, C.B., assistant secretary, Local Government Board; Dr. A. H. Downes, medical inspector for Poor-law purposes, Local Government Board; Dr. F. H. Champneys, chairman of the Central Midwives Board; and Mr. John Pedder, a principal clerk in the Home Office. Mr. H. J. Stanley, private secretary to the Lord President, and Mr. F. J. Welch, staff clerk in the Local Government Board, will act as joint secretaries. We are heartily glad to learn that the working of this Act is to be made the subject of official inquiry. It is an open secret that the Act has so far not given satisfaction, and this must have been gleaned from our own columns. The difficulties of securing a uniform supply of midwives throughout the country are very great, the remuneration of medical men summoned under the Act to the assistance of midwives has not been arranged properly, and the number of unworthy women who have secured a position on the Midwives Register is alarmingly great. This is shown, for example, by an account of the last meeting of the Central Midwives Board (p. 1787). But while we welcome a Departmental Committee to suggest remedies in these circumstances we do not consider that the medical constitution of the committee is very fortunate. Dr. Downes is an admirable and experienced official of the Local Government Board, and Dr. Champneys is the painstaking chairman of the Central Midwives Board, but who represents general medical interests? Who on this Committee really understands what they are? Some well-known general practitioner or one of the Direct Representatives of the medical profession on the General Medical Council should be invited to strengthen the deliberations.

to some unusual exertion, but they often occurred 24, 36, and 48 hours subsequently. As she recovered, however, the attacks followed more closely after the exertion. This was specially well marked in the last attack which occurred at the end of July, 1907. She had been free from them since June 8th. One night she slept badly, ate very little breakfast, and then went out and pushed her bicycle up a very steep hill. Feeling tired, she went into a cottage to rest and had "an attack." From this it seems possible that the result was due to the exhaustion of some stimulating centre rather than irritation of an inhibitory one. But whatever the cause, the phenomena were those of a slowed, feeble pulse and withdrawal of blood from the surface of the body, so that probably any theory that satisfactorily explains the much-debated question of surgical shock would also apply to this case.

Comparing this case with those described by Sir William Gowers it is interesting to note: 1. Absence of any kind of pain, tetanoid spasm, rigor, tingling, or anything resembling epilepsy. 2. There was no impairment of consciousness. 3. The presence of the sense of impending death. 4. The sudden sense of physical fatigue at onset. Case 2 in his series most closely resembles this patient.

Brixton Hill, S.W.

A CASE OF CEREBELLAR ABSCESS FOLLOWING MIDDLE-EAR SUPPURATION; OPERATION; DEATH.

BY GEORGE N. BIGGS, M.B., B.S. DURH.,

ASSISTANT SURGEON TO THE EAR, NOSE, AND THROAT DEPARTMENT, SEAMEN'S HOSPITAL ("DREADNOUGHT"), GREENWICH; REGISTRAR TO THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.

ON Sept. 17th a man, aged 35 years, presented himself at the Seamen's Hospital complaining of vertigo of 14 days' duration; at the onset it had been slight but for the last two or three days very severe, and there was a marked tendency to fall to the right side. Slight nystagmus was present, the movements being equal in both directions. The pupils were equal and reacted to light and accommodation, and there was no paralysis of any of the extra-ocular muscles. There was no facial paralysis and the patient had had no attacks of sickness or any headache, neither had there been any earache. There was no weakness of any of the other cranial nerves. The patient had had a discharge from his right ear for at least 20 years. No mastoid swelling or tenderness was present.

On examination of the right ear a large perforation involving almost all the membrana tympani was present and there was also a perforation in Shrapnell's membrane. Granulation tissue and cholesteatoma were present. There was no bulging of the posterior-superior meatal wall. The left ear was normal. The right grasp was found to be much weaker than the left and there was some incoördination on the right side in the rapid rotation of the hand. The knee-jerks were present and equal. The plantar reflex was flexor. The abdominal reflex was weak on the left side. The patient was dull and apathetic and answered with slow intonation but quite intelligently. The temperature was 98° F. and the pulse was 60.

I admitted the patient into the hospital and performed a complete radical mastoid operation. The antrum and middle ear were full of granulation tissue, cholesteatoma, and pus. The remains of the malleus only were found. The external semicircular canal was found to be carious but no fistula could be discovered entering the internal ear through the foramen ovale or foramen rotundum. As the condition of the external semicircular canal would quite have accounted for the vertigo and nystagmus, and as there were no very definite localising symptoms, I decided to wait for a few hours before exploring the brain in case any more localising symptoms might manifest themselves. At 10 P.M. the patient became very much more restless and was unconscious. The temperature was 101·2° and the pulse was 88. As he was obviously worse I decided to explore his cerebellum, as an abscess in that region would, next to the external semicircular canal, be the only likely lesion to account for his symptoms (i.e., vertigo, nystagmus, &c.).

An operation was performed, the patient being placed under chloroform. A curved incision downwards and backwards from the mastoid wound was made, the soft parts were turned down, and the skull was trephined at a point one and a half inches behind and from half to three-quarters of an inch below the external auditory meatus. On removing the bone the dura mater was seen to be very tense and bulged into the trephine opening. A needle with syringe attached was inserted forwards and inwards and pus was withdrawn. The dura mater was then incised and a tube inserted into the abscess with sinus forceps. There was some bleeding of a venous nature from the posterior part of the incision in the dura mater but this was stopped by plugging. The pus was very offensive. The wound was sutured, a dressing was applied, and the patient was sent back to bed. An examination of the patient's discs had shown the veins on both sides to be full, especially on the right side, but there were no signs of optic neuritis.

The patient's condition steadily improved and on the 21st, as there had been no discharge of pus from the abscess for three days, I left out the drainage-tube. His mental condition was quite normal again. On the 22nd he was very well but at 11 P.M. he suddenly vomited and gradually became drowsy and irritable and his pulse fell to 60, his temperature to 97°, and his respirations to 18 per minute. There was no change in the nervous system. On the morning of the 23rd I found that his condition was almost the same as when admitted, the only differences being that his left pupil was more dilated than the right and the reaction to light of the right pupil was rather sluggish. The pulse was 40, the temperature was 97°, and the respirations were 16. The left knee-jerk was perhaps slightly exaggerated.

Dr. R. E. Bickerton very kindly examined the patient's discs and reported that the veins on both sides were full but there were no definite signs of optic neuritis. As there was obviously some increased intracranial pressure, and on account of the condition of the pupils and left knee-jerk, I decided to explore the patient's temporo-sphenoidal lobe first and then again to explore the cerebellum. The patient was anæsthetised and a lumbar puncture was done by Mr. G. Williams. The fluid drawn off was quite clear and escaped gradually, showing no signs of increased pressure. Examination of the fluid revealed nothing abnormal. Sufficient bone was then removed to allow of the temporo-sphenoidal lobe being explored with a syringe in every direction. No pus, however, could be found, but a quantity of blood-stained cerebro-spinal fluid was withdrawn. The cerebellum was also explored with negative results. The wounds were sutured and dressed in the ordinary way. The patient's condition steadily got worse and he died on the 25th at 10 A.M.

A *post-mortem* examination was made. Unfortunately the patient's relatives refused to allow anything more than an examination of the head. There was no sign of meningitis except a purely local reaction around the tube opening in the cerebellum. No abscess was present in the temporo-sphenoidal lobes and no second abscess was found in the cerebellum. The ventricles were very distended with cerebro-spinal fluid which was quite clear. There was a tube tract going through the cerebellum almost reaching the medulla, although the abscess had been fairly superficial. None of the sinuses were thrombosed.

Presumably death was due to increased tension in the ventricles owing to some obstruction which the limited nature of the *post-mortem* examination failed to reveal. Repeated lumbar puncture could not have relieved the condition as the fluid that came away was not under increased tension at all.

I deeply regret that the *post-mortem* examination was of such a limited nature as the case was one of very great interest. My thanks are due to Mr. Williams, the surgical registrar, for the very excellent notes of the case.

Harley-street, W.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—The distribution of prizes and an address to the students at this hospital will take place in the out-patients' hall at the hospital on Friday, Dec. 18th, at 4 o'clock. Mr. John H. Morgan, consulting surgeon to the hospital, will give the awards and the address.

freely bombarded with the result that Dr. Westwater had hundreds of wounded non-combatants on his hands. He worked day and night to relieve them with no trained assistants, and the report of it so delighted the Japanese Marshal Oyama that he sent £200 for the Chinese hospital. The greatest sacrifice of all that medical missionary work has demanded of Dr. Westwater was the life of his wife and fellow-worker who died during the typhus epidemic of 1905. This truly heroic man, who has received decorations from the Czar of Russia, has won much honour for medicine in the East and we take a pride in making his exploits widely known in his profession. During the present year he has been studying at the Edinburgh hospitals but will shortly return to the Far East to continue his labours for the people of Liaoyang, who would seem to hold him in such devotion as was accorded by an older generation to his great compatriot "Chinese Gordon." We wish him many years of continued activity.

CONGENITAL DIAPHRAGMATIC HERNIA IN AN OLD MAN.

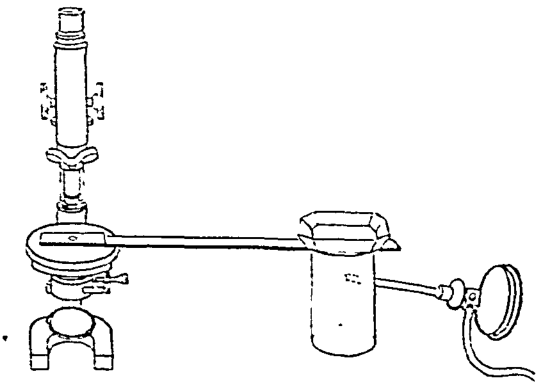
CONGENITAL diaphragmatic hernia in old age is rare. In the *Edinburgh Medical Journal* for November Mr. Alexander Don has reported the following case. A man, aged 61 years, sought advice for flatulence and pain after meals which often lasted for two hours. Occasionally he had also attacks of "sharp, choky pain" in which he could hardly get his breath. These lasted for a few hours and were relieved by "a lot of wind coming up and sometimes some mouthfuls of food." But, as a rule, food was not regurgitated, though he felt inclined to vomit and retched frequently. During the past 18 months the condition was so constant after meals that he was afraid to eat and lost about a stone in weight. Digestive troubles had existed for over 20 years. Recently there was some dysphagia, the food seeming to be arrested just before it entered the stomach and returning in mouthfuls. The organs were normal but the vessels were rather atheromatous. Abdominal examination revealed only slight pain on deep pressure in the epigastrium and double inguinal herniæ which were well supported by a truss. After some months' medical treatment without improvement Mr. Don began to suspect malignant disease of the stomach. On June 7th last exploratory laparotomy was performed. A vertical incision was made a little to the left of the middle line and the liver presented. The chloroform was well taken but when Mr. Don inserted his hand into the abdomen the breathing suddenly stopped. On removing his hand the patient again began to breathe. More chloroform was given but the same result followed whenever the hand was inserted into the abdomen. He was allowed to recover partially from the anæsthetic and the abdominal contents could then be examined, though with less ease than when the muscles were relaxed. On trying to examine the upper part of the abdomen the stomach slipped up under the hand, the breathing again stopped, and the patient became cyanosed. The stomach was seized and pulled into the wound and held there while the hand was passed behind it to examine the cardiac end. The hand could be passed through an opening about three inches in diameter in the diaphragm into the thoracic cavity. The respiratory trouble occurred whenever the hand was passed far through the opening. The difficulty experienced in vomiting or expelling wind during the attacks of pain was explained, for the part of the stomach that would then be herniated might press against the œsophagus. A couple of silk sutures were passed through the anterior wall of the stomach and fixed to the parietal peritoneum on either side of the incision. This was all that could be done owing to the rigidity of the abdominal muscles. The abdominal wound was sutured with through-and-through silk-worm gut sutures, two of which were fixed to the stomach. On August 21st he was still troubled with eructations but was free from the attacks of "sharp, choky pains." On Sept. 9th he could eat almost anything and had gained 6 pounds. Mr. Don has not been able to find a recorded case of diaphragmatic hernia at such an advanced age, though some examples appear to have been discovered post mortem. In this case the œsophageal opening in the diaphragm may have been large at birth but not so patent as to cause trouble, and retching and vomiting may have enlarged the opening so as to allow a portion of the stomach to pass through. A case of congenital defect in the diaphragm has been recorded which gave no trouble until the patient was in the fifth month of her first pregnancy. She was then seized with dyspnœa, vomiting, and symptoms of pneumothorax and died. Post mortem the stomach and intestines were found in the left pleural cavity. This case seems to show that increase of intra-abdominal pressure will enlarge the hernial opening. Naumann has recorded a case in which he operated for strangulated diaphragmatic hernia. The sigmoid flexure and omentum were herniated and could not be reduced. He thought that if he had opened the pleural cavity the negative pressure would have been overcome and he recommends this treatment in future cases. This view explains the behaviour of Mr. Don's patient under chloroform. As soon as air was allowed to enter the abdominal cavity the stomach was driven or aspirated into the thoracic cavity during the negative pressure accompanying inspiration and until it was held down it was impossible to make an examination. Potemski and others recommend opening the thorax, reducing the hernia from that side, and closing the diaphragmatic opening by plastic flaps. Gastropexy, which is an easier operation, does not seem to have been suggested previously. Mr. Don thinks that in his case a second operation may have to be done through the thorax if the symptoms recur.

ROYAL SOCIETY OF MEDICINE: THE ANNUAL DINNER.

THE annual dinner of the Royal Society of Medicine was held at the Hotel Cecil, Strand, on Dec. 4th, the President of the society, Sir W. S. Church, being in the chair. On the right of the chairman Lord Strathcona was seated and on his left Mr. A. Birrell, M.P. Amongst others present were Mrs. L. Garrett Anderson, M.D. (Mayoress of Aldeburgh), Sir R. Douglas Powell (President of the Royal College of Physicians of London), Mr. Henry Morris (President of the Royal College of Surgeons of England), Dr. G. Wilks (Master of the Society of Apothecaries), Surgeon-General Sir A. Keogh (Director-General of the Army Medical Service), Sir F. Bridge, Mr. Justice Darling, Major L. Darwin (President of the Royal Geographical Society), Surgeon-General A. M. Branfoot (President of the Medical Board of the India Office), Mr. Justice Walton (President of the Medico-Legal Society), Sir W. J. Collins (Vice-Chancellor of the University of London), Mr. C. B. Lockwood (President of the Medical Society), Mr. R. Marcus Gunn (President of the Ophthalmological Society), Inspector-General Sir H. M. Ellis, Sir E. R. Henry (the Commissioner of Police), Sir Lauder Brunton, Dr. F. Taylor, Mr. E.-Parker Young, Mr. J. Y. W. MacAlister (secretary), and Dr. J. Nachbar (assistant secretary). Mr. Birrell was loudly cheered on rising to propose the toast of "The Royal Society of Medicine." He said that he understood from the chairman that the society was the outcome of an amalgamation of a number of medical societies which were now termed sections of the society. These had now been welded together into the Royal Society of Medicine and they met that night to

A blood chamber is prepared as follows. A morsel of plasticine much smaller than a pea is rolled out with a glass slide until it is about one and a half inches long and as thick as the lead of a pencil, and then bent round in a spiral way and fixed in the middle of another clean glass slide, as shown in Fig. 2, forming a chamber A, with an exit E. A fairly large drop of fresh blood is obtained and allowed to fall into the chamber at A; a cover-slip is superimposed and pressed down carefully with another slide, so that as the clay flattens blood and air are driven out through the exit E, which must always remain patent, and a thin, even layer of blood fills the chamber and the exit passage; this is shown in Fig. 3.

FIG. 1.



A general view of the apparatus.

FIG. 2.

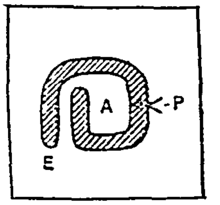
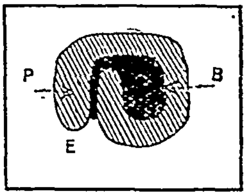


FIG. 3.



A, Chamber occupied by B, Blood. P, Ring of plasticine. E, Exit.

A little practice is necessary to perform this successfully, but unless it is wished to keep the leucocytes alive several hours, an air bubble in the chamber does no harm. The slide is now placed in the incubator at blood temperature, or simply in the bath of warm saline solution which is at a temperature of about 38° C., and it is left here 15 minutes. During this period the blood clots and the leucocytes escape, apparently by their own activity, and passing both upwards and downwards seek the glass surface of the slide and the cover-slip in hundreds, to which they adhere tenaciously. In order to get rid of the clot and serum the cover-slip is carefully removed and both cover-slip and slide are placed in the warm saline bath, which has been prepared ready; the remains of the clot and plasticine are removed with fine forceps or needles and both cover-slip and slide are washed gently by passing them to and fro under the saline solution; this process is continued until the free red corpuscles are all washed away, as seen by the disappearance of the reddish colour. If now the cover-slip or slide be held up to the light an even grey film can be seen with the naked eye, which consists entirely of leucocytes, adhering to the surface of the glass. Two preparations can now be made; one, by placing a clean cover-slip over the film on the slide, moistened with saline solution; the other by placing the cover-slip on which is a film of leucocytes on a clean slide, also allowing a little saline solution to interpose; in the former case the leucocytes are lying on the upper surface of the slide, in the latter case they are hanging from the lower surface of the cover-slip, and indeed a hanging drop preparation can be made from the cover-slip. On examining with a microscope either of these preparations the field is seen to be crowded with active leucocytes of every shape, and the appearance is not masked nor the movements hindered by the presence of red blood cells or fibrin.

If it is desired to bring in contact with these leucocytes any fluid, such as one containing a suspension of bacteria, and watch the result, it can be done by the hanging drop method, or better by placing the cover-slip on which is the film of leucocytes *face downwards on a plasticine chamber* similar to the one originally described, but which contains a drop of the fluid, such as a suspension of bacteria, and pressing it down to form another chamber in the way described for the original blood. In this way a clear view of what takes place is obtained and evaporation cannot occur to any detrimental degree if the exit is quite narrow. The leucocytes can be watched in conditions more approximating those of their natural habitat if the second chamber is made with a drop of serum obtained by centrifugalising the same blood as that from which they were originally obtained.

By this method living isolated leucocytes can be segregated directly from human blood and kept under observation in vitro, without further precautions, for about an hour.

Cambridge.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PURE MYXOMA OF THE LOWER JAW.

BY D. W. DANIELS, M.B., B.S. LOND., M.R.C.S. ENG.,

HOUSE SURGEON TO ST. MARY'S HOSPITAL, PADDINGTON, W.

THE patient, a woman, aged 27 years, first noticed a hard lump in the outer side of the gum of the lower jaw nine months ago. It gave her no pain. The tumour slowly grew and began to get painful. In October last it started to grow more rapidly.

On admission there was a swelling of about the size of a marble opposite the bicuspid teeth of the left lower jaw. The tumour was firm and hard all over. There was no fluctuation. No obvious swelling could be seen on the cheek.

An incision was made over the swelling between the gum and cheek. It was then found that the tumour readily shelled out entire, leaving a cavity in the bone, extending right through to its inner margin.

Microscopical examination showed the tumour to be a pure myxoma, unmixed with any other tissue, sarcomatous or otherwise.

I have to thank Mr. A. J. Pepper for permission to publish these notes.

St. Mary's Hospital, W.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

BY DR. PARAVICINI.

SEEING from an annotation in your pages[1] and from a letter which appeared the following week that cases of rupture of the ligamentum patellæ have been seldom recorded, I venture to contribute the following notes. The case offers the special feature that no direct violence to the tendon itself took place, the hyperflexion of the knee and simultaneous contraction of the quadriceps having been the only possible causes.

The accident happened to myself some six years ago in the Swiss mountains. Running down a steep slope covered with a thin layer of snow I slipped and fell, my left gluteal region touching the left heel, my left leg being completely doubled. I felt a cracking and an acute pain and found myself unable to stretch the left leg by its own force. Through my trousers I noticed a gap below the patella which was drawn up by the quadriceps extensor. There was no external wound nor the slightest sign of a contusion. I was alone and only able to crawl slowly. After having called for help during two hours I grave alvine pollution exists Dr. Houston in his recent experiments was unable to detect the typhoid bacillus in 29,400 cubic centimetres of these three raw waters in his examination of 52 samples from each source. The total number of bacteria found on gelatin culture was 135,687,500. Of these colonies all but 7329 were more or less coloured and so were excluded from further observation. The colourless colonies, which might possibly have been typhoid bacilli, were sub-cultured by six differential methods and by one or another all were proved not to be Eberth's organism. In 6024 the exclusion was made by Proskauer and Capaldi's No. 2 medium (with inner tube), in one case by their No. 1 modified medium, in 49 by "L.S.D.S. Rebipelagar" medium (with inner tube), and in 1255 by the various gelatin sugar media, to the differential value of which method Dr. Houston bears strong witness. Full details of the experiments are included in an addendum to the report. It is a matter of general knowledge that the isolation of typhoid bacilli from water is a task of great difficulty but Dr. Houston is satisfied as to the negative value of his findings and indeed comments on the comparative ease with which the suspected typhoid bacilli were excluded by simple tests. At the same time, in dealing with waters containing so many colon bacilli we are only justified in concluding that there was no pronounced typhoid epidemic occurring in the communities discharging their sewage into the rivers in question at the time when the samples were taken. Dr. Houston admits that "it would be presumptuous to infer from these observations that the typhoid bacillus is never present in the raw river waters, or to conclude that any relaxation in the processes of purifying the raw waters, by storage and filtration, before delivery to the consumer is justifiable." He proposes to continue the experiments with a much larger volume of raw water, using a special centrifugal apparatus to separate the organisms. The monthly report on the condition of the metropolitan water-supply for September has also been issued in a prompter manner than have many of its predecessors. The Thames was in good condition throughout the month. Bacillus coli was found in 100 cubic centimetre samples of filtered Thames, Lea, and New River water in the percentage proportions of 12·6, 13·7, and 8·4 respectively. The filtered waters (except the Clapton and New River supplies) showed a slight deterioration of quality as judged by the albuminoid nitrogen and oxygen absorbed from permanganate tests. The results were, however, up to the 1907 standard.

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[1] THE LANCET, Sept. 12th, p. 825.

THE "ILLNESSES" OF THE ELEMENTS.

THERE are abundant chemical phenomena indicating that stability can only be a relative term, and the truth is probably that no element is absolutely stable. The discovery of radium has introduced the doctrine of degradation, but whether that be definitely established or not, and radio-energy apart, spontaneous change would appear to be as true of inorganic materials as it is of organised entities. Yellow phosphorus gradually assumes a new complexion if left to the agencies of time, finishing a beautiful dark red. Is this a step in its retrograde movement towards becoming, that is, an element of a lower order? Why, again, does tin crumble to a grey powder if exposed for a long time to the cold. The change is known as "tin plague"; the smooth surface of the metal after an exposure to 16°–45° C. for two years becomes brittle and crystalline. "Tin plague" is even "infectious," for on inoculating other masses of smooth polished tin with small portions of the crystalline metal the "disease" spreads, the area affected increasing in diameter from three to five millimetres daily. Tinfoil succumbs to the infection in the same way and becomes crystalline and brittle right through. Why, again, does the railway line snap except that it is attacked by the same "crystallising disease"? It would even appear that certain metals have their "illnesses," as though their activities were interfered with by a toxic process which may be pushed in many cases to such an extent that the metal "dies." Platinum, for example, in its colloidal form, in which it is very remarkably active, is positively "poisoned" by prussic acid or corrosive sublimate, and its great energies cease to act: it is killed. The beautiful liquid lustrous metal mercury gets "sick," non-mobile, dull, and streaky the moment that it absorbs impurities. Under electrical stress glass gets "fatigued," as in the x ray tube. Silver "spits" just as it solidifies, having breathed in, so to speak, oxygen while it was in the liquid state. These incidents, and others which might be recalled, are almost startlingly human in their nature.

INFANTILE MORTALITY IN STAFFORDSHIRE.

THE recently issued quarterly return of the Registrar-General relating to the three months ending with September last again records exceptionally high rates of infantile mortality in many of the urban districts of Staffordshire, more especially in the Pottery districts. The deaths of infants under one year of age during last summer quarter were equal to 177 per 1000 registered births in Hanley, 178 in Oldbury, 208 in Longton, 242 in Tunstall, and 288 in Burslem. In the 76 largest English towns during these three months the mean rate of infantile mortality did not exceed 145 per 1000; and in view of the following low rates that prevailed in other industrial towns—79 in Portsmouth, 85 in Halifax, 90 in Norwich, and 95 in Northampton—the waste of infant life in the above-mentioned Staffordshire towns stands out in striking contrast and gives additional interest to the remarks of Dr. George Reid, the medical officer of health of Staffordshire, in his last annual report for 1907. He therein points out that the rate of infantile mortality during last year exceeded 170 per 1000 in five urban districts in Staffordshire, Longton, Bilston, Brierley Hill, Darlaston, and Tunstall. While it is satisfactory to find that the rate in each of these five towns in 1907 showed a considerable decline from the rates that prevailed in recent years, Dr. Reid expresses doubt as to what proportion, if any, of this decline may justifiably be attributed to improved hygienic conditions or increased maternal care, having regard to the unquestionably powerful influence of the relatively low summer and autumn temperature that prevailed during 1907. With regard to the rate of infantile mortality in Longton, from information collected by the local lady sanitary inspector, Dr. Reid reports that the rate of mortality among wholly breast-fed infants during the year did not exceed 111 per 1000, while it was 147 among those partly breast-fed, and was no less than 442 per 1000 among nearly 200 infants entirely fed on artificial food. Dr. Reid has long maintained that the industrial employment of married women is one of the most potent factors in the causation of infantile mortality. He shows in his recently issued report that in eight Staffordshire towns, containing under 6 per cent. of married or widowed women out-workers, the rate of infantile mortality last year did not exceed 143 per 1000, while in 13 towns in which the proportion of women so employed ranged between 6 and 12 per cent. the mean rate was 154, and in five other towns in which more than 12 per cent. of the married or widowed women are engaged in work away from home the deaths of infants aged under one year were equal to 188 per 1000 births. These figures appear to support the asserted intimate relation between the proportion of married women employed away from home and excessive rates of infantile mortality. Dr. Reid's report, moreover, suggests that the recent decline in the still excessive rates of infantile mortality among the urban population of Staffordshire may in part be resulted in no great improvement on the original condition. He related a case in which the ureters had been implanted into the sigmoid flexure, but the latter became kinked with fatal issue. The operation done in Mr. Rigby's case was much simpler than many other operations and the shock was less.

Dr. G. A. **SUTHERLAND** showed a boy with Enlargement of the Liver and Spleen in which a diagnosis was made of Cirrhosis of the Liver. Mercury had been given.—Dr. **CAUTLEY** suggested that the rapid way in which it had yielded to mercurials suggested that the cirrhosis might have a syphilitic origin. Another possibility was that the child had some peritonitis, possibly tuberculous. He hoped that Dr. Sutherland would keep the case under observation and report upon it later. True atrophic cirrhosis was rare in children.—Dr. E. I. **SPRIGGS** said an important point would be as to whether the liver was nodular. He had not been able to feel the nodules himself but Dr. Sutherland had had an opportunity of examining the boy under more favourable conditions. The enlargement of the liver was not great; neither was the spleen larger than was sometimes found in cases of tuberculous peritonitis. He asked whether the temperature had been raised in the course of the illness. He did not think it was a case of Banti's disease as anæmia was not pronounced and the enlargement of the spleen was only moderate—Dr. **SUTHERLAND** defended the diagnosis of atrophic cirrhosis. He did not think that rapid improvement under mercury in such a case was sufficient evidence of syphilis. He thought it very likely that there was some perihepatitis and that the mercury had benefited that. The onset was sudden, with pain and distension of the abdomen. There had been no pyrexia. A short time ago there had been less fluid in the abdomen than at present and he had been able to feel that the liver was nodular and could feel no tuberculous mass. Although Banti had first shown the connexion between splenic anæmia and hepatic cirrhosis he did not think that this entitled the combination of these conditions to be known by his name. He thought it very unfortunate that the term had come into such common use in this country as a disease.

Mr. **SYDNEY STEPHENSON** showed a case of Ptosis Adiposa (blepharochalasis) in a child, aged seven years, the condition in which the upper eyelid drops over the eyelash.—Dr. **SUTHERLAND** passed round a photograph of a similar case which he had shown some years ago at the Society for the Study of Disease in Children. He had recently seen a case in which no benefit had followed an operation, and this patient developed marked spasm of the occipito-frontalis and a corrugated forehead, due to her efforts to raise the upper lid.

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EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Pityriasis Rubra Pilaris.—Oral Sepsis.—Lantern Demonstration.

A MEETING of this society was held on Dec. 2nd, Dr. **JAMES RITCHIE**, the President, being in the chair.

Dr. **NORMAN WALKER** exhibited a girl, aged 11 years, suffering from Pityriasis Rubra Pilaris as a rare and interesting case. He called attention to its superficial resemblance to psoriasis and to its insidious onset; it had also been confounded with ichthyosis, the skin being specially dry and hard on the knees. It was attended by the development of small papules around the hairs, and these ran together to form large map-like areas—erythrodermic areas. One observer had noted a relation between this disease and tuberculosis, and the patient exhibited was suffering from apical phthisis. The prognosis was not good and the condition as a rule lasted many years. The condition of the legs had improved under the action of weak salicylic vaseline ointment and good food with cod-liver oil and tonics. There was no specific treatment. Doubtless this was the same disease as that which Hebra described as lichen ruber acuminatus, and he affirmed that it invariably ended fatally unless arsenic was administered in large doses. Kaposi also employed this drug hypodermically.

A discussion on Oral Sepsis was opened by Mr. **WILLIAM GUY** who spoke as follows: It is well to remember that the mouth during extra-uterine life is never sterile. We have always present the bacteria which constitute the indigenous flora of the mouth and are not necessarily pathogenic; we find from time to time pyogenic organisms, staphylococcus pyogenes aureus and albus and streptococcus pyogenes and those which are concerned in the production of caries and of disease of the pulp, the various forms of leptothrix and bacillus gangrenæ pulpæ, and finally those which obtain fortuitous entry, such as pneumococcus, tubercle bacillus, and many other pathogenic organisms. The mouth affords the most favourable conditions not only for the multiplication of fission fungi and the production of their specific toxins but also for the emigration of septic material to other organs and the absorption of toxins. While I am prepared to maintain the thesis that a condition of sepsis in the oral cavity is of itself a sufficient deviation from health to claim the attention of physicians, surgeons, and dentists, I feel that the interest of members will be more concerned with the condition as a certain, probable, or possible factor in the causation of disease or as an intercurrent malign factor in the progress of other diseases. In spite of all that has been said or written, and particularly by Dr. William Hunter, I question if oral sepsis as the cause of septic gastritis is as frequently recognised as it should be. Why for countless ages has the tongue alone been subjected to a careful scrutiny? Why in histories of medical cases is the condition of the mouth ignored or alluded to in vague terms; the importance of observing and reporting on the condition of the mouth *quâ* sepsis should be insisted on. The physician may enlist the services of the dentist in the treatment of his cases, and I wish that the physician would always indicate what he expects the dentist to do and he should explicitly state what he wishes done—as, for example, to put the mouth in a thoroughly healthy condition, remove roots, treat decayed teeth, &c. Such an instruction from the physician would tend to the maintenance of a high scientific standard of professional work amongst dentists, not to mention the satisfaction that they would feel in being asked to coöperate with the physician. On the surgeon I would urge the necessity of attention to the hygiene of the mouth previously to the performance of any operation involving that cavity or any part of the digestive tract. I pause here to invite your views on oral sepsis as one of the principal causes of appendicitis. Rhinologists are, I believe, agreed that in suppuration of the antrum of Highmore the route of infection is much more frequently nasal than dental, but I should like them to consider the possible frequent infection of the nose from the mouth. Aurists must have many opportunities of noting infection of the middle ear from the mouth. In the treatment of pulmonary tuberculosis the condition of the mouth and teeth deserves careful attention. I believe that in the course of all acute diseases, and especially of the exanthemata, the presence or absence of oral sepsis is often the determining factor in the death or recovery of the patient. I should like to hear of some accurate observations being made in this connexion in our fever hospitals, especially in regard to scarlet fever. There is now provision made for medical inspection of school children. Dental caries is the most prevalent of all diseases. What is the good of inspection without treatment, and how is that treatment to be paid for? In the vast majority of school children I believe it is wiser to extract carious milk teeth than to attempt to fill them; better a clean mouth than a dirty one. I even question whether any tooth that has become septic in a child should be retained. In cases of septic adenitis I think the physician should advise the removal of any septic teeth, and I further think that the dentist would be wise to carry out the direction without hesitation or demur. The alienist will tell us, I hope, that the hygiene of the mouth is an essential part of the hygiene of the mind. I recall two cases of empyema of the antrum which produced profound grave alvine pollution exists Dr. Houston in his recent experiments was unable to detect the typhoid bacillus in 29,400 cubic centimetres of these three raw waters in his examination of 52 samples from each source. The total number of bacteria found on gelatin culture was 135,687,500. Of these colonies all but 7329 were more or less coloured and so were excluded from further observation. The colourless colonies, which might possibly have been typhoid bacilli, were sub-cultured by six differential methods and by one or another all were proved not to be Eberth's organism. In 6024 the exclusion was made by Proskauer and Capaldi's No. 2 medium (with inner tube), in one case by their No. 1 modified medium, in 49 by "L.S.D.S. Rebipelagar" medium (with inner tube), and in 1255 by the various gelatin sugar media, to the differential value of which method Dr. Houston bears strong witness. Full details of the experiments are included in an addendum to the report. 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THE KING'S HEALTH.

As there have been disquieting rumours abroad we are glad to announce on the best authority that the health of His Majesty the King gives no cause for anxiety. When His Majesty left Windsor on Nov. 23rd he had a slight cold. He proceeded from Windsor to Castle Rising and thence in a few days to Sandringham. On arriving at Sandringham he showed symptoms of influenza and it was thought prudent that he should keep his room, only leaving it for his meals. On the third day he developed neuralgia with slight fluctuation of temperature. The condition improved under treatment, and as a change of air to the seaside was thought advisable His Majesty proceeded to Brighton on Dec. 8th. Up to the present he has derived decided benefit from the change.

FALSE PRETENCES AND FOODSTUFFS.

In a note in these columns on May 16th last upon the way in which certain benches of magistrates in Sussex dealt with cases of food adulteration that were brought before them it was suggested that the justices should look upon these cases as charges of obtaining money by false pretences. At Eastbourne proceedings were taken on Dec. 4th against a St. Leonards man for obtaining money by false pretences by means of the sale of "butter" which was found to consist of 50 per cent. of butter and 50 per cent. of margarine, and for attempting to obtain money by false pretences in a like manner on another occasion. The evidence in both cases was very similar, but the justices did not see their way clear to convict on the first summons but fined the defendant £5 inclusive of costs on the second summons—that of "attempting to obtain." As a rule, cases of this kind are based on Clause 6 of the Sale of Food and Drugs Act, 1875, the vendor being proceeded against for selling to the purchaser an article of food which was not of the nature, substance, and quality demanded. Although this carries with it a maximum penalty of £20 it does not provide for imprisonment and persons proceeded against under another Act will, perhaps, find that the mere payment of a fine—as a rule, a very small one to one who, perhaps, for a long time has been carrying on a very lucrative business—will not suffice. Nothing disparaging is meant to the Sale of Food and Drugs Act which is one of the finest Acts of Parliament ever placed upon the statute book, but unfortunately justices so often give alleged offenders the benefit of the slightest doubt that may arise in a case, or the defendant goes away scot-free on some technicality which may be raised by the defending solicitor on one or another of the four sub-sections of that well-known Clause 6. Exemplary punishment must be meted out to those individuals who not only palm off foodstuffs which are not of the nature, substance, and quality demanded, but are thereby breaking the law and doing a grave injustice to the genuine and honest trader who finds it very difficult in these days of keen competition at home and from abroad to make both ends meet.

We regret to announce the death of Professor Rindfleisch, the well-known German pathologist, who, succeeding his master, Virchow, in the appointment, occupied the chair of pathology at Würzburg for over 30 years.

The profession has also to lament the death of Dr. Charles E. Beevor, the well-known neurologist, who died on Dec. 5th quite unexpectedly. We shall publish an obituary notice of Dr. Beevor in an early issue.

ROYAL SOCIETY OF MEDICINE.

Debate on Heredity, with Special Reference to Cancer, Tuberculosis, and Disease of the Nervous System.—(*Concluded from p. 1702.*)

Mr. G. P. Mudge (London Hospital Medical College) said that one point which he wished to emphasise was the following. Sooner or later he supposed circumstances would compel medical men to approach the serious study of human inheritance. When they did so the first question which they must necessarily put to themselves would be, Which method would they employ? At present there were two schools of thought and two methods before the profession. One of those methods would be employed and the other would be inevitably rejected. The one school, that with which he did not agree, was the ancestrial or biometrical, and the other was the Mendelian. The first of those schools largely based their methods and their results upon the conception of continuous variations, they believed that new species arose by the piling up in successive generations of what was termed continued or fluctuating variations, and throughout the whole of biometric literature that had been emphasised, especially in Professor Karl Pearson's work on the Shirley poppies. The Mendelian school, on the other hand, took another standpoint. They did not refuse to recognise that fluctuating variations existed or that they played a certain part in the phenomena of living organisms, but they did not think that to any great degree those variations had taken part in the evolution of species. They contended that the evidence justified them in believing that species had evolved by the sudden origin of new characters. There was an idea abroad that necessarily those mutations or sports or large variations must be variations of large moment. That was not the Mendelian attitude: a mutation might be of quite small moment. Their point was that a mutation was a change which once having arisen would breed true. Continuous variations, on the other hand, did not breed true. The attitude of biometricians was emphasised by Professor Pearson when he said what was wanted was more pedigrees. Evidence of masses was the *sine quâ non* of the biometrician. He proposed to show how far the methods of the biometricians had succeeded and how far they had failed. On the other hand, the Mendelian did not care very much for masses, but he did care that he should have individual cases carefully studied and rigorously analysed. Having obtained a large number of analytical results they could deal trustworthily with the masses which were thus obtained. It was well to consider what the two schools had done. The biometrical school had been in existence for a long time, but the Mendelian school counted its birth from seven or eight years ago. Already the Mendelians had practically revolutionised agriculture and cattle breeding. With regard particularly to one case, wheat, the agriculturists sought to obtain a wheat which should have resistance to rust, which should have large ears and would ripen early. It was the great desire of agriculturists to get all those characters combined in one plant. Until the Mendelian came it was not possible to get that, but Mendelism had managed to get it, yet biometricians had been dealing with their mass results for years. Was there anything which the biometricians had done which justified the medical man in a single subject advising his patient as to what he should do? He believed Professor Pearson would not be able to produce a single instance which would justify a definite recommendation to his patient. But with regard to such a condition as brachydactylia the medical man could recommend a certain course in order to get rid of the abnormality. There was always a certain danger in making too confident a statement, but from the evidence one felt justified in predicting that the whole of the offspring from the union of a normal with an abnormal would be without the abnormality, and that when the condition had once disappeared it would never appear again. The validity of the judgment which Professor Pearson expressed concerning the series of albinos which was instanced depended wholly upon geographical circumstances and considerations. Albinos were fairly common in Scotland, compared with the frequency in other countries such as Norway, and the cases became able to express herself she complained of great pain *in her left side, but no pleural rub could be felt or heard* over the left base. The left eye became acutely inflamed and presented the features of an embolic and septic panophthalmitis. On the evening of the attack the axillary temperature rose to 101·2° F., the pulse to 126, and the respirations to 54 per minute. On the next day the thermometer did not rise above 97·4°; but in the death agony on the morning of Sept. 14th, about 70 hours from the seizure, 102·6° was recorded, the pulse being 148 and the respirations 52. She died at 5 P.M. on the 14th. A necropsy was made by Dr. W. Boxwell, the assistant pathologist to the hospital. He reports as follows: "On opening the pericardium a small amount of sero-fibrinous fluid was found within it. The heart itself was about normal in size and weighed 11 ounces. The visceral pericardium shows some subacute pericarditis, especially over the left auricle. On opening the chambers of the heart and washing out the clots the first thing noticed was an extensive acute vegetative endocarditis spreading over the wall of the auricle and continuous with a similar condition of the parietal cusp of the mitral valve. The wall of the auricle is considerably thickened over a circular area the size of a shilling and covered with vegetations. The auricular ventricular orifice is obstructed by shaggy vegetations *growing* from both cusps, especially the septal cusp. This cusp is also somewhat rigid and distorted. The orifice itself is, however, not *stenosed*, and *admits two fingers freely*. There is considerable thickness of the chordæ tendineæ, pointing to a previous chronic inflammation. The changes found in the spleen are *also* of some interest. It is enlarged and full of infarcts, some old *standing*, others more recent. One of them —a large reddish one—was suppurating, and an abscess, containing about an ounce of thick pus, was formed between the spleen, the overhanging and adherent liver, and a peritoneal fold. There was no generalised peritonitis. Some small infarcts in the kidneys, one of them recent and hæmorrhagic, were also noticed. There was nothing of interest in the lungs or other organs examined." The case illustrates the *distinction which* may be drawn between mitral narrowing, or stenosis, properly so-called, and mitral obstruction due to vegetations in and about what is really a dilated mitral orifice. It also *affords* a *striking* example of infarction and of septic embolism of the spleen.

Mr. L. G. GUNN exhibited an Unusual Thyroid Tumour which presented a perfectly smooth surface outside. On cutting into it it had the appearance of tuberculous affection, but the main thing *that struck* one was that quite large areas of calcification had taken place in the gland itself. About two months had elapsed and the patient showed no signs of myxœdema occurring. In some cases the entire thyroid had been *removed without its* occurrence. The sections under the microscope gave the impression that a carcinomatous change had taken place in the gland.—Sir CHRISTOPHER J. NIXON *thought* it was recognised not to be a justifiable procedure to remove the thyroid as a whole from the inevitable recurrence of myxœdema, as pointed out by the experiments of Horsley on monkeys. In Mr. Gunn's case there might be an accessory gland, which would prevent the myxœdema occurring.—Professor J. A. SCOTT said that one section appeared to be normal, but the other had a patch which might be anything. The gland was certainly not normal.—Professor A. H. WHITE said that the second section looked somewhat *suspicious*, but he would not like to say definitely that it was malignant.—Mr. GUNN, in reply, said that he did not think it necessarily followed that the entire removal *of the gland would be followed* by disastrous results. He did not think—in reply to a question by Dr. H. C. EARL—that the areas of calcification were true bone.

Dr. R. J. ROWLETTE and Mr. GUNN exhibited specimens of Sarcoma of the Intestine.

Dr. BOXWELL exhibited a specimen showing an Abscess in the Left Temporo-sphenoidal Lobe. The patient from whom the specimen was taken was a man who was admitted to Meath Hospital under the care of Mr. W. Taylor on Nov. 5th last. The history of the patient, obtained subsequently, was that he had suffered from a double suppurative otitis media from the age of seven and had continued to suffer for eight or nine years. The discharge *then ceased*, first on one side and then on the other, and he remained free from any sign of ear trouble until seven or eight months ago, when, without any cause so far as he knew, both ears began to discharge again. He was admitted to Meath *Hospital from Cork-street Fever Hospital*, where he *had been* undergoing treatment for typhoid fever. During convalescence he complained of headache for two or three days and then vomited almost incessantly for a day and a half. The character of the vomiting was cerebral. The discharge still continued. The *optic* discs were examined, but *no* evidence of "choked disc" could be detected. A few days previously to his admission to Meath Hospital, Dr. Davies, assistant to Dr. J. M. Day, had noticed some defect of memory, which was, however, only transitory. The patient had forgotten where he lived and what brought him to the hospital. The eyes were again examined but nothing abnormal could be seen. The pulse varied from 76 to 86 to the minute. The tension was normal and the temperature was 98°F. *When first seen at the Meath* Hospital the above history was not available, but the discharge from *both* ears was evident. The patient's intellect seemed quite clear. He answered *correctly* but with the faintest possible *suspicion* of hesitation or *slowness*. There was no complaint whatever of headache, even on inquiry. He *denied having* vomited and said that any *headache* he had previously suffered from was trifling. The pupils on both sides were quite normal and reacted readily to light. The reflexes in both arms and legs *seemed to be* normal. There was no impairment of movement of the eyeballs. No tenderness was felt on firm pressure anywhere over the head and no pain or tenderness was complained of on percussion over either side of the head. The temperature was 97·8°, the pulse was 80, and the tension was normal. Hearing that both optic discs were that morning found to be normal no further ophthalmoscopic examination was made. The condition remained unchanged for the next two days. It was at 9.30 P.M. on the 7th that the clear history of loss of memory and vomiting was first obtained from Cork-street Fever Hospital, and so it was determined that if the patient's condition was no better on the next morning an operation should be performed. At 2 A.M. on the 8th he became comatose and in this condition he was found by Mr. Taylor at 10 A.M. The pulse was 76 and the respirations were quiet. Touching his head anywhere caused the patient to move the *right leg and right* arm. There was no attempt at all to move either of the left limbs. The head was also turned to the left side on touching the left side of it. Trephining over the left temporo-sphenoidal lobe was at *once* proceeded with. This site was selected on account of the history of loss of memory noticed earlier in the case and of the slight difficulty which it was thought the patient exhibited in pronouncing his words on the evening on which he was admitted. *A large abscess* was readily found and drainage was provided. The pulse at once ran up to 140. The temperature one and a half hours after the operation was 101° but the patient remained comatose with widely dilated *pupils*. *At 6 P.M. his temperature* was 105° and the pulse-rate ranged from 130 to 140. On the next morning his condition was just the same and he died comatose 24 hours after operation. The necropsy revealed a temporo-sphenoidal abscess.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—Meetings of this society were held *on* Oct. 22nd and Nov. 19th, Mr. P. E. Barber, the President, being in the chair.—Dr. Herbert G. M. Henry read a paper on Lumbar Puncture, its Diagnostic and Therapeutic Possibilities. He said that the lumbar *puncture* was *first* practised in England by Dr. W. Essex Wynter in 1889. Since that time the procedure had fully established its position in the armamentarium of the modern clinician. It was an operation entirely devoid of risk if aseptic precautions were adopted, and not only afforded valuable data in the diagnosis of many diseases but had also in certain cases a very decided therapeutic value. The pressure of the cerebro-spinal fluid varied greatly in normal conditions. In healthy persons in the horizontal position it averaged 125 millimetres water pressure, but in the sitting posture this might increase to more than 400 millimetres. Moreover, in pathological conditions it was sometimes impossible to determine how far a reading gave an index of the pressure of the fluid as a whole or only of a part shut off from the rest by adhesions. Normal fluid contained globulin and the presence in it of albumin was evidence of occurred, and therefore the proper general idea of the subject obtained. Mr. Mudge had been good enough to give a definition of an albino, and that test could only be applied in the post-mortem room. With regard to the tabby cats of London, of which Mr. Mudge had made a good deal, he asked that in every case dealt with exact numbers should be given. He reminded the meeting that when he spoke last he said nothing about his own pedigrees—he had now 800 of them collected; but he did say that the only definite evidence of albinism at present was from Norway and Sweden, and that Professor Bateson's cases told absolutely against the Mendelian point of view. He had not time to reply fully to Mr. Mudge's points, but he wished to suggest that there was a good deal more to be said about the subject than had yet been heard and upon more than one side.

Dr. W. **BULLOCH** said he knew very little about Mendelism or about Pearsonism, but he had been engaged in collecting for a number of years pedigrees which had been published of diseases in human beings, and he believed that he had as complete a collection as had ever been brought together, and he had handed it to Professor Pearson in connexion with his new treasury of human inheritance which that gentleman was bringing out and which should receive the support of all the members of the medical profession. Of all the pedigrees which had been incorporated into hospital notes and which had been published there were, perhaps, not more than ten, certainly not 20, which were complete and of great value. He illustrated the great difficulty which he had experienced in getting accurate data for pedigrees. He emphasised the need for pedigrees which were published being as complete as possible.

Mr. N. **BISHOP HARMAN** showed a series of slides and pedigrees of Lamellar Cataract by Means of the Epidiascope, and a series to illustrate the perpetuation through successive generations of a white forelock and white patch of skin spreading down the centre of the forehead.

Sir **WILLIAM S. CHURCH** (the President), in winding up the discussion, reiterated his assertion that the subject was inexhaustible and declared his belief that the discussion on it had been extremely interesting and somewhat profitable. There had been some wandering from the topic of the connexion there might be between heredity and disease. For instance, on the present occasion the discussion had been rather upon the heredity of colour and of form. He thought that he could very well congratulate the society on their first discussion since it had become the Royal Society of Medicine.

PROFESSOR KARL PEARSON AND THE LANCET.

In THE LANCET last week (p. 1708) we published a letter from Professor Karl Pearson repudiating entirely our report of his speech made at the debate on Heredity at the Royal Society of Medicine on Nov. 18th as inaccurate, and as having been "actually modified by some one with a totally different vocabulary before publication." But two persons, one an important participator in the debate, having told us that the report was substantially accurate we decided to compare our reporter's version in the places where Professor Karl Pearson repudiated him with the official version of the Royal Society of Medicine, as it was taken down, and with Professor Karl Pearson's version given in his letter as proof of the incapacity and insincerity of our report. We find our reporter's version tallies well with the version placed at our disposal by the Royal Society of Medicine, while both versions differ from what Professor Karl Pearson says that he said.

Our Reporter's Version.	*The Society's Version.*	*Professor Pearson's Version.*
1. All would agree about Dr. Mercier's remarks concerning mutations. His own view was that there was no truth in Mendelism at all.	1. He (Dr. Mercier) starts with an idea about mutation, which we all agree about, and that Mendelism has been true for something or other. My own standpoint is that there is no proof of Mendelism at all.	1. "Not all would agree with Dr. Mercier's remarks, &c., and that so far the truth of Mendelism has not been demonstrated for any one character."
2. I feared Mendelism of every form collapsed.	2. The principles required by Mendelism failed utterly.	2. I feared Mendelism and every theory hitherto proposed of heredity collapsed.

Professor Karl Pearson has impeached our accuracy, relying for the proof of his charge upon the version of his words to be published in the report of the Royal Society of Medicine. We suggest, in imitation, his own pleasant suggestion, that his words in that report will be "modified by some one with a totally different vocabulary before publication"—i.e., that having altered his words before publication in the report of the Royal Society of Medicine, he has brought a charge of inaccuracy against us because our version does not tally with what is going to appear in that report. If he has done this it seems to us a funny thing for a student of the exact truth to do.—ED. L.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Newport (Mon.).—Dr. J. Howard-Jones calls attention to the difficulty which obtains at the present time in securing a really trustworthy local death-rate. As he points out, it is relatively easy to exclude from the local rates the deaths of persons dying within the district but who are not properly resident therein, but there is no proper organisation for including in the local death-rate the deaths of residents dying outside the district. He adds that during the last ten years he has only received information of the deaths of one Newportonian occurring in infirmaries and other institutions outside the town, a fact which, with a population of over 75,585, is sufficient to indicate that the present method of assessing local death-rates is incorrect and misleading. The voluntary notification of pulmonary tuberculosis has been in operation in Newport since 1893 and 110 cases have been notified since then. Of these 37 were alive in the borough on Dec. 31st, 1907. There were 85 deaths from this disease in Newport during 1907 and of these 23 had been notified—1 in 1905, 11 in 1906, and 11 in 1907. A block for the treatment of this disease has been recently erected at the isolation hospital. A female health visitor was appointed in 1902 and her duties comprise in the main visits to houses invaded by diseases such as whooping-cough, measles, and pulmonary tuberculosis. The water-supply of this important town does not appear to be altogether what it should be and mechanical filters have been fixed in the course of the mains from the reservoirs, a step which has had the effect of improving the appearance of the water. But it is added that all the supplies are from flood water sources and each one is liable to contamination from dwellings. The fishy smell which was complained of in connexion with the water from two of the reservoirs in 1905 when the water was treated with copper sulphate has not since recurred.

City of Chester.—The birth-rate of this city, with an estimated population of 39,420, has fallen more or less steadily since 1877, when it was 34·3 per 1000, to 24·7 in 1907, which was the lowest rate on record. There were in that year 1015 deaths and of these 40 were illegitimate. 15 births occurred in the workhouse and of these 11 were the illegitimate children of domestic servants. Dr. A. E. Thomas reports that the number of premature births in Chester is high and suggests the suspicion that the induction of premature delivery may be a deliberate act. The midwives of the city, on the whole, do their work "remarkably well; their bags of appliances are well-found, and their case books well kept. None are illiterate; though in many towns the opposite too often obtains." There were no deaths from puerperal fever during 1907. The recorded death-rate for 1907 was 16·5 per 1000, a higher rate than that which prevailed in the 76 great towns or in the 142 smaller towns. In discussing the diminished prevalence and fatality-rate of scarlet fever in Chester, Dr. Thomas asks how far the isolation hospital has contributed to this result. Wisely, however, he leaves his problem unsolved, merely indicating that he possesses an accurate general conception of the difficulties of the position. There can be little doubt that those institutions when properly constructed and properly administered are of material value, but no one who has studied the question in its broader aspects and who possesses in the least degree the mind of an epidemiologist would venture to assess statistically the precise value of these useful institutions. The town council of Chester is, we are glad to see, concerning itself with alcoholism as a public health factor and it has issued in the form of a placard the conclusions relating worth doing even if the continuity of the bladder and urethra could not be re-established. The advantages of prostatectomy done in two stages were emphasised where the symptoms were acute or the patient was suffering from sepsis.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 2nd, Dr. P. Boobbyer, the President, being in the chair.—Dr. C. Bell Taylor read a short paper on Cataract Extraction, in which he argued that iridectomy was better avoided, for it did not prevent prolapse of the iris and had other disadvantages. In some cases operation might wisely be postponed for a few years. For the actual extraction he used the spear-shaped pique de Pamard as causing less injury than fixation forceps and made the section of the cornea with a special trowel-shaped knife. The flap when completed included one half the cornea. Some patients operated on by Dr. Taylor were also shown.—Dr. C. H. Cattle read some notes on a case of Aortic Aneurysm, which caused the sudden death of a man aged 51 years. The signs, generally speaking, were latent in this case, for the cough and shortness of breath were much relieved by a few weeks' indoor treatment in hospital, hoarseness and complete paralysis of the left vocal cord alone remaining. Just as his discharge was contemplated a copious hæmoptysis occurred with fatal result. The specimen exhibited showed a small aneurysm of the descending portion of the arch which had ruptured into the left bronchus.—The President, Dr. F. H. Jacob, and Mr. H. B. Tawse discussed the case, and Dr. Cattle replied.—Mr. A. R. Tweedie read a short paper on the Middle Turbinal Body in Health and Disease in which he pointed out that the anterior end of the middle turbinal formed a protection to the openings of the frontal, ethmoidal, and maxillary sinuses respectively, as well as to the sensitive septum. He was strongly of opinion that total removal of the middle turbinal was better avoided. As the tissue covering the bone was a muco-periosteum lesions of the mucous portion were reflected more deeply as osteitis and this again tended to maintain œdema and hypertrophy of the mucous tissue overlying the bone and a thoroughly vicious circle was thus established. After tracing some of the secondary results of abnormal conditions of the middle turbinals Mr. Tweedie emphasised the benefit derived from removal of the anterior ends of the middle turbinals in certain cases. Cauterisation should, however, be avoided and operation should be strictly limited to what was really necessary.—Mr. Tawse had seen complete removal of the middle turbinals practised in a large number of cases without any apparent ill effects on the throat in consequence.—The President and Dr. J. Watson and Mr. J. H. Cox asked whether irrigation of the nasal passages was still considered advantageous, and Mr. Tweedie replied that it had been practically given up as useless, if not detrimental.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 27th, Dr. W. H. Cheetham being in the chair.—Dr. T. Wardrop Griffith read a paper on Some Forms of Cardiac Irregularity, with Observations on a case of Heart-block. The paper was illustrated by lantern slides.—Mr. J. F. Dobson read a paper on the Treatment of Acute Intestinal Obstruction by Intubation of the Intestine. The paper was illustrated by a number of cases upon which the operation had been performed.—Mr. G. Constable Hayes and Mr. G. P. Humphery showed a case in which a bullet had been removed from the nasal cavity after causing Detachment of the Retina; it was localised by x rays.—Mr. B. G. A. Moynihan showed a series of specimens from cases of Partial Gastrectomy. In many the change from a chronic ulcer to carcinoma was shown; the pathological changes, that is to say, corresponded with the clinical history. The after-results were referred to; one patient was alive over five years after operation and another over three years after. Colour photographs were also shown.—Mr. H. Littlewood showed a specimen from a case of Primary Ovarian Gestation.—Dr. A. G. Barrs showed a case of Multiple Peripheral Neuritis due to "diachylon" poisoning.—Mr. A. L. Whitehead showed a case of Chronic Empyema of the Antrum of Highmore in which the opacity of the antrum to transillumination persisted after the evacuation of the pus.—Mr. W. Thompson showed (1) a specimen of Malignant Tumour excised from the Kidney, and (2) a Blood-cast of the Ureter, 14 inches in length, many of which were passed by the patient from whom the specimen was removed.—Mr. R. Lawford Knaggs and Dr. W. H. Maxwell Telling showed a Tuberculous Kidney excised. During life there were no urinary signs but severe pain in the region of the affected kidney. A skiagram showed the kidney opaque to the x rays, suggesting the presence of numerous calculi. The diseased organ was entirely filled with caseous material, containing a large amount of gritty material.—Cases and specimens were also shown by Mr. E. H. Hackett, Dr. J. B. Hellier, Mr. A. S. F. Grünbaum, Mr. H. Secker Walker, Dr. E. F. Trevelyan, and Dr. A. D. Sharp.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Nov. 26th, Mr. D'Arcy Power, the President, being in the chair.—Mr. Edred M. Corner read a paper entitled "The Indications of Suppuration in Appendicitis." It was first demonstrated on physiological and anatomical grounds that the cæcum and appendix were the part of the alimentary canal where bacteria were placed under the most favourable conditions for growth, and hence inflammatory affections in this region were more likely to be followed by suppuration than in other parts of the gastro-intestinal tract. Mr. Corner insisted on the importance of remembering that in cases of appendicitis where there had been fever for four or five days suppuration was probably present. He also laid great stress on the fact that an abscess was usually present when a lump was felt by abdominal palpation over the appendix region in a case of appendicitis. He pointed out that cases of appendicitis which were of a severe type and were not operated upon often resulted in the formation of a local abscess. This abscess if it did not burst into the general peritoneal cavity and set up general peritonitis frequently would discharge itself into the bowel, usually into the small intestine. In conclusion he discussed the advisability of removing the appendix in cases of appendicitis which were operated upon for appendix abscess.—Mr. M. Fitzmaurice-Kelly read a paper on the Treatment of Urethral Stricture. The pathological changes in the mucous membrane and submucous tissue were discussed and illustrated by microscopical preparations, and the fact was emphasised that the essential changes occur in the submucous tissue, the mucous membrane being thickened and the epithelium approximating to the stratified squamous type. As regarded treatment Mr. Fitzmaurice-Kelly thought that intermittent dilatation was the method of choice in uncomplicated cases, and condemned rapid dilatation under an anæsthetic as dangerous and likely to be followed by a rapid recurrence of symptoms. The indications for urethrotomy were then discussed and preference was given to internal urethrotomy when possible, the roof of the canal being divided from before backwards, the operation of external urethrotomy being reserved for emergencies and certain circumstances that made internal urethrotomy impossible or inappropriate.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 4th, Colonel T. H. Hendley, I.M.S., the President, being in the chair.—Dr. S. D. Clippingdale read a paper upon West London Rivers, Extant and Extinct, and their Influence upon the Fertility and Salubrity of the Districts through which they Pass or Passed. Dealing with 14 streams, some of which no longer exist as open rivers but are converted into closed drains, Dr. Clippingdale showed their influence in producing the great fertility of Middlesex soil, the cultivation of which the Britons had been taught by their Saxon invaders. As a result the health of the district was benefited to a great extent by the abundant supply of root crops, fruit, and cereals. Scurvy, which formerly was prevalent in the metropolis, disappeared with the introduction of the potato into the market-gardens of Chiswick. On the other hand, these open streams in times of flood or of drought had fostered miasmatic diseases and the disease known as "London ague," formerly very prevalent, had disappeared with the closing in of such rivers as the Fleet, the Tyburn, and the Serpentine. By their influence on the land surface these rivers had also produced a series of clay hills and gravel valleys, experience and also statistics tending to show that it was better to live on a clay hill than in a gravel valley.—Mr. H. H. Miles, Mr. W. McAdam Eccles, and the President discussed the paper.

Newcastle-on-Tyne, Leicester, and in 45 other towns; the 47 uncertified causes of death in the 76 towns included, however, eight in Birmingham, six in Liverpool, four in Sheffield, and three in Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·3 and 16·4 in the two preceding weeks, rose again to 16·5 in the week ending Dec. 5th. During the first ten weeks of the current quarter the annual death-rate in these eight towns averaged 15·1 per 1000, and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 11·9 and 13·5 in Perth and Aberdeen, to 20·1 in Dundee and 26·9 in Greenock. The 583 deaths in the eight towns exceeded the number in the previous week by six, and included 53 which were referred to the principal epidemic diseases, against 68, 62, and 57 in the three preceding weeks; of these 53 deaths, 18 resulted from diarrhœa, 14 from whooping-cough, eight from diphtheria, six from scarlet fever, five from measles, and two from "fever," but not one from small-pox. These 53 deaths were equal to an annual rate of 1·5 per 1000, which exceeded by 0·3 the mean rate from the same diseases in the 76 English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 22 and 25 in the two preceding weeks, declined to 18 in the week under notice, and were fewer than in any week since the beginning of July; they included 12 in Glasgow, three in Edinburgh, and two in Dundee. The 14 fatal cases of whooping-cough showed a further slight decline from the numbers in recent weeks; eight were, however, recorded in Glasgow and two both in Dundee and Paisley. Of the eight deaths from diphtheria, an increase of three upon the number in the previous week, four occurred in Glasgow and two in Paisley. The six deaths from scarlet fever included three in Glasgow in which town also occurred four of the five fatal cases of measles. Of the two deaths referred to "fever" one each was returned in Glasgow and Greenock. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 136 and 133 in the two preceding weeks, further declined to 113 in the week under notice, and were 56 below the number returned in these towns in the corresponding week of last year. The causes of 23, or 4·0 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·2 and 22·2 per 1000 in the two preceding weeks, rose again to 23·8 in the week ending Dec. 5th. During the first ten weeks of the current quarter the death-rate in the city averaged 20·2 per 1000, whereas the mean rate during the same period did not exceed 14·1 in London and 13·7 in Edinburgh. The 180 deaths of Dublin residents during the week under notice showed an increase of 12 upon the number returned in the previous week, and included 12 which were referred to the principal epidemic diseases, against 21 and 11 in the two preceding weeks. These 12 deaths were equal to an annual rate of 1·6 per 1000; the rate from these diseases in the same week did not exceed 1·0 in London and 0·6 in Edinburgh. Of the 12 deaths from these epidemic diseases in Dublin last week, five resulted from measles, three from diarrhœa, two from "fever," and two from whooping-cough, but not one from diphtheria, scarlet fever, or small-pox. The five fatal cases of measles showed a slight further decline from the numbers returned in the two preceding weeks; those of diarrhœa and of "fever" showed, however, an increase. The 180 deaths from all causes during the week included 40 of infants under one year of age and 50 of persons aged upwards of 60 years; the deaths of elderly persons showed a considerable increase upon recent weekly numbers. One inquest case and three deaths from violence were registered during the week, and 58, or 32·2 per cent., of the deaths occurred in public institutions. The causes of two, or 1·1 per cent., of the deaths in Dublin last week were not certified; the proportion of uncertified causes of death in Edinburgh last week was equal to 4·3 per cent., while in London the causes of all but three of the 1383 deaths were duly certified.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Fleet-Surgeons: D. J. P. McNabb to the *Prince George;* and J. A. Moon to the *Prince of Wales*, on recommissioning. Staff-Surgeons: E. S. Reid to the *Swiftsure;* and P. G. Williams to the *Vivid.* Surgeons: A. R. Fisher to the *Prince George;* and C. V. Griffiths to the *Prince of Wales*, on recommissioning.

Royal Army Medical Corps.

Major Lionel A. Mitchell, from temporary half-pay, to be Major, with precedence next below J. Hennessy (dated Nov. 21st, 1908).

Lieutenant Robert O'Kelly is confirmed in his rank.

Scottish Command, Edinburgh Company: Captain David Waterston resigns his commission (dated March 31st, 1908).

Special Reserve.

South Irish Horse: Surgeon-Captain Frederick Faber MacCabe is transferred to the Special Reserve, retaining his rank and seniority (dated July 7th, 1908).

Territorial Force.

Royal Field Artillery.

5th Staffordshire Battery, 3rd North Midland Brigade: Surgeon-Lieutenant Charles John Caddick resigns his commission as Surgeon-Lieutenant in the 2nd Volunteer Battalion, The South Staffordshire Regiment, and is appointed Captain (dated April 1st, 1908). 13th Lancashire Battery, 3rd Lancashire Brigade: Surgeon-Captain Francis William Bailey, from the 6th Lancashire Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 2nd Wessex (Howitzer) Brigade: Surgeon-Lieutenant Harold Frederic Bassano, from the 2nd Hampshire Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). 3rd Wessex Brigade: Surgeon-Lieutenant-Colonel Augustus Kinsey-Morgan, from the 1st Dorsetshire Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). 4th Wessex Brigade: Surgeon-Lieutenant George Clement Searle, from the 1st Devonshire Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

Royal Garrison Artillery.

Dorsetshire: Surgeon-Captain Telford Telford Smith from the 1st Dorsetshire Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Infantry.

7th Battalion, The Duke of Cambridge's Own (Middlesex Regiment): The undermentioned officer from the 1st Volunteer Battalion, is appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain George Pester Chappel (to be supernumerary).

Royal Army Medical Corps.

Captain Herbert W. Whyte resigns his commission (dated Oct. 27th, 1908). Major Joseph G. Turner resigns his commission (dated Nov. 2nd, 1908).

1st North Midland Field Ambulance: Frederick Russell Bremner to be Lieutenant (dated Oct. 2nd, 1908).

3rd North Midland Field Ambulance: Philip Watson Turnor to be Lieutenant (dated June 12th, 1908).

1st Eastern General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated May 6th, 1908):—To be Lieutenant-Colonels: Sir Thomas Clifford Allbutt, K.C.B., F.R.S., George Edward Wherry, John Buckley Bradbury, and Frederick Deighton. To be Majors: Laurence Humphry, Arthur Cooke, Ernest Lloyd Jones, Frederick William Burton-Fanning, Hamilton Ashley Ballance, John Aldren Wright, Peverell Smythe remarks on huts and married quarters. This chapter, indeed, omits nothing of importance. The author enters on the subject of water-supplies, the amount, sources, the comparative qualities of water-supplies, storage and delivery, impurities and the effect of drinking impure water, and the means whereby water may be purified and rendered fit for consumption. The principles of diet now engage our attention before the ration of the soldier is considered; the latter is detailed with respect to its issue in times of peace in hot countries and in war. The cooking of the food, the diseases connected with food, and remarks on the various articles of food complete this section. The subject of alcohol is concisely entered upon. The methods of clothing the soldier, his equipment, and his work, and the questions relating to marching and the camp complete the work.

From the above remarks it will be seen how admirably Lieutenant-Colonel Firth has fulfilled the task which he has undertaken. We doubt not that this book will be in the hands of all concerned, for hitherto no such valuable compendium of all that relates to our army has appeared.

A Manual of Bacteriology. By HERBERT U. WILLIAMS, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Revised by B. MEADE BOLTON, M.D., Professor of Pathology and Bacteriology, University of Missouri; Bacteriologist, Bureau of Animal Industry, &c. With 113 illustrations. Fifth edition, revised and enlarged. London: Rebman, Limited. 1908. Pp. 466. Price 9*s.* net.

SINCE we last reviewed this work it has increased in size from a small book of 290 pages to one containing nearly double the number, and now, in its fifth edition, takes its place amongst the numerous standard works on bacteriology which are intended primarily for the use of medical men and medical officers of health. In scope, arrangement of material, and general treatment of the subject, it differs in few respects from its numerous competitors. Originally intended to serve as a laboratory manual for the unaided student it still bears traces of this purpose in the large amount of space devoted to bacteriological technique and biology of micro-organisms; only one-third of the book is occupied with the detailed description of pathogenic micro-organisms. The original idea has now apparently been abandoned and the book opens with the statement that "Bacteriology is not a subject which one should attempt to learn from books alone or without instructors"—a statement with which we heartily agree. A somewhat dogmatic method of expression adopted deliberately, and we think wisely, as being best adapted for the student is a second distinguishing feature of the book. This attitude is, to a certain extent, apologised for in the preface and, of course, disarms criticism. The book has been thoroughly revised and additions have been made where required by recent advances in knowledge; some of these additions are, however, so stated that they suggest that the person responsible for them has been out of touch with clinical medicine.

Considerable alterations have been made in the chapters dealing with milk, water, and disinfectants. These subjects are treated rather fully for a work of this size and character. The section on milk is good and contains many useful facts, and a definite, though not dogmatic, opinion is expressed in favour of pasteurisation as the best safeguard of the supply. The section devoted to water is too brief to be of much service except as an introduction to the subject but it is remarkable for the doubt cast on the value of any chemical or bacteriological analysis of water. This opinion appears to be shared by the reviser who is well qualified to speak on this point.

The chapters on immunity and allied subjects were always good and now present a very complete view of Ehrlich's theory and its modifications, together with a discussion of the question of deviation of complement.

The part of the book which deals with the pathogenic organisms is of average excellence and as numerous references to original work are given in this book the student can easily acquire further information. The fashion of attaching the name of the observer to each piece of information adds reality to the statements but rather tends to produce disjointedness in the treatment of the subject. It would seem, too, that there must be much vain repetition in medical work as a reviewer becomes painfully aware that there seem to be more observers than facts observed. A short account of the pathogenic protozoa completes the work. The illustrations are numerous and are for the most part reproductions of good original photographs.

The book is of neat appearance but seems to have been prepared for the press hastily. It is always difficult to distinguish between error and a difference in custom when dealing with misprints in an American book, but there is an error in the reference to an illustration on page 106, and "gemical" (? germicidal), "predisfusition," "sterptococcus," "slought" (? slough), "methplene" (? methylene), and so on, are unusual variations in spelling. The book is printed in America.

LIBRARY TABLE.

Lists of Muscles for Electrical Testing. London: H. K. Lewis. Price 2*s.* 6*d.*—*The Maternity Nurses' Charts and Case-Book.* By GERTRUDE C. MARKS. London: Baillière, Tindall, and Cox. 14 charts. Price 1*s.* net.—These two publications are compiled to facilitate case recording. The first contains a number of detachable pages gummed on one side and printed on the other with the names of various nerves coupled with the muscles supplied by them, with blank spaces for the records of electrical reactions. The sheets are of three kinds, dealing with the lower limb, the upper limb, and with the head, neck, and trunk respectively. They should prove a useful accessory to the neurologist's case-book. Miss Marks's "Maternity Nurses' Case-book" is arranged so that the complete record of a case is seen at one opening. On one page are a 14 days' morning and evening temperature chart with blank lines for the progressive weight of the baby and the usual information concerning the patient, whilst the opposite page is ruled for the entry of "dates" and "remarks." It is a handy little book and its intelligent use should have an educational value for the nurse.

Interim Report on the Parasites of Grouse. By A. E. SHIPLEY, M.A., Hon. D.Sc., F.R.S., Fellow and Tutor of Christ's College, Cambridge.—It was with pleasurable anticipation of an hour's interesting and instructive reading that we opened the pages of the Interim Report of the Grouse Disease Inquiry. We were not disappointed and soon were absorbed in following the description of the parasites of this popular little bird. The report is based mainly, we are told, on the author's own observations, in which he was very ably assisted by Dr. E. A. Wilson and Mr. J. C. F. Fryer of Caius College, of whom also he mentions that many of the facts were first noticed by them. The investigations were largely carried out in the very home of the birds in different parts of Scotland. Outbreaks of disease were investigated actually in their immediate neighbourhood, a laboratory oftentimes being improvised in a stuffy back room of an inn. It was noted by Dr. Shipley that the disease universally referred to by gamekeepers as "the" grouse disease was caused by worms, hence the importance of the subjects embraced by this report. The parasites are presented under hence have contributed unmistakeably to the advancement of their science."

It is true that women enter the lists on equal terms with men as regards education, inasmuch as they pass the same examinations, and in some schools they have equal opportunities of working, both in laboratories and in hospitals, with this important exception, that resident students' posts are, as a rule, withheld from them. After they are qualified the handicapping of medical women becomes more apparent, for they are rarely admitted to resident posts at general hospitals and so are debarred from experience and teaching which are of incalculable value, for it is agreed that all specialised training should be preceded by thorough general knowledge. Besides this want of experience, women have few opportunities of becoming familiar with research methods, and of using instruments and apparatus which are beyond the reach of ordinary private individuals, but which are at the service of resident hospital officials. The suggestions and stimulus given by senior physicians and surgeons must be of great value also.

It seems to me improbable that eminent surgeons of the present day would have acquired their remarkable skill if, at the beginning of their careers, they had been unable to obtain constant practice as house surgeons and resident surgical officers; and it seems equally improbable that famous physicians of the present day would have done so much to advance their science if they had been unable to make observations on large numbers of hospital patients. I do not presume to discuss the suitability or unsuitability of women for the medical profession but only wish to point out that they are by no means on equal terms with men as regards continued education after they have passed a qualifying examination.

I am, Sir, yours faithfully,

Dec. 5th. MARY CLARKE.

STANDARDISATION OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—May we be permitted to associate ourselves with the view expressed by yourselves in your issue of Dec. 5th? Any movement for the constitution of an independent board of experts for the standardisation of disinfectants would have our undivided support, as the present position is entirely unsatisfactory. Any departure from standard conditions should not be allowable without mature consideration; for instance, the futility of this latest modification suggested by Rideal and Walker will be apparent if comparative tests are made with disinfectants in natural waters, such as have commonly to be used, as compared with distilled water.—Yours faithfully,

NEWTON, CHAMBERS, & CO., LTD.,
(W. NEWTON DREW, Managing Director.)

Thorncliffe, near Sheffield, Dec. 7th, 1908.

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—The editor of the *Dental Surgeon* indicates that I seem "to think that the value of hard and resistant food and general exercise of the jaw muscles as prophylactics against dental caries is a new discovery" and refers to Coleman's "Manual on Dental Surgery and Pathology." What are the views to be found on the pages referred to? The following extracts indicate what they are:—

> One of the chief causes of this degeneracy [of the teeth] we believe to be the change, both in character and mode of preparation, which the food of man has undergone during the last few centuries. Take, for instance, his bread; this, as compared with that of the present day, was imperfectly ground and contained a larger proportion of husk of the grain, and, in consequence, a larger proportion of phosphates. ...... Organs or structures not properly exercised undergo, after it may be many generations, some form of degeneration, and it is only reasonable to conclude that the teeth and jaws follow the same law; the former unprotected losing their power of resisting external agencies. ......

This is a clear statement of one of the theories which I have tried to combat. I have consistently opposed the idea that the teeth are undergoing any degeneracy on account of lack of sufficient use. If the degeneracy theory were correct the hope of regaining perfection in our teeth would only be but a remote one, instead of being within the immediate power of every intelligent parent. Again, the old dietetic theory might lead to distinct and serious error. Thus, for example, fine biscuits, toffee, and bon-bons of various kinds may stimulate mastication and therefore might be supposed to develop and strengthen the teeth so that they would be able to resist external agencies. The truth is, however, in my view, that such foods tend to stick about the teeth and undergo rapid fermentation, so that caries is the inevitable result. Nor did the degeneracy theory in any way suggest one of the most important provisions in the new method of prevention—namely, that the meal should be so arranged that the last part of it should leave the mouth physiologically clean. In other words, that if a meal has included sweets or sticky carbohydrates these should be followed by some detergent food or drink, such as, for example, fresh fruit or a cup of coffee. It is one thing to contend that the refinement and softening of food tend to make it lodge unduly about the teeth and undergo acid fermentation, and quite another to say that this refinement and softening deprive the teeth of their proper share of phosphates and blood for their proper development. I am, Sir, yours faithfully,

Wimpole-street, W., Nov. 29th, 1908. J. SIM WALLACE.

To the Editor of THE LANCET.

SIR,—I notice that Dr. R. W. Allen in his interesting paper on the Common Cold gives a prescription for a gargle containing a certain amount of free hydrochloric acid. My attention was drawn to the subject of hydrochloric acid in gargles by the fact that a patient presented herself to me for dental treatment last spring showing a large amount of dental caries, from which heretofore she had been fairly free. I inquired whether she had been taking any medicine, but she said that she had not but had been using a gargle. Upon seeing the prescription I found it was a very similar one to the one mentioned in Dr. Allen's paper.

We know that mineral acids, even when very dilute, have a decalcifying action on the enamel. Furthermore, a gargle if used properly must necessitate the liquid being held in contact with the back teeth for some considerable time, much longer than when medicine is swallowed. It is, therefore, reasonable to suppose that an acid gargle is more injurious to the teeth than an acid draught, while the former cannot be taken through a tube like the latter.

I would suggest that instructions should be given to patients taking any mineral acids into the mouth to rinse the mouth well afterwards, preferably with an alkaline solution. I have seen a similar condition in the mouths of two members of one family who had dosed themselves freely with dilute phosphoric acid as a remedy for colds.

I am, Sir, yours faithfully,
WM. RUSHTON, L.D.S. ENG.

Harley-street, W., Dec. 7th, 1908.

A SERUM TREATMENT FOR CARCINOMA IN MICE.

To the Editor of THE LANCET.

SIR,—It has been represented to me that there are some who think that in my criticism of Mr. C. E. Walker's paper and in my letter published in THE LANCET of Nov. 21st I expressed myself in terms more forcible than was necessary in the circumstances. I am glad, therefore, to take the earliest opportunity of saying that I am sorry if I put forward my views in a manner that could give rise to such a feeling. I should also like to express regret if I have placed Mr. Walker and my colleagues on the council of the Liverpool Medical Institution in a position open to misconstruction by my remark that the former "asked to be invited." I was away from home at the time, but I understand that what happened was that Mr. Walker stated through the secretary that he had some work which he would like to bring before the members of the institution. This communication was considered by the council, as to ways and means, with the result that Mr. Walker was unanimously invited to read his paper at an ordinary meeting, a full discussion being arranged for. I learned this unofficially on my return home.

I had intended not to discuss the subject further, but I feel that I owe it to myself to establish my good faith in the scientific aspect of the matter under discussion. There is, however, only one point left which requires elucidation, and the collar the operator is enabled to estimate correctly, without any chance of error, the exact depth to which the chisel has penetrated, an advantage which will be appreciated. With the chisel properly held a cut ¼ in. in depth will penetrate one-half the distance through the sphenoidal sinus. This opening is as large as that made into the sphenoidal sinus by the usual means—namely, a stout curved pointed knife which is entered into the natural outlet of the sphenoidal sinus for the purpose of enlarging its opening, through which opening is introduced a punch worked with strong levers whereby the desired portion of bone is removed. I would ask readers of THE LANCET to compare the complications which are liable to be encountered by the two methods of performing this operation. With the chisel there is no blood to obscure the vision until after the chisel has been properly placed, subsequently to which there is no necessity to look into the nose. With the stout curved knife, apart from the great difficulty of entering the natural opening of the sphenoidal sinus, the parts are obscured with blood from the first moment that the knife comes in contact with the mucous membrane. When there is any difficulty in effecting the removal of this chisel or when it is desired to increase the lateral measurements of the opening made, a set nut with a projecting hub is adjusted with the fingers over the thread on the proximal end of the rod. The projecting hub is turned towards the proximal end of the rod and the nut is screwed down on the rod for one half an inch. There is also a round handle ⅜ in. in diameter and two inches in length, which has an opening partly through its middle. A thread is cut in this opening which allows the handle to be screwed on to the proximal end of the rod with the fingers. When the handle is fully screwed down the set nut is unscrewed until its hub binds against the handle. The operator is thus furnished with means whereby he can readily remove the chisel or increase the lateral dimensions of the hole in the sphenoidal sinus to ¼ in. by twisting the rod through an angle of 90 degrees. Operators are advised to inspect the sectional skull before performing this operation. Messrs. J. Weiss and Son, 287, Oxford-street, London, W., manufacture the instrument.

CHARLES AUBREY BUCKLIN, M.D.

BRITISH MEDICAL BENEVOLENT FUND.

AT the November meeting of the committee 22 cases were considered and grants amounting to £180 were voted in relief to 18 of the applicants, two cases being passed over and two postponed for further inquiry. Appended is an abstract of the cases assisted:—

M.B., C.M. Edin., aged 66 years, who practises in Lancashire. Applicant's receipts during the last two years have seriously decreased owing to competition, depression in trade, and the number of medical institutions, and he is unavoidably in arrears with his rent. Three children, aged 19 to 10 years, one being an invalid. Voted £12.

Widow, aged 48 years, of L.R.C.P., L.R.C.S. Edin. No income. Since husband's death has partially maintained herself by nursing but is at present unable to work on account of ill-health. Three children, just self-supporting. Relieved 14 times, £144. Voted £12.

Daughter, aged 53 years, of late M.D. Lond. No income. Lets lodgings. Health indifferent. Relieved 25 times, £190. Voted £6.

Daughter, aged 61 years, of late M.R.C.S., L.S.A. For many years acted as housekeeper for two sisters who have kept a school, but changes in the neighbourhood have compelled them to give it up. Income less than 10s. a week. Voted £12.

Widow, aged 70 years, of L.S.A. No income. Dependent on two daughters who can ill afford to help. Voted £12.

Daughter, aged 52 years, of late M.D. Edin. No income. Dependent on letting lodgings and has had a very bad season. Relieved once, £12. Voted £10.

L.R.C.P., L.R.C.S. Edin., aged 51 years. No income; incapacitated by spastic paraplegia. Has been living by selling his furniture. One son, aged 12 years. Relieved four times, £48. Voted £12.

Widow, aged 52 years, of L.R.C.P., L.R.C.S. Edin. No income; seven children, aged 22 to 11 years, one being an invalid and one mentally deficient. Slight help from three eldest sons. Relieved twice, £24. Voted £12.

Widow, aged 44 years, of L.R.C.P., L.R.C.S. Irel. Quite unprovided for at husband's death three years ago and now works as a parish nurse, but not being strong cannot command sufficient salary for unavoidable expenses. No children. Voted £5.

Widow, aged 68 years, of L.R.C.P. Edin. No income; children unable to help. Health feeble and eyesight failing. Relieved once, £12. Voted £12.

Daughter, aged 54 years, of late L.S.A. Has supported herself for many years as a governess or companion, but is now in very bad health and unable to undertake any regular work. Relieved seven times, £63. Voted £12.

Widow, aged 57 years, of L.R.C.P. Edin. Six children but only able to give slight help and a grant is sought to provide the youngest son with a suitable outfit for a post which he is promised. Relieved twice, £15. Voted £10.

Widow, aged 71 years, of M.D. Lond., L.R.C.P. Income less than £1 a week and applicant asks for a little help to obtain a few small comforts which at her age she greatly needs. Relieved three times, £21. Voted £5.

Daughters, aged 56 and 43 years, of M.R.C.S., L.S.A. No income and dependent on earnings from needlework and slight help from a relation who can ill afford it. Relieved four times, £44. Voted £12.

Wife, aged 63 years, of M.R.C.S., L.R.C.P. Deserted by her husband five years ago through no fault of her own and is without any means. Endeavours to support herself by needlework and receives a little help from friends. No children. Relieved once, £12. Voted £12.

Daughter, aged 65 years, of late M.R.C.S. No income and in very bad health. Relieved twice, £20. Voted £10.

Widow, aged 71 years, of L.F.P.S. Glasg. Five children, aged 45 to 35. Is a candidate for the Epsom College annuity and hopes to be elected shortly. Relieved twice, £17. Voted £2.

Widow, aged 62 years, of L.F.P.S. Glasg., who was an annuitant of this fund. No means, small earnings by knitting; indifferent health Relieved once, £12. Voted £12.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 11th, 1830.

HEADACH CAUSED BY THE PRESENCE OF A SCOLOPENDRA IN THE FRONTAL SINUS.

WE extract the following case from the report of the "Societé des Sciences Médicales, du Department de la Moselle."

A farmer's wife, twenty-eight years of age, residing in the neighbourhood of Metz, had for a long time been affected with an unpleasant itching sensation in the nose with coryza, to which symptoms in the year 1827, violent headach acceded, so that she was at length obliged to apply for medical aid. The headach was irregularly intermittent, and generally began at the root of the nose and the middle of the forehead, or at the right frontal region, extending thence first to the right side, and then over the whole head. The attack was accompanied by a great discharge of tears, and sometimes even nausea and vomiting; the features were forcibly distorted, the jaws firmly closed, and the eyes and ears so very sensible, that she could not bear the least light or any noise. At other times she became delirious, pressed the head between her hands, and ran about in a state of distraction. The pain was, according to her statement, like the strokes of a hammer, or as if something was perforating the skull, and the fits generally returned about twelve times in twenty-four hours; sometimes the headach continued uninterruptedly for several days. The coryza existed during the whole period and the discharge was occasionally very fetid and mixed with blood. Some medicines were employed, but no regular plan of treatment was followed, and it was not before a twelvemonth's suffering that this singular affection terminated, after the expulsion of a worm from the nose, which moved with rapidity, and when placed in water, remained alive for several days; it was afterwards killed by being put in alcohol, and sent to M. Maréchal, who reported the case to the Society. He found the animal to be more than two inches in length, and one line in breadth; it had two antennæ, was of yellowish colour, flat, and consisted of sixty-four rings, on each of which were two legs. M. Maréchal subsequently transmitted the insect to MM. Hollandre and Roussel, who ascertained that it was a scolopendra electrica.

BERI-BERI AT CARDIFF.—An inquest was held at Cardiff on Dec. 4th relative to the death of a Lascar seaman who had died at the Seamen's Hospital. The medical officer of the institution stated that he believed that the deceased had been suffering from beri-beri and that death resulted from syncope. The jury returned a verdict in accordance with the medical evidence and the coroner directed that the sanitary authorities should be informed that a case of beri-beri was believed to have occurred upon a ship coming to Cardiff.

Let examinations be based on this principle and combine with them a system of apprenticeship—to a hospital, not to an individual,—give two-thirds of the marks for the apprenticeship work and one-third for the examination work, and then a man will be able to acquire a sound practical knowledge of his profession. The whole question is one of national importance. I am, Sir, yours faithfully,

M.A., M.B.

ANAPHYLAXIS.

To the Editor of THE LANCET.

SIR,—May I ask you or some of your readers who may be better instructed than myself how the word "anaphylaxis" came into being? It was, I believe, coined by Dr. Charles Richet and means (I gather from an article on the subject in the *Journal of the American Medical Association* of Nov. 7th) hypersusceptibility. If this is so, how does that meaning arise from the word anaphylaxis? Is the *ana* the alternative form of the α privative and, if so, why not have made the word aphylaxis on the model of aphasia, atrophy, or agraphia? Of course, the α before a vowel becomes αν as in anæmia. If, on the other hand, the *ana* is the preposition the word should mean "repeated protection" or "increased protection." I shall be grateful for any information on the subject. If anaphylaxis does mean "without protection" it is easy to see whence arises the idea of "increased susceptibility." I am, Sir, yours faithfully,

Dec. 7th, 1903. ETONENSIS.

PROPOSED MEDICAL REFORMS IN NORWAY.

(FROM A SPECIAL CORRESPONDENT.)

THE report is now to hand of the medical commission appointed to inquire into suggested reforms in connexion with medical men, midwives, and quacks, and also to investigate further the proposed "doctor paragraph" in the new criminal code which enacts that the refusal of medical men and midwives to attend urgent cases should be made an offence punishable by law. This paragraph aroused much opposition in the Storthing and threatened the new criminal code with danger. It was therefore decided that the paragraph should be omitted and that the matter thereof should instead be treated by the medical commission, together with other proposed legislation dealing with the rights and duties of medical men generally.

After discussing the criticism by the Storthing of the "doctor paragraph" the commission expresses its doubts as to what extent and in what cases compulsory attendance on patients can be forced on the medical profession. The objection to the inclusion of the paragraph in the criminal code must surely cease to exist when it forms a link in a special law affecting the rights and duties of medical men. But not even in such a law should any condition be imposed that experience has not proved to be satisfactory to the community. The commission finds that not only must the need for immediate attendance by the medical man be recognised by those concerned but also that he himself must be convinced of this same need. Should a medical man's liability to attend, as in the "doctor paragraph," be unlimited, provided that the demand for aid be pushed, many difficulties and much unpleasantness would arise, especially in country districts where attendance on patients out of their turn may be imperative.

If the principle underlying the "doctor paragraph" is to be realised (as the commission thinks it should be) the conditions under which a medical man is bound to attend must be carefully defined and confined to accidents and childbirth. Under these conditions his duty would be plain both to himself and the patient, and urgent cases would be attended to in preference to others. The medical faculty, it is presumed, cannot take exception to such a plan, limited as it is to what is already practised by every right-thinking medical man. Should the aid thus given not be paid for by the parties concerned payment is to be made by the municipal authorities in the patient's district, these authorities in their turn having the right to seize the property of the recalcitrant patient if need be. Further, in the interest of public health, a medical man in attendance on an epidemic or infectious illness that is the subject of official control is to notify such a case and to prescribe such measures as are required to limit the spread of the disease.

By the present law the King may grant the right to practise medicine in Norway to one who has not passed the country's medical examinations but who in other respects has proved his knowledge of medicine. It is proposed that the King shall retain this privilege but that the candidate for a licence to practise shall pass a test imposed by the medical authorities. This condition is, however, not to be applied in the case of foreigners appointed as teachers by the medical faculty or in the case of foreigners wishing to practise only among their fellow countrymen or wishing to undertake purely scientific research work, such as the study of leprosy. There is nothing in the present Norwegian law to insure to a medical attendant priority of right in bankruptcy claims or after the death of his patient. In many disputed cases, however, it has for a long time been the custom to allow medical men priority of claim, and it is now proposed to make this practice law. This priority of claim is not only to include ordinary fees for attendance but also all charges in connexion with consultations, operations, and medicaments. The claims must not, however, date back more than a year from the declaration of bankruptcy or death of the creditor or patient.

With regard to professional secrecy, the commission finds that a medical man's privileges in this respect should be clearly defined by law, and in order that the sacredness of private life insisted on by the public when confiding in a medical man should be respected it is proposed that the privilege of professional secrecy shall not only include confessions made by a patient but also all information acquired by professional independent observations. On the other hand, a medical man is to be free to disclose information acquired in connexion with examination for insurance or for an official appointment, should such information be required by the parties concerned. The privilege is also to be a dead letter in cases of identification, &c., by a medical man called in as an expert.

According to the present law a practitioner may not be deprived of his licence unless he has been convicted of a punishable offence. Thus in the case of a medical man's insanity or excessive use of morphine there is no effective method to prevent his practising, however great the danger may be to the public. In such circumstances it has been the custom of the medical faculty's administration privately to request the practitioner concerned to cease to prescribe certain drugs, &c. This must be considered an unsatisfactory practice, depending as it does on the good-will of the parties concerned. Legislation is therefore required which will deal satisfactorily both with the interests of the public and those of the medical man whose livelihood is threatened. It is proposed that a practitioner who is considered unfit for medical practice on account of insanity or mental weakness shall be deprived of his licence where judgment has been so given after an exhaustive inquiry by the Government's medical department. In the interval, before judgment has been given, the King is to be authorised temporarily to suspend the licence of the medical man in question.

At present there are no special laws regulating dentists and their work, and licence to practise is given by the King in accordance with the "quackery law." As this practice is unsatisfactory it is proposed that the special licences should no longer be given, the licence only to be acquired after passing the requisite examination, the candidate being over 21 years and undertaking to carry on his work honourably and conscientiously. Professional secrecy and liability to suspension are to be the same as for medical men. A midwife's obligation to attend at once on all cases irrespectively of persons and the prospect of payment has been severely criticised by the Society of Midwives. The commission therefore proposes that a midwife shall be able to claim debts from the municipal authorities on the same terms as a medical man whose attendance has been compulsory.

Finally, the commission deals with the quackery question which has recently been much discussed in the medical press, quack advertisements in the daily press having been severely commented on. Admitting the correctness of the medical attitude in this respect and the advantages to be obtained by repressive legislation against quackery, the procedure for the closing of uninhabitable houses laid down in Section 32 of the Housing of the Working Classes Act, 1890, has been amended in an important particular. Under the Act of 1890 a closing order can be made by the justices on the application of the local authority, which in its turn usually makes such application upon the report of its medical officer of health. Clause 13 of the Bill dispenses with the reference to the justices and enables the local authority to make an order prohibiting the use of a dwelling-house for human habitation until in the judgment of the authority the house is rendered fit for habitation. The closing order may be determined by the authority if the house is made fit, and the owner may appeal to the Local Government Board if his application for such determination is refused by the authority, and he may also appeal to the Board within 14 days of the closing order being served upon him. The amendment which the Committee has added to this clause makes it compulsory upon the Local Government Board to hold a public local inquiry before dismissing appeals made to the Board under the clause, but even so the clause, when operative by law, should prove of immense aid to practical sanitarians. Clause 35 enables the Local Government Board to make rules to determine the procedure of these appeals and before considering any appeal the Board may require the appellant to deposit such a sum as will cover the cost of the appeal. The success or failure of Clause 13, giving as it does greater facilities to local authorities in the closing of uninhabitable houses, will depend in great measure upon the rules which the Board frames under Clause 35 of the Bill and also upon the personality of the official who holds the public inquiry. A large number of local authorities, more especially in the rural districts, are not at all anxious to have cast upon them the responsibility of closing houses owned, maybe, by their friends or neighbours, and they will not be adverse to the power of appeal being exercised in order to take from their shoulders any odium attached to the making of compulsory closing orders. The process of appeal must therefore be made as simple and inexpensive as possible, and the official who inquires into the circumstances must be one who not only has had experience in the administration of the Housing Acts but he must be familiar with those conditions that are to the detriment of a house, and he must be able to state in a convincing manner his reasons for supporting, or dissenting from, the action of the local authority.

A county council is enabled to appoint a medical officer of health under Section 17 of the Local Government Act, 1888, and Clause 57 of the Bill makes such an appointment compulsory. Under the same clause the Local Government Board may prescribe the duties of a county medical officer of health, and Sir JOHN DICKSON-POYNDER succeeded in adding sub-clauses whereby the county medical officer of health cannot be appointed for a limited period; can only be removeable from office by, or with the consent of, the Local Government Board; cannot engage in private practice; and cannot hold any other public appointment without the consent of the Board. Three amendments to Clause 57, all having nearly the same end in view, were said to be outside the scope of the Bill. They were set down by Sir FRANCIS POWELL, Sir WALTER FOSTER, and Mr. WEDGWOOD. Sir FRANCIS POWELL'S amendment was to the effect that "no medical officer of health appointed under this or any other Act shall be removeable except by or with the sanction of the Local Government Board." Sir WALTER FOSTER'S amendment provided that a medical officer of health should not hold office for a limited period but should be liable to dismissal by the electing authority with the assent of the Local Government Board, and Mr. WEDGWOOD, in his amendment, limited this security against arbitrary dismissal to medical officers of health who were not in private practice.

It is a little difficult to understand how these amendments can be altogether outside the scope of the Bill. If district medical officers of health were not referred to in the Bill then amendments dealing with their appointments might very well be ruled as inadmissible. Such, however, is not by any means the case, for Sub-clauses (2) and (3) of Clause 58 require the medical officer of health of a district council, under a penalty of £10 for non-compliance, to give to the county medical officer of health any information which it is in his power to give and which may reasonably be required of him. This is the first instance in which it has been proposed that a district medical officer of health should be required to perform a particular duty for the non-performance of which a penalty has been proposed. There is every reason, therefore, for making the position of the district medical officer of health absolutely unassailable. The duties of the county officer are administrative and those of the district officer are executive, so that of the two the latter is the more likely to come into conflict with individual members of the electing body. We trust that at any rate one of the three amendments referred to will be introduced next session on the report stage of the Bill and that the President of the Local Government Board will be asked to state definitely what are his reasons for desiring to withhold from whole-time district medical officers of health the same security against unjust removal from office which he has so readily afforded to the county officials.

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The Law and Medical Practice by the Unqualified.

A PROSECUTION of an unusual character arising out of the use by R. S. ROSS, an unqualified person, of a title implying registration as a medical practitioner took place recently at Bishop Auckland. In cases of the usual class an unqualified person supplying treatment of a medical character—as the law, unfortunately for his patients, permits him to do—uses initials on his stationery implying medical degrees, or a brass plate upon his door which makes the same suggestion, or calls himself "Dr.," and so commits an offence for which he can be punished. Very frequently he is without medical training of any kind, and sometimes he has purchased for a small sum of money a bogus degree conferred by a foreign university, so-called, the uselessness of which might be recognised in the country of its origin but which in England helps the cunning quack to impose on the unwary. In the case referred to above the defendant, according to the story told on his behalf, was at one time a medical student and acted as assistant to a qualified medical practitioner. When the impropriety of such assistance became established and the at Madrid in 1903, when the Fourteenth International Congress of Medicine met in the Spanish capital. They witnessed with what exquisite courtesy and hospitality this vast assembly was received on two different occasions and entertained by the Queen Regent and the young King Alfonso in their magnificent palace and its extensive gardens. If there were not hotels enough to house the delegates there were plenty of palaces in which to receive them and State art tapestry to decorate the walls of the places where they met. Yet the Spaniards are a poverty-stricken people and Madrid is only a small city. But, of course, what was done in Spain was done by the Government, and there was no going round with a hat to get donations from millionaires whose interests are often diametrically opposed to the sanitary reforms which science claims on behalf of the public health. Therefore, it seems to me that the necessary preparations had not been made and the invitation given in 1905 for the Congress to meet in America in 1908 was premature.

To continue the narrative, I was quite seriously informed that the organising committee, after hunting round and visiting all the buildings in Washington, could not find any place that would be suitable for holding the Congress. This surely is a most astounding explanation, for obviously the resources of the capital of a great country must be well known. Since Washington as a city is still quite in its infancy its resources are naturally limited and therefore easy to ascertain and to enumerate. There could have been no difficulty in finding out beforehand, if it was not already known, whether there existed in Washington a suitable building available for the Congress. Yet it was only some time after Washington had been selected that it was discovered that the city possessed no place big enough for such a gathering. Then the organising committee bethought itself, not of the Capitol, that majestic building where both the Houses of Parliament meet, but of the Congressional Office Buildings. This adjacent building was found to be more suitable because it has a great number of private offices and large committee rooms where the sections might have met. Further, there are vast corridors that would have served very well for the exhibition which it was proposed to hold in connexion with the Congress. This, however, is a new building and was not yet completed. Some of the offices were finished and already occupied but others were still in the mason's or house decorator's hands and the corridors were far from ready. If, nevertheless, the International Congress on Tuberculosis had met there, the work would have been interrupted and could not be completed in time for the reassembly of the Senate and the House of Representatives.

In spite of these obstacles the organising committee of the International Congress on Tuberculosis pressed forward energetically a demand for the use of the Congressional Office Buildings. Then it was that Mr. James Mann of Illinois, member of Congress and one of the Whips of the Republican party, energetically opposed any such concession and was actively supported by the Speaker of the House, Mr. Cannon, and Mr. Payne, a member for New York, and others. Here I may perhaps explain that Mr. Joseph Gurney Cannon belongs to a Scotch-Irish Quaker family that took him across the mountains in a prairie schooner when he was four years old and that he has maintained himself since the age of 14 years. He has acquired a wonderful knowledge of the American political machine. "Uncle Joe," as he is familiarly called, has won great influence and popularity. Unfortunately, his surroundings and career were not those which would best fit him to appreciate the world's advance in medical science and the importance of extending international amenities to the representatives of learning and research. So Mr. Speaker Cannon refused to grant any facilities to the organisers of the Congress on Tuberculosis. He did not want the Congress buildings to be disarranged and feared that if he yielded other and less desirable requests would be made. Thereupon a regular campaign was organised. A great flood of letters poured in upon Congressmen of all parties. It is claimed that never before have Members of Parliament received so many protests and petitions. The medical profession throughout the United States set to work to bring this pressure to bear; and this is the specially cheering and encouraging aspect of the Washington Congress—namely, the energy and the whole-heartedness with which the general practitioners, the rank and file of the medical profession, threw themselves into the movement. These manifestations were so emphatic and widespread that now the great majority of the members of the two Houses were in favour of granting everything that was asked, no matter how great the derangement. However, the order of procedure is such that requests of this sort cannot receive assent rapidly unless they are made unanimously. Hence it suffices for one or two wreckers to object and the wishes of the majority are brushed aside. On this occasion again Mr. Mann and Mr. Cannon performed the part of principal wreckers.

The committee organising the International Congress on Tuberculosis now tried to obtain the Capitol itself, though it felt that it was not so well adapted for the purpose. Certainly it would have added great lustre to the plenary meetings had they been held in the Senatorial Chamber or the Hall of Representatives, and these Houses of Parliament are admirably suited for the purpose. On the other hand, there are no convenient rooms in the Capitol for the meetings of the sections. Then, again, it was intended for propaganda purposes to have an exhibition and to admit the public free of charge. The Capitol is still less suited for such a purpose. Rather than consent to this, many influential members of the legislature declared that they would prefer to vote a money grant so as to facilitate the holding of the Congress on Tuberculosis elsewhere. The committee, however, knew too well that there was no place elsewhere. Nevertheless, a Bill was brought in and £8000 were voted so that some other place might be rendered available. It was then decided to try to utilise the new National Museum which was in course of construction. The walls were up and the roof was on but that was about all. According to the law money voted in this manner should be spent under the direction of the President of the Republic. Mr. Roosevelt, it should be noted, had throughout supported all the requests made by the committee organising the Congress on Tuberculosis, but Mr. Mann and Mr. Cannon had between them the power to defeat the President's desires. As soon as the $40,000 had been voted the contractors building the new museum were stopped and special men were put in to work day and night, so that there might at least be some floors laid down before the members of the International Congress arrived. There was not time to spend the money granted to the best advantage. Money was lavished in hastening and paying for overtime that could have been devoted to secure better comfort and ornamentation if all this had been settled at an earlier date. Thus it was that when the Congress met the floors consisted of plain deal boards, unpolished, uncarpeted, and merely covered with sawdust which mingled unpleasantly with the atmosphere. Instead of various rooms and halls for the different sections there were but wooden palisades, terminated in the upper portions with cheesecloth, that constituted such slender partitions that the sounds travelled from one section to another. As shown in the accompanying reproduction of a photograph some of the windows had not yet been put in. The entrance was not constructed. There was only a gaping hole protected by a few rude planks and rough hoarding. By way of decoration two common planks had been nailed horizontally against two wooden posts and on them were painted the words "International Congress on Tuberculosis." For sole ornamentation there was a cluster of small, cheap, American flags; there were not even even a few flags of other nations.

To understand the effect that this rough makeshift produced it must be remembered that the previous International Congress on Tuberculosis had held its sittings in the Grand Palais of the Champs Elysées, a building so vast that the two rival French salons are able to hold their annual art exhibitions here at one and the same time. If we glance for one moment at the beautiful, the vast and imposing monumental entrance by which the members of the Congress passed every day to reach the sections from the Avenue d'Antin side of the Grand Palais, and compare that architectural *chef d'œuvre* with the shanty-like hoardings that masked the unfinished door of the Washington Museum, the deplorable effect this was likely to produce will be easily understood. But I am glad to be able by giving the history of how it all occurred to show that the fault was with the politicians and not with the medical profession. Undoubtedly it was highly imprudent for the American delegates at the Paris Congress of 1905 to offer American hospitality without having first assured themselves

NOVEMBER AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean range of temperature.	Number of days with rain.	Total fall in month.
	°	°	°	°	°	°	*	Inches.
Scilly	59	44	55	49	52·3	6	10	0·96
Jersey	63	33	55	46	50·4	9	8	1·37
Torquay	61	40	55	47	50 8	8	8	0·75
Sandown, Isle of Wight	64	37	55	45	50·2	10	7	1·17
Weymouth	62	33	54	45	49·9	9	7	1·11
Bournemouth ...	62	27	53	42	47·8	11	5	0 92
Brighton	62	29	53	42	47·3	11	3	1·15
Bath	60	25	53	40	46·6	13	9	0·93
Tunbridge Wells	61	25	51	37	44·2	14	7	1·07
Buxton...	55	23	48	37	42·4	11	15	4·34
Harrogate	55	26	49	38	43·5	11	9	1·60
Manchester... ...	58	33	51	41	45·9	10	13	3·53
Nottingham ...	57	17	50	39	44·5	11	9	1·30
London...	59	30	53	42	47·5	11	5	0·72
Paris	60	21	49	35	41·9	14	11	1·74
Berlin	48	18	45	29	37·3	16	10	1·24
Brussels...	57	21	48	34	40·6	14	14	2·60
Nice	63	39	58	45	51·6	13	3	1·26
Genoa	65	41	58	48	52·9	10	4	1·82
Florence	62	30	54	38	45·6	16	7	2·50
Rome	65	31	58	45	51·3	13	8	5·05
Naples	67	42	59	49	53·9	10	12	6 52
Palermo	76	40	66	49	57·6	17	14	5·11
Malta	81	41	69	59	63·9	10	10	4·64
Algiers	81	50	73	59	66·0	14	7	4·38
Palma, Majorca...	75	43	69	53	61·0	16	8	0·91
Lisbon	70	48	63	54	58·4	9	12	6·47
Biarritz...	79	37	63	49	55·9	14	7	0·84

* A day with at least 0·04 inch.

Except for a few days round about the 10th and again for a short time about the 20th the weather over this country was very mild for the time of year, while, and this is very unusual with mildness in November, it was also much drier and brighter than the ordinary third month of autumn. In Italy, on the contrary, the temperature was rather lower than the normal, the wind often cold from the northward and north-eastward, and, as generally happens in that country after the long series of practically rainless and cloudless weeks during summer and early autumn, there was much rain. In the central countries of the continent and also in Belgium and the north-east and east of France the temperature was low for the time of year and frost of winter severity was rather frequent. The cold is strikingly shown by the mean temperature figures for the month at Berlin, Brussels, and Paris when compared with those in London and the other inland places in this country. Our metropolis was fully 10° warmer than Berlin and more than five and a half degrees warmer than Paris; while even Buxton, in spite of its altitude of nearly a thousand feet above the sea, enjoyed a mean *maximum* temperature almost as warm as that of Paris and a mean night temperature two degrees higher. Comparing the south-west coast of this country with some of the Mediterranean resorts it is seen that the Scilly Isles were milder than Nice, Florence, and Rome, and only slightly cooler than Genoa, while the night temperature, as shown by the mean minimum, was as high as that at Naples and Palermo. The nights at Torquay, Sandown, and Weymouth, although considerably cooler than at Scilly, were at least as mild as they were at Nice and Rome, and much milder than at Florence, while the mean minimum at the last-named city was identical with that at Harrogate. That Harrogate should have the same mean warmth during the nights of November as Florence is perhaps the most striking feature of the weather of last month. The Yorkshire resort is by no means noted for its mildness at night at any time of the year, and when there is any frost in that part of the country it is one of the first places to feel it. Algiers maintained its warmth with little diminution and its mean temperature of 66° was higher than that of any month of the summer in the south of England. Lisbon alone among the foreign stations experienced a temperature as equable as that on the south-west coast of England, but no place could compare with the isolated Scilly where the mean diurnal range was no more than six degrees.

HEROIC MEDICAL MISSIONARY.

THE *Sunday Strand* magazine for November prints an account of an interview with Dr. A. Macdonald Westwater, a medical missionary whose exploits during the last 27 years at Liaoyang have made his name a household word in Manchuria and earned him the admiration of Chinese, Japanese, and Russians no less than of his compatriot fellow-workers. He went first to China in 1881 as an agent of the United Presbyterian Church of Scotland, and after four years' work in the Shantung province he proceeded to Liaoyang, the ancient capital of Manchuria. Here he founded his mission in the face of bitter anti-foreign and anti-Christian feeling which often brought him into physical danger, and little progress was made until a severe flood devastated the district in 1888, when he gained the confidence of the people by superintending extensive relief works in a most able and energetic manner. At this time, too, his practice of western medicine began to bear its fruits and several high officials put themselves under his treatment. In the year 1895 the Chino-Japanese war broke out, during which Dr. Westwater retained the ground which he had won, although his colleague, the Rev. James Wylie, was murdered in the main street by Manchu soldiers. By 1900 his work seemed well established, but in that year the anti-foreign Boxer rising occurred and swept every missionary out of Manchuria. Hospitals, churches, and mission houses were burnt and a persecution of native Christians was instituted which resulted in many martyrdoms by murder and torture. Dr. Westwater and his family escaped to Japan, but he almost immediately took service under the Russian Red Cross and returned with the Russian repressive expedition to Manchuria. It was on this march that he earned his title of "the saviour of Liaoyang." The Russians had sacked and pillaged town after town, and on approaching Dr. Westwater's old station their advance guard was fired upon by some insurgents inside the town. To save "his people" from a terrible retaliation Dr. Westwater volunteered to ride unarmed and unattended into the town to arrange its prompt surrender under the Russian pledge of protection from reprisals. This he did and with complete success. Mr. Wigham, the war correspondent, described this action as "the bravest deed I ever saw," and anybody who considers the circumstances in which it was done can well credit his estimate of it. In Dr. Westwater's modest words, "They burnt my home and hospital and drove me and mine from the city. I return and save their homes from destruction and their lives from peril." The saving of Liaoyang by its would-be converter greatly helped on his missionary work and resulted in the building of a new hospital. But he had yet another time of terrible trial to go through during the Russo-Japanese war in 1904, during which for seven days a sharp fight was raging around Liaoyang. The town was expended large sums for this purpose. It is not fair to expect men of science to go round with the collecting hat. They thus expose themselves to insults and sometimes to very cruel and unjustifiable suspicions. Money collecting forms no part of a scientific education. Science demands to be placed high above the corrupting influences of money. Therefore the premises and money needed for these congresses should come from the State, and only from the State. The breath of scandal has never reached the many congresses which have been held under these conditions.

TUBERCULOSIS IN CANADA.

(By a Special Correspondent.)

North America is a large continent and in many respects there is a sharp line of demarcation between Canada and the United States, but in matters of education and in great social questions there are wonderful unanimity and cöordination. No sooner did we (the delegates from France, England, Scotland, and Ireland to the International Congress of Tuberculosis at Washington) land in Montreal than we found that a great wave had spread from Washington to the eastern side of Canadian territory, at any rate. The first Montreal newspaper that fell into our hands, after referring to the Washington Congress, gave some account of the prevalence of tuberculosis in Montreal and the Province of Quebec, and announced that the Association for the Prevention of Tuberculosis in Montreal was entering upon an extensive movement against this scourge, and that Dr. R. W. Philip of Edinburgh was to open the campaign by giving an account of his tuberculosis dispensary system as carried out in the capital of the North. I had the opportunity of attending this meeting which was held in the library of the Montreal Board of Trade. The meeting, which had been "convened" most carefully, was attended not by medical men only but by some of the most influential of the citizens, many of whom seemed to be impressed deeply by Dr. Philip's clear and concise statement of his case.

Professor J. G. Adami, in introducing Dr. Philip, spoke of the excellent work carried out in the capital of North Britain and suggested that what was possible in Edinburgh was possible also in a city like Montreal. He was glad to say that they had already made a beginning and that the Association for the Prevention of Tuberculosis had determined to hold an exhibition, to give lectures, and to train teachers and children in hygiene especially in its bearing on tuberculosis. Professor Adami, I learned afterwards, is chairman of the exhibition committee and is throwing himself with great energy and effect into the work of organisation of what promises to be a most successful movement.

Taking the "dispensary" as his starting point, but premising that this dispensary should be kept in closest touch with the medical officer of health's office, Dr. Philip made it clear that cases of tuberculosis could be sought out, sorted, educated, and treated by the dispensary officials more readily than by any other agents. The dispensary, in fact, was to be not only an information bureau but a clearing house. The patients who came for treatment could be kept under observation and other patients associated with them could be discovered. These could then be sorted into "lots," each of which should receive instruction and treatment suited to their special conditions and circumstances, and, if necessary, drafted to the hospital for the treatment of advanced cases, to the sanatorium for early cases, or receive such instruction as would render them more helpful to themselves and less dangerous to the community. Such, put very briefly, was the sketch placed before the business men of Montreal. In support of his thesis Dr. Philip gave a series of statistics bearing on the results obtained. Comparing Edinburgh and London and taking two periods of ten years each he showed how, as the outcome of the general measures taken to combat tuberculosis, there had been a steady and regular fall in both London and Edinburgh during the first ten years and that in London the fall had continued at the same steady rate during the second decade. In Edinburgh, however, during the second period, in which the dispensary organisation had been completed and brought into full operation, the fall had gone on much more rapidly and the death-rate from tuberculosis had fallen to a figure lower than that met with in almost any of the large towns in the country. Dr. Roddick, who occupied the chair, in thanking Dr. Philip, asked any of those present to put any difficulties which they might have before the lecturer who, he was sure, would be glad to answer any questions. Several other speakers called attention to the importance of this question to a large working community like Montreal. It was evident that tuberculosis was an infective disease, the infectivity extending over a very long period, though the results of infection might not manifest themselves for some considerable time. Still, if slow it was sure. Tuberculosis, however, though such a fatal disease was not only a curable disease if taken in its early stages but a preventable disease. If preventable why did they not prevent it? From the purely business point of view, it was well worth making an effort to eradicate a scourge which played such an important part in lowering the efficiency of their workers. Some questions put by members of the audience brought out the fact that many people would be glad to undertake their share of the work of the crusade if they could only make up their minds as to what they ought to do. Dr. Philip, in answering these questions, made it clear that the dispensary kept in close touch with the medical officer of health must be the centre of all the work, and that this should be made a first charge on any funds, corporate or private, which might be raised. The hospital for the treatment of advanced cases of pulmonary tuberculosis should be the special charge of the municipality, as this was the most important factor in "prevention." The sanatoriums or "curative" establishments might then be left to private liberality and the more such private liberality was exercised the sooner would preventive measures become less and less burdensome on the community.

It was very interesting to note how keenly the different statements were followed and with what applause the more practical parts of the address were punctuated by some of the shrewdest business men in the world, and I shall be much astonished if there is not some early and useful outcome of this significant meeting.

MANCHESTER.

(From our own Correspondent.)

Humane Slaughtering.

Many people who are not vegetarians feel some qualms when they think of the methods of slaughter adopted in killing animals intended for food. The pole-axe and pithing are the means chiefly used in these northern parts, but a demonstration was given on Nov. 25th of a method that may be called new here, though it is used more or less in some of the southern districts. It consists of a short revolver barrel ending in a square-shaped extension which enables the operator to put the instrument in the correct position. This is connected with a shaft at right angles to it, down the centre of which runs a wire to a hole at the end. The barrel being placed on the forehead, the bulleted cartridge, ·450 smokeless, fired by the wire trigger at the end of the shaft, makes a hole in the animal's head large enough to admit of the insertion of a cane for pithing purposes. An official of the Royal Society for the Prevention of Cruelty to Animals gave a demonstration of the effectiveness of the instrument and those present expressed approval of the great humanity of the method. In no case was more than a slight convulsion observed in the fallen animal which was killed instantly.

Workhouse Beer.

There is no uniformity in this district in regard to allowing the inmates of the workhouses beer at Christmas. In Salford this vexed question has been settled, in a kind of "split the difference" way, by the officers having a barrel of beer brought in for use at Christmas while the pauper inmates are to have none. The conscience of the guardians will therefore be clear as far as the paupers are concerned. One of the guardians was so imbued with logic that he thought if beer was bad for the inmates it was also bad for the officers. Another said that the workhouse committee without comment agreed as to the officers but that there was a storm when beer was suggested for the inmates. Another guardian said that he "was not against beer" but it was not reasonable to treat the officers and inmates alike in this matter.

celebrate its first annual dinner. He hoped that the society might long continue to maintain the dignity, the honour, and the tradition of the great medical profession. The Chairman, in responding, said that the society now numbered 2215 Fellows and 959 Members and their library comprised over 100,000 volumes. There were certain special branches of medicine as yet unrepresented in the society, but he trusted they would be embraced before long in that body. They were not the *Royal Society of Medicine of London* but of the British Empire. Of their Fellows and Members there were 1780 in London, 1174 in the provinces, and 220 were scattered over the face of the world. He hoped that the day would come when the connexion between their society and the representative bodies in the provinces and throughout the British Empire might become closer than it was at the present time. In the course of his speech the Chairman acknowledged the services rendered to the society by the secretary, Mr. MacAlister, and the assistant secretary, Dr. Nachbar. The toast of "The Guests" was submitted by Dr. F. Taylor who mentioned the fact that one of the guests was Mr. Lockwood, the President of the Medical Society of London, which was one of the senior societies possessing house property and holding money in the funds, which society they would be glad to amalgamate with the Royal Society of Medicine. This toast was replied to by Mr. Justice Darling and Sir E. Henry, after which the health of the chairman was given by Sir R. Douglas Powell and was duly acknowledged.

PIERRE L'ANGLOIS.

UPON several occasions THE LANCET has referred to the erudition and extraordinary knowledge of science and history possessed by the celebrated Dr. Young who, as is well known, was, with the French *savant* Champollion, the first successfully to unravel some of the secrets of the Egyptian hieroglyphic writing. Champollion having continued his researches longer than Dr. Young carried the matter much further and has received more of the fame. It now appears that another medical man so long ago as 1583 attempted to decipher the meaning of the hieroglyphics, and as he was a Frenchman our *confrères* across the Channel will consider that France holds the premier place in the history of the studying of the secret of the writing—unless the suggestion is made that a man with such a name as L'Anglois must have been an Englishman. For the name of this new candidate for honours in the matter was Pierre L'Anglois, Sieur de Bel-Estat, and he was attached as physician to the Duc d'Anjou, who became king in 1574 as Henri III. L'Anglois was not, however, only concerned in medicine but cultivated poetry and took an especial interest in heraldry. His researches into the armorial bearings or achievements of France and Italy led him to endeavour to prove the origin of some of the emblazons from Egyptian hieroglyphs, and finally he published two works on the subject, "Discours des Hieroglyphs *Aegyptiens, Emblems, Devises, et Armoiries*" and "LIV. Tableaux Hieroglyphiques pour exprimer toutes Conceptions à la Façon des Egyptiens, par Figures et Images des Choses, au lieu de Lettres. Avec Plusieurs Interpretations des Sanges et Prodigues." As with many medical men, he appears to have derived amusement and relaxation from continuing the reading of the classics, for he appends a list of those which he utilised in the execution of his books. This comprises over 30, among which are Aristotle, the Bible, Herodotus, and Erasmus, and it would, if space permitted, be interesting to append this catalogue of a physician's library in France in the sixteenth century. If the question is asked whether his researches into Egyptian matters were of any value and deserve rescue from oblivion in the cause of science the answer must be in the negative. He, however, went the best way to work possible in Europe at his age, consulting such authors as Horus Apollo who wrote specially on the hieroglyphs; Clement of Alexandria who says a good deal about them in his monograph on Egyptian religion; Atheneaus who being a native of Naucratis knew something of the matter; and Porphyry. His book of hieroglyphical emblems is very curious because of the out-of-the-way mediæval lore and strange suggestions which he makes concerning them. He commences with the lion, then proceeds to the elephant, an animal that does not appear as a hieroglyph, so far as is yet known, until about the time of Alexander, but was used frequently on Roman coins, as drawing in various numbers, sometimes four, the Imperial Chariot at triumphs. The bull and the horse follow, and then comes a variety of weapons and utensils and other objects. In future works on the search for the secrets of the hieroglyghs the efforts of L'Anglois will always deserve a brief mention, and in any enumeration of medical men who endeavoured, even if not successfully, to advance the cause of science he also should find a niche. His medical knowledge evidently prevented him from branching off into the astrology and quackery which the charlatans of his time always connected with a pretended knowledge of Egyptian writing, and it is probable that he was, in a true sense, a scholar.

THE METROPOLITAN WATER-SUPPLY: SECOND REPORT ON RESEARCH WORK.

AT a meeting of the Metropolitan Water Board on Dec. 4th Dr. A. C. Houston presented his second report on research work made during the 12 months ending July 31st last. It proves that during the past year his laboratory has been occupied by an investigation no less arduous if less conclusive than that embodied in his first report. It will be remembered that therein he described experiments proving that the simple storage of water is an efficient means of freeing it from a very large percentage of typhoid bacilli introduced artificially. The present research was undertaken to discover if the typhoid bacillus could be detected in *raw* Thames, Lea, and New River water, which supply nearly the whole of the water under the control of the Metropolitan Board, and the result was negative. The report begins by laying stress upon the significance of bacillus coli contamination in water as pointing to the possibility of typhoid contamination and upon the necessity of interpreting bacteriological findings in the light of local conditions, a point on which we have often laid stress. Our readers are also well aware by this time that the raw London waters are practically diluted sewage, but the truth of this is shown so clearly in a table in the report that we reproduce a part of it. It shows the percentage number of samples in which typical bacillus coli was found during the 12 months ending March, 1908, in the raw London waters.

—	Negative.	Positive in 1 c.c. or in smaller samples.	Positive in 0·1 c.c. or in smaller samples.
Raw Thames water at Hampton Court ...	16·8	83·2	46·8
Raw Lea water at Ponder's End	9·2	90·8	46·8
New River water at Hornsey	50·4	49·6	14·4

The raw Lea water was so bad that 10·4 per cent. of 0·01 cubic centimetre samples and 2·4 per cent. of 0·001 cubic centimetre samples gave growths of bacillus coli. Although this that the experience of the last 25 years indicates that the public health enactments as regards the stamping out of acute infectious diseases have not been so successful as was anticipated, and that modifications in the way of lessened legislative interference in the ordinary relations between medical man and patient were desirable; (2) that the compulsory notification of phthisis as an infectious disease should be ordained in those cases only in which, in the judgment of the medical practitioner, the patient's condition and surroundings form a menace to the public health; and (3) that in the better-class schools any medical inspection of the pupils required by the State should be carried out by the family medical attendant or by the medical man ordinarily employed by the parents or guardians of the pupils. The measure of interest taken in these propositions may be gauged by the fact that the members of the association discussed them at three meetings. Many members spoke and, as might be expected, there were different views; the quality of the speaking was good on the whole. The debate concluded on Saturday night, Dec. 5th. In concluding a debate of the kind and in procuring definite and clear findings from such a meeting the tax thrown upon the chairman is great, and unless he is an experienced man of affairs there are liable to be confusion and some display of temper from members. The concluding night was not without such indications. It was understood, however, that the motions mentioned above were carried by a majority of the members present. The future action or inaction of this new association will be watched with much interest—it is essentially a practitioners' association and has been taken up warmly and almost unanimously by the medical men in Edinburgh and Leith and the capacity of the practitioner for wise and combined action is on its trial. Probably in no place could such an association have more favourable conditions in which to develop satisfactorily than Edinburgh and Leith provide. On Saturday, Dec. 12th, the association is to have a smoking concert.

The End of the First Term of the Winter Session.

Many old students of the University of Edinburgh will be interested to know that the division of the winter session into two terms takes practical effect this winter. The first term ended on Wednesday, Dec. 9th, and the second term will not begin until Tuesday, Jan. 5th. Professional examinations are held during the first part of the Christmas vacation, in accordance with the new regulations.

Royal Medical Society of Edinburgh.

At Melbourne Place, Edinburgh, on Nov. 27th, Mr. J. G. Nicholson read a paper on "Alcoholism and Drug Habits." The drugs dealt with in the course of a very interesting paper were alcohol, opium, cocaine, ether, chloroform, and tobacco. Dr. Laurance described four cases of labour complicated by flat pelves, and detailed the treatment which had been adopted in each case. Cæsarean section was successfully adopted in one case; the remainder had of necessity to be treated by other methods, and in none of these was the child saved.

Medical Inspection and Cleanliness in Schools.

At a recent meeting of the Glasgow and West of Scotland Mistresses' Association an interesting discussion took place regarding medical examination of scholars as viewed from the teacher's standpoint. Those members of the association who had had experience of medical inspection gave it as their opinion that, as conducted at present, it was unsatisfactory. It involved for the time being considerable disorganisation of the work of the school, laid a heavy burden of clerical work on the teacher, and the results were practically *nil*. Very little attention was paid by the parents to the medical man's recommendations, and as there is no power of compelling such attention the elaborate health schedules simply resolve themselves into a supply of statistics. It had been hoped by those concerned that the medical inspection would have been an aid in the direction of cleanliness. Unfortunately it had had no such effect. Further discussion showed that the visits to schools by women sanitary inspectors were of considerable value as a check on excessively filthy conditions, but there was a normal state of untidiness and dirt found amongst poor children which it was agreed was unnecessary and due to carelessness and laziness and to the tacit acceptance by the general public of dirt as synonymous with poverty.

Glasgow Western Infirmary.

At the annual meeting of the supporters of the Glasgow Western Infirmary held last week attention was drawn to the fact that there was an increasing demand for hospital accommodation, there being 500 patients awaiting admission. It has been possible during the year to meet the ordinary expenditure without encroaching on invested funds, but that has been possible only because the extraordinary income—which must always be a precarious source of revenue—has been much above the average. It is fortunate, also, that during a year of commercial depression the ordinary income has not decreased. Still, as long as it is nearly £15,000 short of the ordinary expenditure it is obvious that the financial position is unsatisfactory. Plans have been prepared for a further extension of the infirmary but the directors have not at present enough money in hand to proceed with it. In the meantime, however, an addition is being made to the nurses' homes which, while needed at present, will also prove sufficient for the requirements of the further extension of the infirmary.

Braemar Parish Council: Appointment of Medical Officer.

The half-yearly meeting of the Crathie and Braemar parish council was held on Dec. 2nd at Braemar. The committee appointed to secure a medical officer for the parish handed in its report. It recommended that Dr. Forsyth, a graduate of the University of Edinburgh, who was now resident in the village, should be appointed. This was ultimately agreed to by 6 votes to 2.

Dundee Asylum Farm.

At a meeting of the Dundee district lunacy board held on Dec. 2nd the farm committee reported that Captain Clayhills Henderson, of Invergowrie, R.N., had offered a new lease of Whitebaston Farm for 22 years at the present rent of £300. He would contribute £300 towards alterations and renewals, provided the board paid him an extra annual sum of £15 and that any further expenditure above £300 would be paid by the board. It was resolved to accept the offer.

Death of Dr. William Paterson of Inverurie.

Dr. William Paterson died at his residence, Ardennan, Port Elphinstone, on Nov. 26th. He retired from active practice about six years ago and had been in weak health for some time. Born in 1842, Dr. Paterson after a brilliant career at the University of Aberdeen graduated M.B., C.M. at the early age of 21 years and afterwards obtained his M.D. degree. He went to Inverurie in 1864 as assistant to the late Dr. Thomas Thomson and ultimately succeeded to his practice. Dr. Paterson held numerous local appointments and was a keen Volunteer and musician. For a number of years he acted as President of the Inverurie Musical Association, and at the time of his death was president of the Inverurie and Garioch Savings Bank.

Dec. 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Itinerant Instruction in Ireland.

IN the present transition stage of education in Ireland—general, university, scientific and sanitary—the appreciation which itinerant instruction has received in the report of the county of Galway (joint) technical instruction committee to the Galway Council and Ballinasloe Urban Council possesses a special and very important interest. In the opinion of that committee it holds the field against all competitors. "No feasible alternative system has yet been proposed by which the advantages of instruction in cookery, laundry work, needlework, *hygiene, sick nursing*, and manual work can be given to so great a number of persons, over so large an area, and under the conditions which prevail in this country." And an emphatic compliment is paid to the committee in the report of the department's inspector on the working of the scheme in the county of Galway: "The lecturer in hygiene gave short courses of instruction on the essentials of a healthy existence, the prevention of consumption, and the care of the sick at nine selected centres. The work was facilitated by the clergy and teachers of the county and has done much to alleviate suffering and make the homes of the poor more inviting resting-places." There is evidence attributed to efficient inspection and control of midwives within the county and to the indirect and instructional influence thus brought to bear upon mothers resulting in the more judicious treatment of young infants.

THE DWELLINGS OF THE POOR.

THE report of the Mansion House Council on the Dwellings of the Poor for the year ending June, 1908, states that the total number of inspections made during the 12 months covered by the report was 2642, dealing with 1415 houses. The remedied cases were 459. A notable feature of the report is the statement that the activity of health societies in London is steadily increasing and that the existing societies, which are adding to their numbers, have formed a central representative council to consider (1) the possibility of securing some uniform method for the notification of phthisis by the London hospitals and dispensaries; and (2) how to secure the best results for the provisions of the Education Act, 1907, as to medical inspection of children in elementary schools. With the object of assisting the health societies in this matter the executive committee of the council has appointed Dr. A. H. Hogarth and Dr. C. Singer to help the health societies in the realisation of their programme. It is regrettable that a society which does such good work should be hampered by want of funds. The subscriptions for 1907-08 amounted to only £133, while £800 a year is necessary to enable the council to carry out fully the objects for which it exists and for which it has worked for 24 years. To meet liabilities the council has had to sell out the remaining £350 of a legacy of £1000 which it received under the will of the late Miss Flora Goldsmid. The offices of the council, of which the Lord Mayor is President, are at 31, Imperial-buildings, Ludgate-circus, E.C. The Union of London and Smith's Bank, Limited, are the bankers. Any influence which medical men may have to direct subscriptions has now so many legitimate directions that it seems idle to suggest another, but the Mansion House Council on the Dwellings of the Poor does a splendid work with a distinct medical bearing.

A SHAKESPEARE COMMEMORATION FOR LONDON.

WE have received from Dr. R. W. Leftwich an abridged form of an article bearing the above heading which appeared in the *Westminster Review* for June. In it Dr. Leftwich pleads for some commemoration ceremony to be held in London as a means of emphasising Shakespeare's connexion with the City. We learn that it has been decided by the Chapter of Southwark Cathedral to hold a Shakespeare Commemoration service on April 23rd. The choice of day is peculiarly fitting, for it is, as every Englishman should know, St. George's Day, and if ever there was a poet who thought imperially it was Shakespeare. Moreover, on that date Shakespeare died and it, or April 22nd, was his birthday. Nor is the building less fitting the occasion. Southwark Cathedral, formerly St. Marie Overie, is close to the site of the old Globe Theatre which belonged in part to Shakespeare. In the church are buried Gower, Dyer, Fletcher, and Massinger. From our own point of view the old priory of St. Marie Overie is of interest, for it was served by Augustinian canons, which body also served the great hospital and priory of St. Bartholomew. Shakespeare, too, showed a wonderful knowledge of medicine and surgery, a point which was well brought out quite recently in a book, "The Medical and Surgical Knowledge of William Shakespeare," by Dr. John W. Wainwright, reviewed in these columns on April 18th. We gather that it is owing to Dr. Leftwich's suggestion that the determination to hold the service has been taken and we see that he is the honorary secretary of the movement. May we be permitted to suggest that the music used at the service shall, so far as is possible, be that of about Shakespeare's time? The music of the reign of Elizabeth and her successor was the golden age of English music, and one of the most beautiful anthems of the sixteenth century is attributed to Henry VIII. If the service is held in the evening no more fitting anthem could be used than this.

WHAT IS CHAMPAGNE?

STEPS have recently been taken, it is reported, to restrict the application of the word "champagne" to wines produced in certain districts. It is stated that wines have been imported into these districts and kept there for a while and then sent out marked as genuine champagne wine, a practice which was obviously unfair to the Champagne growers. The districts include the greater part of the Marne, as well as Chateau Thierry and Soissons. The movement, we think, is a right one, and we should like to see the principle of it extended to other wine-producing departments. At the same time, the fact need not be overlooked that champagne is not the only excellent and wholesome sparkling wine produced in France. Quite good sparkling wines are made in Saumur and in the Medoc district, and there is nothing to be said against them so long as they are honestly described.

THE CHEMICAL COMPOSITION OF HUMAN TEETH COMPARED WITH THOSE OF THE DOG.

THAT the teeth of animals offer a greater resistance to pathological influences than is the case with human teeth is a generally accepted fact for which various causes have been assigned. The length of life of the individual must necessarily be considered in making a comparison, for it is obvious that the teeth of a full-grown person have been subjected to destructive influences for about 20 years more than those of a full-grown dog. The nature of the food also plays an important part. Some further light has been thrown on the subject by M. Th. Gassmann, who has made a chemical analysis of human and dogs' teeth in order to ascertain whether there is any considerable difference in their composition. The results (which are recorded in the *Zeitschrift für Physiologische Chemie*, 1908, vol. lv., p. 455) are given in percentages in the following table.

—	Human teeth.				Dogs' teeth.
	Canines.	Milk teeth.	Third molars.	Teeth of aged persons.	
Water	8·09	3·76	6·91	8·17	10·97
Loss on calcination	22·20	22·84	18·33	21·42	25·99
Lime	29·78	29·59	31·65	30·25	27·33

These figures show that human teeth contain more lime than those of the dog, and the third molars which are richest in lime, contain nearly 5 per cent. more than is present in dogs' teeth. The loss due to calcination affords an approximate indication of the amount of organic matter present. It will be noticed that whereas dogs' teeth are the richest in organic matter human third molars are poorest in that respect. The quantity of phosphoric acid is proportional to the lime present. Human teeth are richest in chlorine and the salts of potassium, whereas in dogs' teeth the salts of sodium predominate. It is noteworthy that the third molars, which are the most prone to decay, are relatively rich in lime and poor in organic matter. M. Gassmann draws combined with general treatment, but in chronic cases its utility was doubtful.

A New Clinic.

Dr. Huchard, the well-known physician to the Necker Hospital and a specialist in diseases of the heart, is just about to resign his post at the hospital owing to the age limit. He recently opened a clinic in the Vaugirard quarter and the official opening took place on Nov. 17th in the presence of many pupils and friends. A number of patients attended on the first day, when M. Huchard said that the opening of the clinic would fill a gap, for hitherto no clinic for diseases of the heart was to be found. M. Albert Robin, who followed, took occasion to congratulate M. Huchard on his new departure.

Treatment of Cancer by Injections of Formol.

At a meeting of the Academy of Medicine held on Nov. 24th M. Laurent stated that after researches extending over many years he had come to the conclusion that a very good method of treatment for malignant tumours was to "formalise" them by enormous doses of formol by injection. The dose varied from 5 to 60 grammes. Part of the tumour sloughs and the remainder undergoes absorption, thanks to the reaction set up by the drug. The method requires caution in its use and external growths alone are suitable for its employment. Moreover, the patients should not be too run down or they will not be able to stand the somewhat violent reaction which occurs.

The Treatment of Hæmorrhage by Subcutaneous Injection of Gelatin.

At a meeting of the Hospitals Medical Society held on Nov. 20th M. Chaput gave an account of some results which he had obtained in the treatment of secondary hæmorrhage by injections of gelatin, as advised by Carnot. In one case, that of a patient operated upon for uterine fibroma, and in whom hæmorrhage occurred owing to a ligature slipping, M. Chaput was easily able to gain command of the hæmorrhage by the use of gelatin. In another patient who had undergone total hysterectomy the operation had left sundry oozing surfaces, the hæmorrhage from which could not be arrested until recourse was had to injections of gelatin. He cited three similar cases in which the gelatin had had the same effect. In cases of secondary hæmorrhage, instead of following the usual course of opening up the wound at once, M. Chaput advises the use of a subcutaneous injection of gelatin and the hæmorrhage will stop and further steps can be taken later with a much greater chance of success than by following the ordinary method. Blood, of which the ordinary coagulation period is seven minutes, clots in three minutes after an injection of gelatin; the dose is about 5 grammes of gelatin in a 1 per cent. solution. The method is very useful in cases of ruptured tubal pregnancy.

Medical Treatment of Pelvic Disorders.

At a meeting of the Academy of Medicine held on Nov. 24th M. Richelot referred to the charge which is so often made against the medical profession of having recourse to surgical intervention in cases of pelvic affection without trying medical therapeutic measures first. He laid stress upon the harmful effects which this method of procedure may have in women, especially when they are young. In some cases of pelvic infection where operation would seem to be necessary there may be even greater reasons for non-interference. In patients of the "neuro-arthritic" type who suffer from uterine congestion, dysmenorrhœa, or hæmorrhage, both physicians and surgeons are often much troubled as to treatment. There are, however, everyday methods of medical treatment out of which neither patients nor practitioners get the full benefit. Take, for instance, the use of hot water; not half enough stress is laid upon the quantity used, the necessity for a high temperature, and the manner of use. As for the external douche, it would seem to be reserved entirely for neurologists and that the gynæcologists have doubts as to its utility. There are two main methods of applying hot water, the one being the vaginal douche and the other the external douche. To obtain the best results from the former from 80 to 100 litres should be used, and the external douche should be employed under the two forms of a general douche and a perigastric douche. This practically necessitates the use of special apparatus.

Dec. 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Experiments on Artificial Abortion.

BEFORE the Berlin Gynæcological Society Dr. Hofbauer read a paper on Artificial Abortion produced by the Administration of Cholesterin. The experiments, which were made by Dr. Hofbauer on pregnant rabbits, were based on the existence of a physiological antagonism between cholesterin and lecithin and on the grounds that the cells of the fœtus contain a great quantity of lecithin and chemical alterations of the lecithin are harmful for the development of the fœtus. Cholesterin, the antagonist to lecithin, was administered to pregnant rabbits in the form of a 5 per cent. solution and given together with the ordinary food. It had been stated previously by other authors that cholesterin given by the mouth is absorbed fairly easily and is later found in the blood plasma. The experiments were made on three pregnant rabbits. In the first an animal in the middle of its pregnancy was employed; 10 cubic centimetres of cholesterin were given three times a day, the result being that the animal was delivered of two dead fœtuses on the fourth day. Necropsy showed that the cellular tissue had a brownish-red hue just as in a macerated fœtus and that the pleura also was ulcerated in certain places. The second animal was nearly at full term and cholesterin was administered in the same way as in the first case. Since by the eighth day no delivery had taken place the uterus was opened under narcosis and three fœtuses were found, of which one was dead. The skin of this fœtus proved to be flaccid, the cellular tissue was blood-stained, and the internal organs had a pale greyish-red colour. The placenta of the dead fœtus was of greyish-yellow colour and of an abnormally solid texture; it was dry and smaller than that of the other fœtuses. No structure was visible in the placenta save in the centre, its substance being very homogeneous and opaque with yellow spots scattered about in it. On microscopical examination the tissue proved to be full of cells, so that it almost looked like granulation tissue instead of the characteristic placental tissue; the vessels were empty and showed a proliferation of the intima. In some parts the tissue had become a structureless mass with streaks of fibrin and cellular tissue and small hæmorrhages. The third animal was also nearly at full term. On the fourth day after treatment three dead fœtuses were removed by Cæsarean section and showed similar changes, but in a higher degree than in the second experiment. It follows from the above experiments that by the administration of cholesterin severe degenerative changes were produced in the placenta which seriously affected its function, and it is probable that these changes were due to a destruction of the lecithin. Dr. Hofbauer suggested that the maceration of the fœtus in syphilis may be proved to have a similar cause—viz., the destruction of lecithin by the serum of the syphilitic mother. He alluded to the researches of Professor Wassermann who found in syphilitic serum toxic substances by which lecithin can be decomposed.

A Question of Medical Ethics.

As already mentioned in these columns the Union of the German Medical Press has taken energetic measures against authors who write articles to recommend new chemical compounds and other preparations in trade interests. Some of these authors are alleged to report cures in cases which as a matter of fact have never existed, and lately a medical journal exposed one of these authors by publishing two articles which he had written within three months of each other and which were couched in almost the same terms. In these he had cited the same cases in recommendation of two different compounds. But some German chemical factories not only employ certain medical men to write puff articles for them, they also quite correctly approach the directors of medical clinics and institutions, asking them to give a fair trial to certain new compounds. As they used to offer fees for the researches made in the clinics and laboratories the question was put whether it would be in accordance with the rules of medical ethics to accept such fees. The editor of the *Deutsche Medizinische Wochenschrift* has recently made a collective investigation by asking the opinion of chief physicians of hospitals and directors of medical clinics and institutions on this matter. The questions asked were: Did attributed to efficient inspection and control of midwives within the county and to the indirect and instructional influence thus brought to bear upon mothers resulting in the more judicious treatment of young infants.

THE DWELLINGS OF THE POOR.

THE report of the Mansion House Council on the Dwellings of the Poor for the year ending June, 1908, states that the total number of inspections made during the 12 months covered by the report was 2642, dealing with 1415 houses. The remedied cases were 459. A notable feature of the report is the statement that the activity of health societies in London is steadily increasing and that the existing societies, which are adding to their numbers, have formed a central representative council to consider (1) the possibility of securing some uniform method for the notification of phthisis by the London hospitals and dispensaries; and (2) how to secure the best results for the provisions of the Education Act, 1907, as to medical inspection of children in elementary schools. With the object of assisting the health societies in this matter the executive committee of the council has appointed Dr. A. H. Hogarth and Dr. C. Singer to help the health societies in the realisation of their programme. It is regrettable that a society which does such good work should be hampered by want of funds. The subscriptions for 1907–08 amounted to only £133, while £800 a year is necessary to enable the council to carry out fully the objects for which it exists and for which it has worked for 24 years. To meet liabilities the council has had to sell out the remaining £350 of a legacy of £1000 which it received under the will of the late Miss Flora Goldsmid. The offices of the council, of which the Lord Mayor is President, are at 31, Imperial-buildings, Ludgate-circus, E.C. The Union of London and Smith's Bank, Limited, are the bankers. Any influence which medical men may have to direct subscriptions has now so many legitimate directions that it seems idle to suggest another, but the Mansion House Council on the Dwellings of the Poor does a splendid work with a distinct medical bearing.

A SHAKESPEARE COMMEMORATION FOR LONDON.

WE have received from Dr. R. W. Leftwich an abridged form of an article bearing the above heading which appeared in the *Westminster Review* for June. In it Dr. Leftwich pleads for some commemoration ceremony to be held in London as a means of emphasising Shakespeare's connexion with the City. We learn that it has been decided by the Chapter of Southwark Cathedral to hold a Shakespeare Commemoration service on April 23rd. The choice of day is peculiarly fitting, for it is, as every Englishman should know, St. George's Day, and if ever there was a poet who thought imperially it was Shakespeare. Moreover, on that date Shakespeare died and it, or April 22nd, was his birthday. Nor is the building less fitting the occasion. Southwark Cathedral, formerly St. Marie Overie, is close to the site of the old Globe Theatre which belonged in part to Shakespeare. In the church are buried Gower, Dyer, Fletcher, and Massinger. From our own point of view the old priory of St. Marie Overie is of interest, for it was served by Augustinian canons, which body also served the great hospital and priory of St. Bartholomew. Shakespeare, too, showed a wonderful knowledge of medicine and surgery, a point which was well brought out quite recently in a book, "The Medical and Surgical Knowledge of William Shakespeare," by Dr. John W. Wainwright, reviewed in these columns on April 18th. We gather that it is owing to Dr. Leftwich's suggestion that the determination to hold the service has been taken and we see that he is the honorary secretary of the movement. May we be permitted to suggest that the music used at the service shall, so far as is possible, be that of about Shakespeare's time? The music of the reign of Elizabeth and her successor was the golden age of English music, and one of the most beautiful anthems of the sixteenth century is attributed to Henry VIII. If the service is held in the evening no more fitting anthem could be used than this.

WHAT IS CHAMPAGNE?

STEPS have recently been taken, it is reported, to restrict the application of the word "champagne" to wines *produced* in certain districts. It is stated that wines have been imported into these districts and kept there for a while and then sent out marked as genuine champagne wine, a practice which was obviously unfair to the Champagne growers. The districts include the greater part of the Marne, as well as Chateau Thierry and Soissons. The movement, we think, is a right one, and we should like to see the principle of it extended to other wine-producing departments. At the same time, the fact need not be overlooked that champagne is not the only excellent and wholesome sparkling wine produced in France. Quite good sparkling wines are made in Saumur and in the Medoc district, and there is nothing to be said against them so long as they are honestly described.

THE CHEMICAL COMPOSITION OF HUMAN TEETH COMPARED WITH THOSE OF THE DOG.

THAT the teeth of animals offer a greater resistance to pathological influences than is the case with human teeth is a generally accepted fact for which various causes have been assigned. The length of life of the individual must necessarily be considered in making a comparison, for it is obvious that the teeth of a full-grown person have been subjected to destructive influences for about 20 years more than those of a full-grown dog. The nature of the food also plays an important part. Some further light has been thrown on the subject by M. Th. Gassmann, who has made a chemical analysis of human and dogs' teeth in order to ascertain whether there is any considerable difference in their composition. The results (which are recorded in the *Zeitschrift für Physiologische Chemie*, 1908, vol. lv., p. 455) are given in percentages in the following table.

—	Human teeth.				Dogs' teeth.
	Canines.	Milk teeth.	Third molars.	Teeth of aged persons.	
Water	8·09	3·76	6·91	8·17	10·97
Loss on calcination	22·20	22·84	13·33	21·42	25·99
Lime	29·73	29·59	31·65	30·25	27·33

These figures show that human teeth contain more lime than those of the dog, and the third molars which are richest in lime, contain nearly 5 per cent. more than is present in dogs' teeth. The loss due to calcination affords an approximate indication of the amount of organic matter present. It will be noticed that whereas dogs' teeth are the richest in organic matter human third molars are poorest in that respect. The quantity of phosphoric acid is proportional to the lime present. Human teeth are richest in chlorine and the salts of potassium, whereas in dogs' teeth the salts of sodium predominate. It is noteworthy that the *third* molars, which are the most prone to decay, are relatively rich in lime and poor in organic matter. M. Gassmann draws reached the age limit. He will be succeeded by Colonel George H. Torney, one of the most efficient officers of the army, who will have upwards of five years of service before retiring on account of age. He has had a long and brilliant career in the army. During the Spanish-American war he prepared for active service the hospital ship *Relief* and commanded her on the removal of the sick and wounded from Cuba and Porto Rico. He was placed in charge of the sanitary work at San Francisco on the occurrence of the earthquake which destroyed that city and was highly commended by the authorities for his efficiency and his success in managing the details of the work of sanitation. The annual report of the Surgeon-General shows that the death-rate from all causes was 5·81 per 1000 of a mean strength of 54,949. The most important among the causes of death were tuberculosis with a ratio per 1000 of 53; pneumonia, 44; cerebro-spinal fever, 38; enteric fever, 29; and heart diseases, 27. These rates are higher than for the preceding year, except tuberculosis, which is considerably lower. The most important disease affecting the efficiency of the army was the venereal, the admission rate being 196·62 per 1000.

Laws against the Marriage of Epileptics.

There is much agitation in favour of prohibiting the marriage of epileptics by legislation and in several States laws have been passed to that effect but they do not accomplish the results sought. The latest report is from the State of Kansas which passed such a law many years ago. Dr. Perry, superintendent of the State Hospital for Epileptics, finds that 30 per cent. of the male epileptics over 21 years of age are married and 25 per cent. were married after the disease was developed. Of the female epileptics over 18 years of age 56·8 per cent. were married and 40 per cent. had married since they became epileptic. These facts prove that the law is practically ignored by officials. It is urged in defence of clergymen that there are large numbers of cases in whom the disease assumes such forms that even the friends of the epileptic and the epileptic himself may not be aware of the occurrence of seizures. Dr. Perry recommends that a penalty should be attached to failure on the part of a licensed official to investigate each case in which he performs the ceremony of marriage.

Responsibility for Death by Chloroform Unnecessarily Administered.

The United States Circuit Court, in New York, had a case where an employee sustained one of the simplest and least complicated forms of dislocation at the shoulder-joint, but the patient died from the effects of the chloroform administered for its reduction. The company which employed the patient was not held liable for the death, the jury having found that the accident and injury (dislocation caused by the accident) had nothing to do with causing or producing the death, but that the subsequent unnecessary administration of chloroform caused it. The court held that the surgeons and attendants in a hospital are not immune from the charge of being the third person causing death, and not immune from the charge of causing the death of the patient therein by their own independent and wrongful acts, even if connected with a necessary operation. If they are, then they may experiment with and on every patient and unnecessarily give dangerous drugs and unnecessarily perform dangerous operations, and if such drugs and operations, so unnecessarily given or performed, kill, and are the sole cause of death, then the persons whose negligence caused a slight injury, requiring some slight operation, must answer for the consequences of such experiments and operations and respond in damages for the death on the ground that their negligent act set the surgeons and attendants in motion or gave them an opportunity to experiment with death-dealing instrumentalities. In legal contemplation, negligent parties must be responsible for injury, necessary medical treatment, or surgical operations, and mere errors of the physicians and surgeons in doing necessary things, as all these are natural and probable results, happenings; but the court knows of no holding that unnecessary treatment with dangerous drugs, which the jury found this was, is either the natural or probable consequence of injury.

Leprosy-like Disease of Rats in San Francisco.

The campaign against rats to relieve San Francisco of the bubonic plague has revealed the presence of a considerable proportion of rats affected with leprosy, or a disease closely resembling that form of plague. These rats were found in greatest numbers in that part of the city occupied by the butcher shops and meat-packing establishments. None of the infected animals came from stables and warehouses where the rats infected with the plague are more often found. The anti-rat crusade promises to rid that city of two plagues.

Tuberculosis among the Foreign-Born.

There has long been an opinion among medical men that Irish-born people in this country were more liable to tuberculosis than those born of parents of other nationalities. This subject received some attention at the International Congress recently held at Washington. The prevailing opinion as to the liability of the Irish immigrants to develop tuberculosis was confirmed, but it was shown that children born of Irish parents were more susceptible to the disease than their foreign-born parents. It appears that the Italians and the Greeks are more liable to tuberculosis in this country than in their own country. It is susceptible of demonstration that the Italians do not bring the disease here but that they acquire it in this country. The same statement is believed to be true of the Greeks. The immigrants from both countries are for the most part peasants and of a hardy class, but when they enter this country they seek occupation in cities and live under the most unhygienic conditions. In striking contrast with the immigrants from Southern Europe in their susceptibility to tuberculosis, and also the Irish, are the Jews, who though similarly exposed to the unfavourable conditions of city life and often infected with tuberculosis, yet have a resisting power which gives a small comparative mortality. The only explanation which has been made of the immunity of the Jew is that he has for centuries been accustomed to urban life and therefore is acclimatised.

Nov. 27th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Garlic.

FROM time immemorial garlic, which is grown all over India, sold in every bazaar, and used very commonly as an ingredient in curries, has had a high reputation in domestic medicine and also in the ancient systems of the Hindu writers. It is recommended by the earliest of these authorities—Shushruta—for improving the voice, intellect, and complexion, promoting the union of fractured bones, and helping to cure nearly all the ills that flesh is heir to. Its use is by no means confined to India; in Ireland it is taken as an infusion together with whisky in colds and bronchitis, and farmers there and elsewhere apply it as a poultice in anthrax or "blackleg" in cattle. It was at one time officially recognised in the British Pharmacopœia and still maintains a place in that of the United States. It is known to contain a volatile oil—sulphide of allyl—to which its many virtues are attributed. In the *Indian Medical Record* there is a report by Dr. Minchin, Captain E. Blake Knox, R.A.M.C., and Dr. Kaviraj A. C. Bisharad on the use of garlic as a preventive of tuberculous disease. Several years ago an Italian physician, Dr. G. Cavazzani, made experiments by feeding guinea-pigs with garlic and then infecting them with tubercle. The results went to show that the guinea-pigs treated in this way were to a certain extent immune to tubercle, but the number of animals used was too few to make it possible to draw definite conclusions.

"Ratting."

In a report on rat destruction in the Punjab submitted to the local government Major S. Browning Smith, I.M.S., maintains that of all antiplague measures this is by far the easiest to carry out and the most readily acceptable to the people. As to methods, the use of traps has the great advantage over poisoning that it can be carried on continuously and thus be a permanent instead of a temporary measure. Experiments have been made with various substances for producing an infective disease among rats not communicable to man, but they have not been very successful. The rats that actually ate the virus died but no fatal epidemic ensued. Poisoning with phosphorus was equally effective and much less expensive. The results quoted instanced occurred in Glasgow, which was a natural city to which they would gravitate. So that Glasgow could be regarded as a favourable city for receiving those people who were carrying albinism as a recessive. The case quoted by Professor Pearson was not at all improbable from the Mendelian point of view—in fact, Mendelism would account for it quite well. With regard to the degrees of albinism, to which Professor Pearson had referred, he asked whether that gentleman regarded it as a case of continued variation, that the albino was merely the last stage in a graduated series of reductions of pigmentation. Or did that represent mutations? Professor Pearson must adopt one of those views. If he adopted the mutational conception the Mendelian school was to be congratulated upon a convert. He (Mr. Mudge) defined an albino as an organism in which there is complete absence of pigmentation other than the blood and bile pigments—in other words, it was an organism in which all the epiblastic pigmentation was absent. He did not know why Professor Pearson emphasised the existence of all grades. It was necessary to nail one's colours to the mast. A Mendelian was prepared to say that an albino came out of a wholly pigmented animal as a sudden sport or mutation and that it did not pass through those stages at all. The biometrical position was based on the assumption that those stages were stages which that organism, the complete albino, had passed through in the course of development. With regard to partial albinism, the Mendelians did not regard those so-called partial cases as albinos at all; they were not so in any sense; they were simply individuals in whom the amount of pigment had been reduced. There were certain biological considerations which he did not think Professor Pearson had given great prominence to with regard to human albinos—namely, the late development of certain characters. In rats, mice, guinea-pigs, moles, &c., when they were born they were born in an incomplete condition with regard to pigmentation; their eyes were black but their hair contained no pigment, and their skin was pigmentless. If those animals failed to develop pigment in their skin in later life they would have grown up albinos, they would not be partial albinos, and in that case there was something not albinotic but pathological. Very many human babies when born had blue eyes and fair hair. He had been trying to find out whether all babies were of that nature when born, but medical men seemed uncertain about their answer. If those babies born with blue eyes and fair hair stopped short at that stage they would be albinos; the organism would not be a partially pigmented one but would be an instance of arrest of development. That seemed to be the case in regard to nearly all the intermediate grades of albinism in man. It was known that when the so-called partial albinos were born they were very much less pigmented than they afterwards became; they later developed a little pigment but never became normal in that respect, except in one or two cases where an approach to normality was reached. But those cases could not be looked upon as stable products—they were not albinos; later they developed more pigment in the choroid and iris and there was more colour in the hair. Moreover, such conditions might be pathological and might be due to an arrest of development. Another thing which they might be was a variation or mutation *per se*. There was no evidence in man that that partial albinism had arisen as a mutation, but in the lower forms of animal life some remarkable cases were known, including the case of the flower which Professor Bateson pointed out many years ago at a meeting of the British Association, and what related to the flower related also to man. In connexion with the various grades of colour as they were recorded, in the pea flower from crimson to white, the history of the series showed that the white appeared before the other members of the series, which discounted any idea that they were a gradual progression. Mendelians took their stand on the mutational platform and biometricians on the continuous piling up of small fluctuations. Mr. Mudge instanced parallel cases in regard to the hair of sheep, and such instances, he said, would enable the medical men present to recall cases of hare-lip and microcephalic idiocy, club-foot, and alkaptonuria. The stand which the Mendelian took in regard to all those matters was one which was of very great interest to the medical man. Mr. Mudge next proceeded to show that all tabby cats in London could be placed into one of two groups: one in which there was one line running down the middle of the back and the stripes passed off vertically outwards over the side. In the other class there were three longitudinal stripes and the branching lines were arranged obliquely with a peculiar terminal curve. It was for Professor Pearson and his friends to find out an intermediate stage between those two. The point of interest was that those tabby cats had bred generation after generation, probably back to the sixteenth century, yet they were as distinct to-day as at the earliest known time. They afforded clear evidence of the existence of mutation in nature. And an even more important fact was that here was a clear segregation. Brachydactylia was another mutation, and that mutation behaved entirely on the Mendelian fashion. Dr. Drinkwater had shown that perfectly clear recessives might separate out and give one half normal and one half abnormal in their progeny. The value of the biometrical idea could be judged by an appeal to the results. Professor Pearson said that the albino pedigrees failed utterly to support Mendelism, and similar statements had previously been heard from Professor Pearson, in support of which he quoted from p. 213 of the article on colour in man in the *Biometrika*, Vol. II. There Professor Pearson said: "No single colour breeds true to itself, nor do we find that two black-eyed human beings, nor two blue-eyed human beings mated together give any sign of the dominance of one or other of these extremes." And then towards the end of the article Professor Pearson gave what was supposed to be the sting of it: "That nothing corresponding to Mendel's principles appeared in the characters for eye-colour in man." It so happened that eye-colour in man had been subsequently investigated in England by Hirst and in America by Davenport. The former investigation was conducted in a Leicestershire village and disproved the assertion of Professor Pearson as completely as possible. The inquiry showed that the dominant character when mated bred true. Mr. Mudge exhibited tables showing the results of various forms of mating. A further investigation had been made with regard to the colour of the coats and eyes of horses. Professor Pearson said: "It is the same with every coat colour taken, its relative constancy depends largely on the extent to which it has appeared in the ancestry, and one by one black, bay, chestnut, grey must be dismissed by the Mendelian as neither recessive nor dominant, but as marking permanent and incorrigible mongrels." "It is just worth reiterating," Professor Pearson said, "that nothing corresponding to Mendel's principles appears in eye and coat colour for horses, dogs, and men." But once more an appeal to facts showed that that statement was incorrect. Careful notes were taken of the particulars of 1104 cases of chestnut foals which had been produced from chestnut parents, but it was only fair to say that there were nine exceptions. When those exceptions were carefully examined it was found that they were due to want of care in the pedigrees which had been kept by the horses' breeders, because it was admitted by the breeders that they altered their records, both in the *Racing Calendar* and in the "Stud Book." But even then there were only nine exceptions out of 1104. Professor Pearson wanted the meeting to believe that his biometrical methods were accurate and definite, but he asked his hearers to look at Professor Pearson's "Grammar of Science," pp. 437, 446, 451, 458, 461, where hypothesis upon hypothesis was stated and interwoven with the fabric of his work. One had to recall the heated controversy between Professor Pearson and Professor Kapteyn, showing that it was imperative to wait yet a little while before trusting material collected to the methods of biometricians.

Professor **Karl Pearson**, in a rejoinder to Mr. Mudge's criticisms, said that he could only accept the challenge and carry the war into the enemy's camp. Biometry was neither Mendelism nor any other form of "ism"; it was an attempt to apply exact statistical methods to any statistics at all. And his complaint about the Mendelian school was that in nine cases out of ten its followers had not the elementary knowledge of how to deal with numbers. This he illustrated by several examples. With regard to albinism, his point was that without a *post-mortem* examination the exact colour and position of the pigment in an eye could not be discovered. In the few cases of eyes of supposed albinos pigment was found to be present in the eye. Professor Pearson exhibited on the screen by means of the epidiascope a number of slides of men of varying colour and of hair of varying colour. It was only by massing up the material and getting a very large number of pedigrees that any idea could be formed of the frequency with which exceptions was ready for her but recalled him owing to the grave state of the Emperor. On the evening of Prince Ching's return the Emperor died and at 2 A.M. the following night she called together the Grand Council who knelt round her bed and settled with her there and then the selection of the new Emperor. Two hours later the Grand Council assembled to discuss some other important points but she could only wave them aside and say that she was too weak to speak. From that point on she gradually sank, the dysenteric symptoms persisting to the end. It is interesting to note that the Court physicians have all been officially fined for their lack of ability to save their august patients. This is in accordance with precedent and is part of the custom by which the physicians draw salaries while the patient remains well but cease to do so as long as there may be any illness.

Plague in North China.

The outbreak already noted at Tongshan has, as was expected, subsided with the onset of cold weather and the death-rate has dropped to an average of one or two cases a day. There will be keen cold weather for the next four months with the thermometer registering as much as 25° of frost and a breathing space will be given to the sanitary authorities to set their house in order and have all arrangements made to meet a probable recrudescence next spring. The Chinese Engineering and Mining Company have engaged the services of an Indian Medical Service officer from the plague laboratory at Bombay, and are arranging for him to coöperate with the local public health staff. A feature of the recent epidemic has been a much higher percentage of pneumonic cases than has been met with in India or Hong-Kong. The proportions of the different varieties have been as follows: bubonic, 50·9; intestinal, 17·0; pneumonic, 11·6; and septicæmic, 11·5. The Chinese expectorate everywhere—in their houses and shops as well as in the open—and the difficulty of preventing the native miners from spitting while down in the mines has made the local sanitary authority (a French medical man in the employ of the Chinese Government) put an embargo on the export from Tongshan of coal, bricks, and cement. This is an interference with trade which is too important to be borne lightly and measures are being devised to have the prohibition removed. So far the great populous centres of Peking and Tientsin have remained plague-free. Dr. Moorhead, the company's medical officer, has worked hard to limit the spread, and Dr. J. M. Atkinson, the principal medical officer of Hong-Kong, has been on the scene of the epidemic giving much helpful advice.

The Heathen Chinee.

At Shanghai recently a Chinese doctor and his two assistants were charged with extortion from native drug shops. Their plan was for one to visit a shop and to buy 20 cents. worth of medicine. A few days later the three men would go to the shop and complain that their business had been ruined in consequence of the medicine having killed their patient. The drug was always of a harmless nature, but fearing prosecution by the indignant doctor the druggist paid up freely. On seven occasions this plan had succeeded, but at length their fame spread and complaint was made with the result that the doctor was sentenced to 12 months' imprisonment and his assistants got six months each.

Peking, Nov. 17th.

Obituary.

WILLIAM ALFRED ELLISTON, M.D. ST. AND., M.R.C.S. ENG., L.S.A., J.P.

ON Nov. 27th Dr. W. A. Elliston of Ipswich, one of the best known of the medical profession in East Anglia, passed away. He was the son of William Elliston, also a medical man, who with many other boys had been an apprentice of John Denny, a retired naval surgeon, who had a great reputation for training youths for the medical profession. Among Denny's pupils were Gull and George Sampson who became in process of time W. A. Elliston's uncle. When the latter in his turn entered the medical profession he commenced his training by apprenticeship to his uncle and when out of his articles he entered the medical school of Guy's Hospital. In 1862 he graduated at St. Andrew's and also took the diplomas of M.R.C.S. Eng. and of L.S.A. Lond. Owing to his father's failing health he had at once to take up the family practice and on his father's death he was elected to various public appointments, such as medical officer to the Ipswich workhouse and to the Poor-law Children's Home. In 1871 he was elected on the honorary staff of the East Suffolk and Ipswich Hospital. He took great interest in the surgical side of his profession and was an active advocate of Listerian principles. For the next 30 years Dr. Elliston led an exceedingly busy life, for besides his ordinary practice he was in constant request as a consultant. He took a deep interest in the British Medical Association, being for 20 years President of the East Anglian branch. When that branch resolved to invite the Association to meet at Ipswich in 1900 Dr. Elliston was unanimously nominated President by the branch and the nomination was duly confirmed by the Council.

The Ipswich meeting is memorable for two things, the one that at it our present King, then Prince of Wales, was elected an honorary member of the Association, and the other that it was the occasion for the appointment of the constitution committee, the outcome of which was the representative body. Dr. Elliston's interesting presidential address dealt with the historical aspects of medicine and he naturally laid special stress upon the many worthies of science who were connected with East Anglia. Such were William Gilbert, Sir Thomas Browne, the two Pagets, Sir William Gull, and Sir Thomas Watson, to name only a few. Dr. Elliston was a great believer in the theory that every medical man should have some interest outside his immediate professional work, and he did not stop short at theory. He was a member of the county bench of magistrates, and early in his career he furthered the cause of the Ipswich Working Men's College, at which institution he used to give lectures in hygiene, chemistry, and physics with popular illustrations. He was one of the founders of the Colonial College at Hollesley Bay which came into existence in the early "eighties." But although a good many pupils passed through the college it was not a financial success and the buildings are now the headquarters of the Central Unemployed Committee. Dr. Elliston was one of the founders of the Felixstowe golf club and of the Ipswich golf club, while in his younger days he hunted. He was a good swimmer and fond of walking. He retired from active professional work in 1901 and settled at Felixstowe, a place in which he had always been interested as a possible health resort. Dr. Elliston was for many years a vice-president and a member of the council of the Medical Defence Union. He was President of the Union in 1905 and 1906.

The funeral took place on Nov. 30th, the first part of the Burial Office being said at the church of St. John Baptist, Felixstowe, and the interment taking place at Ipswich cemetery. A large number of relatives and friends attended, the British Medical Association being represented by Dr. B. H. Nicholson, a member of the council; the Medical Defence Union by Dr. M. Beverley and Dr. E. G. Barnes; the corporation of Ipswich by the mayor; and the East Suffolk and Ipswich Hospital by Mr. Herbert Mason, the chairman.

ROBERT ALLEN, M.B. R.U.I., F.R.C.S. IREL.

THE death of Dr. Robert Allen took place at his residence, Queen's Elms, Belfast, from pneumonia, after a very short illness, on Dec. 2nd. Born at Portadown in 1869, Dr. Allen was educated at Queen's College, Galway, and graduated M.B. of the Royal University in 1893. In 1894 he was awarded the Travelling Medical Scholarship of the Royal University and as a result spent some time in medical study in Berlin and elsewhere on the continent. On returning home he became lecturer on anatomy in Queen's College, Galway, and resident medical officer of Galway Hospital. In 1900 he obtained the studentship of the Royal University in pathology and bacteriology. It was in 1895 that he began practice in Belfast and soon confined his attention to diseases of the throat and nose. In 1902 he was appointed assistant surgeon to the Ulster Eye, Ear, and Throat Hospital, and his work there fully maintained the high repute of that institution. Apart from his professional skill Dr. Allen was a man of great social qualities and hospitality, and was a very popular member of the profession. His widow is a daughter of thereto which were arrived at by the Committee on Physical Deterioration. By way of enforcing these conclusions the town council quotes the experience of Sir Frederick Treves as set forth in his account of the relief of Ladysmith: "In that column of 30,000 men the first who dropped out were not the tall men or the short ones or the big men or the little ones but the drinkers, and they dropped out as clearly as if they had been labelled with a big letter on their back." In the matter of pulmonary tuberculosis, a disease which is voluntarily notifiable, Dr. Thomas hopes that it may be feasible later to utilise a part of the small-pox hospital as a sanatorium. Good work appears to be done in Chester in the direction of food control, more particularly perhaps as regards milk. We note, for instance, that seven samples of milk were taken from refreshment rooms and that in two instances the deprivation of the milk from cream amounted to 67·3 and 26 per cent. respectively. It is satisfactory to notice, too, that prosecutions have been undertaken when the milk was found contaminated with filth, a substance which does not receive specific attention in the Public Health Act, 1875. There were six prosecutions for filthy milk, and in one case 1·69 grains of filth per gallon cost the milk vendor 44s. We regard this work of Chester as of great public utility. The water-supply of Chester is, we gather from the report, derived from the river Dee, and 200 samples were examined bacteriologically by the medical officer of health during 1907. On gelatine count the crude river water was found to contain from 550 to 52,800 colonies, the average being about 1500 to 2500. At periods of flood or at high tide the number was much greater and this reference to high tide seems to suggest that the intake is in some way or other within the sphere of tidal influence. In samples taken from the filtered water the gelatine counts ranged from 0-38, a fact which, as Dr. Thomas says, indicates the efficiency of the filtering process. Bacillus coli seems practically absent from the filtered river water. But Dr. Thomas is evidently uneasy, because there is in the filters only a single line of defence, and he quotes the historical instance of cholera at Hamburg and Altona as an illustration of what this single line of defence may mean. If, however, the Chester intakes are as exposed to pollution as were the Hamburg intakes we can well understand the uneasiness of Dr. Thomas, and from his comments we suspect that there may be a certain analogy as regards tidal influence between the two. But the position of the medical officer of health appears to be this. Given adequate storage we may rest assured, on the basis of Dr. A. C. Houston's work on the effect of water storage on pathogenic organisms, that the people of Chester need not lie awake at night with anxiety of water-borne epidemics. All this is very largely true and the history of London itself might be quoted in support of the view, but notwithstanding it a purer source is, we expect, desirable and we note that the council is arranging provisionally with the Birkenhead corporation for a supply from the upper waters of certain tributaries of the Wye.

County Borough of Wigan.—Mr. William Berry estimates the population of Wigan at 90,765. The birth-rate for 1907 was 30·5 and the illegitimate birth-rate was 1·37 per 1000 in each case. The infantile mortality reached the very high rate of 163 per 1000 births, but this rate includes 49 infants whose duration of life did not exceed 24 hours. There was no small-pox in the district during the year under review and consequently use was made of the small-pox hospital for the treatment of seven cases of pulmonary tuberculosis; the results were regarded as beneficial. There appears to be some difficulty in regard to obtaining supplies for the isolation hospital and as a result fewer cases were treated than would otherwise have been the case. The report contains no detailed information relating to this strange policy. There were 167 cases with 22 deaths from enteric fever, and personal contact together with privy middens are thought to be responsible for the prevalence of the disease. In the beginning of the year there was an outbreak of ptomaine poisoning caused, it appears, by the consumption of potted tongue, as in every instance tongue had been partaken of, and on bacteriological examination of the tongue the bacillus enteritidis of Gärtner as well as coliform organisms were discovered. Mr. Berry is inclined to attribute the contamination of the tongue to the brine which was used in its preparation, and he makes certain proposals for preventing these food-poisoning outbreaks. It is clear from this outbreak that far greater supervision over the actual preparation of foods is essential.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7175 births and 4863 deaths were registered during the week ending Dec. 5th. The annual rate of mortality in these towns, which had been equal to 15·6 per 1000 in each of the two preceding weeks, was again 15·6 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged 14·7 per 1000, and in London the mean rate during the same period did not exceed 14·1. The lowest annual death-rates in these towns last week were 8·0 in King's Norton, 8·4 in Hornsey, 9·0 in West Bromwich, and 9·1 in York and in Smethwick; the rates in the other towns ranged upwards, however, to 23·7 in Middlesbrough, 24·2 in Huddersfield, and 24·5 in Swansea and in Rotherham. In London the death-rate last week was equal to 15·0, against 15·8 in the previous week. The 4863 deaths from all causes in the 76 towns showed an increase of but 16 upon the number in the previous week, and included 363 which were referred to the principal epidemic diseases, showing a further decline of 39 from the numbers in recent weeks; of these 363 deaths, 142 resulted from measles, 70 from diarrhœa, 51 from diphtheria, 38 from "fever" (principally enteric), 33 from scarlet fever, and 29 from whooping-cough, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·2 per 1000, against 1·4 and 1·3 in the two preceding weeks; in London the rate from these diseases did not exceed 1·0 per 1000. No death from any of these epidemic diseases was registered last week in Rhondda, Norwich, Southampton, Wolverhampton, Swansea, Northampton, or in six other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·3 per 1000 in Tottenham and in Rotherham, 4·5 in Middlesbrough, and 4·8 in Leicester. The 142 fatal cases of measles in the 76 towns during last week showed a further slight increase upon the numbers returned in recent weeks and exceeded the number registered in any previous week of this year; they caused death-rates equal to 2·2 in Huddersfield, 2·5 in Rotherham, 2·9 in Tottenham, 3·5 in Middlesbrough, and 4·1 in Leicester. The deaths attributed to diarrhœa, which rose to 1134 in the third week of August, have since steadily declined and did not exceed 70 in the week under notice, a lower number than in any week since the end of June. The 51 deaths from diphtheria, showed a decline of 15 from the number in the previous week; they included, however, 20 in London and its suburban districts, and eight in Manchester and Salford. The 38 deaths referred to "fever" also showed a decline from recent weekly numbers, but caused death-rates equal to 1·1 in St. Helens, 1·5 in Grimsby, and 1·9 in Devonport. The 33 fatal cases of scarlet fever, on the other hand, showed an increase upon the low numbers in recent weeks; 18 were recorded in London and its suburban districts, five in Manchester and Salford, and three in Birmingham and Aston Manor. The 29 deaths from whooping-cough were fewer than in any previous week of this year, including, however, two in Wigan, equal to an annual rate of 1·2 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3809 and 3831 on the two preceding Saturdays, had declined to 3747 on Saturday, Dec. 5th; the new cases of this disease admitted to these hospitals during the week under notice were 406, against 500, 421, and 495 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 334 and 318 in the two preceding weeks, further declined during last week to 295, and were 103 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 47, or 1·0 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in Leeds, Bristol, West Ham, them to be struck off the Roll:—Grace Baker, that with intent to avoid inspection and supervision by the duly appointed officer of the local supervising authority she did not notify her intention to practise in the year 1908, but expressly declared that she did not intend to practise; that nevertheless she practised as a midwife during 1908. Mary Annie Barton, that being in attendance as a midwife at a confinement she did not take with her the appliances or antiseptics required by Rule E, 2; that she did not wash the patient's external parts with soap and water and swab them with an antiseptic solution before making the first internal examination, or after the termination of labour, as required by Rule E, 7; that she washed the patient once only during the lying-in period. Sarah Elizabeth Beardsley, that being in attendance as a midwife at a confinement she did not wash the patient at all until 17 hours after the confinement; the patient being ill on Oct. 6th, suffering from severe internal pain, she (the midwife) did not send for a medical man; that she habitually neglected to take the pulse and temperature of her patients. Charlotte Bradford, that on or about July 14th, 1908, she laid out the body of a child who had died from erysipelas, not having being in attendance on the child at the time of its death, in contravention of Rule E, 16; that she subsequently attended as a midwife at a confinement without having undergone adequate disinfection of herself, her clothing, and her appliances, as required by Rule E, 5. Sarah Brown, that being in attendance as a midwife at a confinement, the patient suffering from sore breasts on the second day, she did not call in a medical man, and also the baby being ill on the second day, she did not call in a medical man; that being in attendance as a midwife at another confinement and the child suffering from inflammation of the eyes and from thrush on August 18th, she did not call in a medical man. Elizabeth Ellis, that being in attendance as a midwife, the patient being very ill with puerperal fever, her pulse 126, and her temperature 104·8° F., she (the midwife) did not send for a medical man. Catherine Evans, that being in attendance as a midwife at a confinement, the infant's eyes being inflamed and there being umbilical inflammation and hæmorrhage, she (the midwife) did not send for a medical man; that she could not take the temperature of her patients, being unable to use a clinical thermometer. Sarah Ann Fitton, that being in attendance as a midwife at a confinement, excessive bleeding taking place, with persistently offensive lochia and shivering fits, she did not send for a medical man. Jane Folland, that being in attendance as a midwife at a confinement, the patient's perineum being seriously ruptured, she did not send for a medical man. Fanny Hartland, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the left eye, she did not send for a medical man. Sarah Ann Lambert, that being in attendance as a midwife at a confinement, the child being premature and dangerously feeble at birth, she did not send for a medical man; notwithstanding that the patient suggested that a registered medical practitioner should be sent for in consequence of the child suffering from convulsions at noon on the following day she (the midwife) declined to do so. Hannah Naylor, that being in attendance as a midwife at a confinement, the case being one of miscarriage, she did not send for a medical man. Dinah Ann Peace, that at the Mansfield police court she was convicted of assault; that she was uncleanly in her house, clothing, and appliances; that she habitually neglected to notify stillbirths to the local supervising authority. Catherine Rhoda Emily Skoines, that being in attendance as a midwife at a confinement, the patient being ill and feverish and suffering from abdominal pains, she (the midwife) did not send for a medical man. Sarah Stevenson, that being in attendance as a midwife at a confinement, she used a piece of flannel for washing the patient's genital organs, in contravention of Rule E, 7; that being in attendance as a midwife at another confinement, the patient being ill with abdominal pain and headache, she did not send for a medical man; that being in attendance as a midwife at another confinement, the placenta not having been completely expelled two hours after the birth of the child, she did not send for a medical man. Mary Stokes, that being in attendance as a midwife at a confinement, the case being one of abortion, she did not send for a medical man; the patient being ill with vomiting and persistently offensive lochia, she did not send for a medical man. Eliza Allsop, that being in attendance as a midwife at a confinement she was uncleanly in her person, clothing, and appliances, and did not take with her to the confinement the appliances or antiseptics required by Rule E, 2. Edith Mary Peacock and Mary Sparks, for drunkenness. The following midwives were censured after charges alleged against them had been considered: Rosetta Bromley, Jane Deane, Fanny Froggett, Annie Maddocks, Annie Marian Palmer, Mary Rimmer, and Ann Sephton. Emily Langley and Mary Ward were cautioned after charges alleged against them had been considered. The consideration of the charges alleged against Catherine Walls and Maria Booth was adjourned.

UNIVERSITY OF LIVERPOOL.—The annual meeting of the University Court was held at the Town-hall on Nov. 28th. The Court sanctioned a rearrangement of the teaching of the subjects of therapeutics, pharmacology, materia medica, and pharmacy. The subject of therapeutics is now separated from that of pharmacology and a new chair of therapeutics has been established, to which Dr. John Hill Abram has been appointed. Pharmacology will in future be taught as a laboratory course, chiefly by means of demonstrations of the action of drugs. For the purpose of this course and for the conduct of pharmacological researches in the University a special department of pharmacology is in course of establishment. During the summer term of 1909 the course in this subject for medical students will be in charge of Dr. O. T. Williams, demonstrator of bio-chemistry. Materia medica and pharmacy have been placed in charge of Mr. P. H. Marsden who now conducts both lecture and laboratory courses. Mr. W. Thelwall Thomas has had conferred upon him the title of associate professor of surgery on the recommendation of the Senate. Mr. Thomas has recently presented to the Faculty a collection of specimens and photographs illustrating the subject of surgical pathology. They will prove a valuable addition to the surgical museum.

ASSOCIATION FOR PROMOTING THE TRAINING AND SUPPLY OF MIDWIVES.—A meeting of the council of this association was held at the office in Dacre-street, Westminster, on Nov. 26th. Dr. Salaman presided, and among those present were the Dowager Marchioness of Bristol, the Viscountess St. Aldwyn, the Lady Balfour of Burleigh, Lady Prideaux, Mrs. Arnold Gabriel, Mrs. Percy Boulnois, Miss Rosalind Paget, Miss Wilson, Sir Herbert George Fordham, and Mr. Francis Freemantle. Mrs. Wallace Bruce, chairman of the executive committee, made a report on the work of the executive committee and various sub-committees. 20 pupils had been trained in the course of the year besides those who finished their course in the first months and those who would enter before the close of the year. These were trained at the East Ham Home, East-end Mothers' Home, General Lying-in Hospital, and the Leicester Maternity Hospital. The training had been very successful and all the midwives were now at work. At the East Ham Home, a branch of the Plaistow Maternity Charity specially supported by the association, 669 cases had been taken during the first nine months, and 12,349 visits paid by the midwives and pupils; a most valuable and practical district training was thus given. In response to many appeals for advice the training sub-committee had drawn up two leaflets of suggestions for starting a midwife and for the formation of maternity clubs, copies of which can be obtained from the secretary. Mr. Arthur L. Leon, the honorary treasurer, stated that in response to the special appeal about £900 had been received towards the £5000 which the association hoped to obtain for pushing forward the work with increased activity. He urged the increase of annual subscriptions by which confidence could be felt in extending the work of the association. The lady collectors, with Mrs. Samuel Bruce as the leader, were continuing their valuable work. The amount spent on training during the year was about £400 besides the £100 subscribed to the upkeep of the East Ham Home. Much interest was shown by the members of the council present in the various questions brought forward, and special reference was made to the "method of work" which had been drawn up by the executive committee early in the year. It was agreed that often the best method was to help towards the maintenance of midwives during the term of working up a practice, and pending local organisation. There followed an interesting discussion on the best means of securing a uniform supply of

Hichens, and Robert Arthur Milligan. To be Captains: Herbert Henry Brown, John Gutch, John Charles William Graham, George Frederick Rogers, George Secretan Haynes, Benjamin Hugh Nicholson, Walter Malden, and Sydney Walter Curl.

Sanitary Service: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel William Robert Smith, from the 1st City of London Volunteer Rifle Corps, to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

For attachment to Units other than Medical Units.—Captain and Honorary Major James Robertson Reid (Retired List (Volunteers)) to be Major (dated May 1st, 1908). William James Townsend Barker to be Lieutenant (dated July 27th, 1908). Surgeon-Captain Mark Purcell Mayo Collier, from the East London (Tower Hamlets) Royal Engineers (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). 1st Eastern General Hospital: Surgeon-Major Joseph Griffiths, from The Cambridge University Volunteer Rifle Corps, to be Lieutenant-Colonel (dated May 6th, 1908). Surgeon-Captain Frederick Edward Apthorpe Webb, from the 3rd (Cambridgeshire) Volunteer Battalion, The Suffolk Regiment, to be Major (dated May 6th, 1908).

IMPERIAL YEOMANRY.

2nd County of London (Westminster Dragoons): Second Lieutenant the Honourable Alexander C. Harris resigns his commission (dated March 31st, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 6th Lancashire: The announcements of the resignation of Surgeon-Captain Francis W. Bailey and of his appointment to a Captaincy, which appeared in the *London Gazette* of April 10th, 1908, are cancelled.

Rifle: 1st (Hertfordshire) Volunteer Battalion, The Bedfordshire Regiment: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Captain Henry H. L. Patch.

Royal Army Medical Corps: Bedford Bearer Company: Captain Charles H. Perram resigns his commission (dated March 31st, 1908).

The *Army and Navy Gazette* of Dec. 5th, states: "The following movements of army medical officers may be calculated on. Colonel H. R. Whitehead, from India, to be promoted to surgeon-general, and to assume the principal medical officership of the Southern Command, vice Surgeon-General W. S. Pratt, due to retire by age on Jan. 21st. Colonel P. M. Ellis will succeed, on promotion to higher rank, to Surgeon-General W. B. Slaughter's vacancy in India, the latter officer being due to retire by age on the 31st inst. Great credit is due to the office of the Army Medical Service for the heavy work done and doing in carrying out the details of the Territorial scheme, the completion of which may be shortly expected."

Correspondence.

"Audi alteram partem."

SYPHILIS IN UGANDA.

To the Editor of THE LANCET.

SIR,—On reading the leading article "Syphilis in Uganda" in your issue of Oct. 3rd last I feel bound to express my dissent to some of the data on which it is based. I unfortunately had not the pleasure of meeting Colonel Lambkin in Uganda on his visit to that country as I was then in England on leave, though my brother, Mr. J. Howard Cook, M.S., F.R.C.S., who is associated with me in charge of this hospital, did so. I went back to Uganda almost immediately on Colonel Lambkin's return to England and so missed him again.

During the last 12 years I have repeatedly traversed Uganda from north to south and east to west, visiting also all the surrounding countries—Ankole, Toro (three times), Bunyoro (three times), Busogo (three times), Kavirondo (twice), Acholi Land, and the Southern Sudan. Our mission hospital was founded early in 1897 and has been expanding ever since till for the last two or three years we have had 120 beds. From the first we have kept careful notes and statistics of our in-patients and from 1902 of our out-patients. Turning, then, to our recent figures I find that last year 13,388 separate out-patients attended our mission dispensary. Of this number 1978 were syphilitic, a proportion of 14·8 per cent., bad enough in all conscience, but nothing like the words in your article, "at the present time more than half the population of the Protectorate is infected." I am convinced the proportion of syphilitics is higher here (as Mengo is the native capital) than anywhere else and feel sure that 90 per cent. in Ankole is far too high. It was certainly nothing like that when I was there. If only 14·8 per cent. were infected of those who attended our dispensary the number in the general population is surely much less.

Turning to the in-patients, the number of in-patients admitted to the hospital and of syphilitic in-patients respectively for the last five years are as follows:—

	Total in-patients.	Syphilitic.
1903	914	108
1904	1021	134
1905	1379	154
1906	1768	204
1907	1536	159
Total	6618	759

This works out at only 11·4 per cent., and as we have two wards set apart for the reception of syphilitic cases and draw our patients from a very large area I believe we get the great bulk of the more severely diseased syphilitics in the most densely populated part of the Protectorate. The cases of pregnancy complicated by syphilis, recent or old, is undoubtedly very high. I believe it to be about 25 per cent., but have not yet worked out sufficiently large figures to lead to trustworthy results.

You say "Colonel Lambkin found a prevalent opinion among medical men in the Protectorate that the natives were bad subjects for the administration of mercury, but this view has not been sustained by his own experience." While admitting the great superiority of his intra-muscular method I am bound to say that I fully share the opinion of my medical *confrères*, and though salivation is more uncommon after Colonel Lambkin's treatment we have had several serious cases after its use and a neighbouring medical man has had a death, though he admitted that in that case he had probably used too high a dose. By the mouth our usual dosage is one-eighth of a grain of grey powder twice or thrice daily and many can only stand this with astringent mouth washes for from two to three weeks. A single dose of five grains of calomel is almost sure to salivate. I fear Colonel Lambkin is premature in assuming "that it is possible to count upon even more complete control over the patients in Uganda than in India, the influence of the chief over his people being remarkable." This influence is rapidly dying out and I fear that the hold of the chiefs over their people in such a matter as periodical injections for syphilis would be extremely small.

Finally, I must give emphatic denial to the assumption that Christianity has been the chief cause of this epidemic. It has been all the other way. Read "civilisation" for "Christianity" and there may be some amount of truth in it. Respect for your valuable space forbids me to labour this point, but I venture to assert, Sir, that Christianity from the beginning has acted as a deterring and restraining force and is indeed, when intelligently accepted, the only true prophylaxis to this terrible scourge. In spite of my belief that the infection of Uganda by syphilis has been greatly overstated I feel certain that we owe a debt of gratitude to Colonel Lambkin for his intra-muscular method which we are practising on an ever-increasing scale and which we find is superior to any other remedy in suitably selected cases.

I am, *Sir, yours faithfully*,

ALBERT R. COOK, M.D., B.Sc. Lond., B.A. Camb.

C.M.S. Hospital, Mengo, Uganda, B.E. Africa, Nov. 3rd, 1908.

"THE HUMAN WOMAN."

To the Editor of THE LANCET.

SIR,—Referring to the interesting leading article on "The Human Woman" in THE LANCET of Nov. 21st, I should like to make a comment on the following sentence: "It may be conceded fairly that medical women of the present day are entering the lists on equal terms with medical men, at least as regards education; it will be interesting to see what proportion of medical women as compared with men 50 years

Heaven." Miss Hare, an old member of the school, who is the enviable possessor of a charming mezzo-soprano voice, sang songs by Goring Thomas, Brahms, and Loder, and Mr. Godfrey among other songs gave that delightful old Somerset folk-song in the Dorian mode, "I'm Seventeen come Sunday." Dr. Phear's tasteful accompaniment was by no means the least important feature of a most pleasant evening.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Lotteries and Indecent Advertisements.

The report of the Joint Committee of both Houses of Parliament, which some months ago investigated the subject of lotteries and indecent advertisements has been issued, along with the evidence, as a Parliamentary Blue-book.

The Withdrawal of the Education Bill.

The withdrawal of the Education Bill by the Government, in addition to the other consequences, removes the opportunity of discussing the question of the education grant with reference to the medical inspection of school children. Before the decision of the Government had been arrived at the Earl of Crewe stated in the House of Lords that the subject might be raised on one of the clauses of the Bill.

Hop Substitutes.

The Chancellor of the Exchequer has presented a Bill in the House of Commons to prohibit the use of hop substitutes in brewing and the importation of hops except in bags properly marked. It has been read a first time.

The White Phosphorus Matches Prohibition Bill.

The White Phosphorus Matches Prohibition Bill has made rapid progress during the past week. It was considered on report and read a third time in the House of Commons on Thursday, Dec. 3rd. On Tuesday, Dec. 8th, it received a second reading in the House of Lords.

Public Health (Regulations as to Food) Act.

Copies of the (1) Public Health (Foreign Meat) (Ireland) Regulations, 1908; and (2) Public Health (First Series, Unsound Food) (Ireland) Regulations, 1908, which have been made by the Local Government Board for Ireland have been presented to the House of Commons and been ordered to lie upon the table in the usual manner.

HOUSE OF LORDS.

Wednesday, Dec. 2nd.

Medical Inspection of School Children.

Viscount Galway called attention to the fact that no grant had yet been received by county councils towards the expenses incurred for the medical inspection of school children. He said that a great many local [illegible] into force until they knew [illegible] the Government. [illegible] when the figures of the [illegible] regard to education were examined there would not only be no grant for medical inspection but also an insufficient grant for other purposes.

The Earl of Crewe said that it was clear that the first cost of medical inspection must fall on the education rate. The question had been considered in connexion with what had been said as to grants on behalf of the Board of Education by Mr. McKenna when he was President of the Board. A White Paper had been issued explaining the financial proposals of the Education Bill of 1908. The effect of it was that several kinds of grants which were now given to the schools should be amalgamated and only a single grant should be given: Mr. McKenna had made it clear to a deputation that if help was to be given from central funds for medical inspection it must be given in a general grant and that it was not the intention of the Government to support a special grant for that purpose. Since that time, however, the situation had changed and the financial proposals were to form part of the Bill which had been recently introduced in the House of Commons in the same way as they formed part of Mr. McKenna's Bill. This fact made it difficult to enter into any financial details on the present occasion, but he understood that the clause which embodied them would be considered according to the allotment of business in another place on Monday, when the whole subject would be argued out. When the statement had been made noble lords could, of course, reopen the question as to the adequacy of the grant to meet this particular charge. It was generally admitted that medical inspection if properly carried out must involve a new burden on the local authorities. On the whole, however, he assured noble lords that the Board of Education was fully aware of the importance of the subject and that it recognised the fact that a very substantial charge must be placed on the local authorities by the measure of last year.

HOUSE OF COMMONS.

Wednesday, Dec. 2nd.

The Weir Hospital Bequest, Streatham.

Sir Henry Kimber asked the honourable Member for the Barnstaple Division, as representing the Charity Commissioners, whether, and when, the Charity Commissioners proposed to seal the scheme they were preparing respecting the diversion of the trust fund bequeathed by the late Mr. Benjamin Weir of Streatham; whether they would afford the Member for Wandsworth and the inhabitants of Streatham in the borough of Wandsworth a final opportunity of perusing it before it was actually sealed; and whether they would postpone the carrying out of the scheme until such time as the matter could be debated on some Vote in Supply next session.—Mr. Soares replied: The Commissioners propose to seal the scheme on Tuesday next. I will send the honourable Member a copy of the scheme to night. The answer to the last part of the question is that the scheme will be carried out in the ordinary course

Pulmonary Consumption amongst Irish Labourers.

Mr. Ffrench asked the President of the Local Government Board whether he was aware that [illegible] instances, having returned to [illegible] had been found suffering from [illegible] sleeping [illegible] which Irish farm labourers were permitte[illegible] whether he was aware that these houses w[illegible], in which the men had to sleep in coarse bags on the floor; and whether the sanitary authority could compel English farmers to give proper sleeping accommodation to their labourers; and, if so, would he see that the law was put in force.—Mr. Burns furnished the following written reply: I am not in possession of any information to show that pulmonary consumption amongst Irish labourers has been caused in the way suggested. At the same time, I am aware that the temporary accommodation provided for migratory labourers, such as navvies, hop-pickers, [illegible] ot infrequently used for those [illegible] ccommodation is often unsatis[illegible]. One of the medical inspectors of the Local Government Board is, by my direction, now engaged in investigating the conditions under which migratory labourers are housed. A report which he has already made with regard to hop-pickers has led to action being taken by the local authorities, and I am shortly expecting a further report from him in relation to other branches of the subject, which will, I believe, contain some definite recommendations with regard to the matter.

Thursday, Dec. 3rd.

Poisons and Pharmacy Bill.

Mr. H. Samuel, in moving the second reading of the Poisons and Pharmacy Bill, said that Clause 1 of the measure brought up to date the Schedule of Poisons contained in the Pharmacy Act, 1868, in the [illegible] ired in the last 40 years. Clause 2 dealt [illegible] of sheep-dips, weed-killers, and poisonous [illegible] of insect pests met with in agricultural and horticultural operations. Clause 3 dealt with companies carrying on the sale of drugs. Since this matter had been before a Joint Committee of both Houses of Parliament, negotiations had taken place between the Home Office, chemists, drug stores, and coöperative societies, and he was happy to say that agreement had been reached. He would have to move several amendments to the Bill in committee in pursuance of this agreement.

Mr. F. E. Smith expressed his satisfaction that a compromise had been reached but he thought that the right honourable gentleman should indicate the effects of the amendments which he would propose in committee.

Mr. Samuel explained that the effect of the clause as amended would be that a drug store company must have a duly qualified chemist in charge of the actual dispensing of medicines as under the present law, and, in addition, a superintendent to manage the poisons department of the company. If the company had only one shop the superintendent and the dispenser of [illegible] on, but if there was a number c[illegible] st in each shop to dispense the [illegible] manager of the poisons department who was also a [illegible] companies and chemists agreed on that [illegible] the whole question. The title of "pharmacis[illegible] chemists and druggists, but apart from that the drug store, which conformed to these conditions, might retain the title of chemist and druggist.

Mr. Ashley hoped that under the Bill it might be possible to curtail the sale of morphine. The insidious drug habit did great harm in this country not only amongst men but amongst women.

Mr. H. W. Forster welcomed the Bill as he thought that under it something might be done to restrain the sale of morphine and preparations of opium. The schedule of the Pharmacy Act of 1868 was repealed and a new schedule containing these substances was substituted for it in the present Bill. There was no doubt that the drug habit was on the increase. It was one of the most deplorable diseases to which a man or woman could succumb. In his capacity as a member of a voluntary committee before which such cases had been brought he had heard stories of misery which had almost brought tears into the eyes of even a hardened politician like himself. He thought everyone ought to feel gratitude for anything which would make it difficult for people to obtain these drugs.

Sir Henry Craik criticised the powers given in Clause 2 to tradesmen to sell various poisonous substances used by agriculturists and horticulturists. Was there any country in which fewer restrictions on the sale of poisons were imposed? Why should the general health of the community be disregarded and proper scientific precautions not be taken, and this widespread sale of poisonous substances be allowed, because it would be a little more convenient for the farmer to get his sheep dips and weed killers from the nearest shop? It was a dangerous relaxation of the law such as would not be permitted in any other country.

Mr. B. Straus hoped that the Government would make it impossible for the public to obtain dangerous drugs with the facility which they now obtained them. At present a patient got the prescription of a medical man for morphine and althoug[illegible] it was hawked about from druggist to druggist [illegible] it was intended had disappeared. The d[illegible] prescriptions and it should be made impos[illegible] them after the lapse of a month. A measure of that kind would be most popular with the medical profession and no more useful provision for the well-being of the people could be passed.

Mr. Samuel, replying to the debate, said that the question of morphine had been raised. The Bill did make a change in the law in that respect. It took morphine out of Part II. of the schedule of the Pharmacy Act of 1868 and put it into Part I. and thereby considerably this, like so many controversial matters, has not been made clear through a certain misunderstanding. All the other points I dealt with in my last letter (Nov. 14th) and there is no need to refer to them again. The point I allude to is in regard to the work of Borrel and Bridré. I stated, as I think Mr. Walker correctly quotes, that though there was a difference in technique between his work and theirs in regard to testis preparations, there was no essential difference in the principles involved or in the means by which it was hoped a result might be obtained. Let me make myself clear upon this point, for I have not done so as yet, since it appeared to me that Mr. Walker's results were as negative—in so far as a cure was concerned—as were those of Borrel and Bridré. But even disregarding this important fact I believe I am justified in considering that there is no essential difference between immunity produced by a vaccine (which was essentially what the testis preparation used by Borrel and Bridré appears to have been) and a serum immunised to testis (as carried out by Mr. Walker). This, of course, would not apply to ordinary somatic cells, but certainly should to those out of coördination—as those of the testis have been shown to be—if Mr. Walker's views were to have any application.

I made in the hasty abstract of my remarks a slip, which Mr. Walker refers to, in calling Borrel and Bridré's preparation "testis serum." I did not make this mistake in my speech nor in my subsequent letter. It was a clerical slip and nothing more, for I was well aware of the nature of the work done, as was evident in my spoken remarks when I classed and compared the testis preparation with that made from liver, spleen, and fœtal tissues. I hope I have made this final point clear, as I have no wish to clothe any of my remarks in ambiguity.

In conclusion, I trust that if my comments should have caused any unpleasantness my arguments will not have suffered from the inference that I was manufacturing a case. A careful perusal of my arguments will show that this is not so. I also wish to make it quite clear that I hold to all that I have said in regard to the scientific value of the work brought forward.

I am, Sir, yours faithfully,

W. BLAIR BELL.

Liverpool, Nov. 30th, 1908.

THE STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

To the Editor of THE LANCET.

SIR,—May I be allowed to say that it was hardly necessary for my friend Dr. Thresh to have gone to America to learn that chlorine is an economic and efficient agent for the purification of polluted drinking waters, as for the last three years I have had under observation at Guildford, Surrey, a method of sterilisation by chlorine which has already been referred to in the literature on the subject, and by Mr. Phelps and his colleagues in their papers published in America last year The Royal Commission on Sewage has since then found at Guildford that a small quantity of a liquid containing available chlorine could render septic tank liquids inoffensive and that if more than sufficient to remove smell and kill "coli" was added it did not prejudice the purifying ability of filters.

Dr. Thresh omits to state in his interesting paper advocating the use of calcium hypochlorite that Phelps and Carpenter as a result of their work at the Massachusetts station consider that electrolytic chlorine is cheaper and probably more efficient than chloride of lime for the practical sterilisation of impure waters and effluents. As the subject is to be discussed at a meeting of the Royal Sanitary Institute on Wednesday, Jan. 13th next, I will not trouble your readers with any further details except the following quotations from Messrs. Phelps and Carpenter's paper in the *Technology Quarterly* of the Sanitary Research Laboratory of the Massachusetts Institute of Technology :—

> The use of gaseous chlorine, manufactured at the disposal works by electrolytic methods, would in the case of larger works considerably reduce this cost.
>
> The process as thus outlined is entirely feasible, and in the case of large works it is cheaper than sand filtration.

I am, Sir, yours faithfully,

SAMUEL RIDEAL.

Victoria-street, Westminster, London, S.W., Dec. 3rd, 1908.

THE PROPOSED EASTBOURNE CENSUS.

To the Editor of THE LANCET.

SIR,—The attention of the town council of Eastbourne has been called to the annotation on p. 1698 of the current issue of THE LANCET, headed as above, and I was requested to forward the following resolution unanimously passed by the council, viz. :—

> That this council, having regard to the high standard of THE LANCET, feels that it is impossible to believe that the Editor of that paper can have seen the communication in the current issue on page 1698, suggesting that the inhabitants of Eastbourne are likely to falsify the census returns, and feels confident that his attention has only to be called to that objectionable statement to ensure his repudiation of it.

I am certain that the article in question must have escaped your personal attention and confidently hope that you will in your next issue adopt a course that will be satisfactory to the people of this town. I may add that the article has been extensively reproduced in the newspapers circulating in Eastbourne and the county of Sussex.

I am, Sir, your obedient servant,

MARK MARTIN,
Mayor.

Town Hall, Eastbourne, Dec. 8th, 1908.

⁂ No article in THE LANCET escapes our personal attention, so that we cannot avoid responsibility in the way his Worship suggests. But we read the sentence as much more general in its application, and must view any attempt by any community to prove its population up to a certain figure with suspicion. We gladly qualify the word "falsify," as having an offensive significance for persons interested, by saying that we intended to convey a feeling that every effort would be made to swell the returns, so that extraordinary care would have to be exercised to keep them trustworthy; and we should give the same warning in like circumstances to any community. It is human nature, not Eastbourne, that is frail.—ED. L.

THE OBJECTS OF EXAMINATIONS.

To the Editor of THE LANCET.

SIR,—In connexion with this subject it seems to me that one point is not sufficiently clearly recognised. By asking a candidate even one single question on a piece of minute anatomy—such, for instance, as the lenticular ganglion, the petrosal and chorda tympani nerves, or the smaller surfaces of the palate bone—the whole level of an examination in anatomy is at once lowered from that of a practical subject of some use to that of a cram subject which is not only useless but calculated to do positive harm. The candidate says to his friends, "They asked me Meckel's ganglion," and at once everyone begins getting up not only Meckel's ganglion but a whole host of equally minute points the knowledge of which is only necessary for men who are engaged in research work. As Professor Starling has pointed out, the advent of the pressure forceps and of asepsis has changed everything. Not only so, but for diagnostic purposes facts such as those relating to the common nerve supply of the hip- and knee-joints are really of very little use; what really is of use is the clinical fact learnt in the out-patient room that pain in the knee is often an early symptom of hip disease. The examiners set the standard and it rests with them to insure that ancillary subjects are not out of all proportion to the rest of a student's training.

A good examiner helps a candidate to do his best, while a bad one deprives a man of confidence at the start and he probably goes from bad to worse. I was once asked a question at the beginning of a *vivâ voce* examination which I have never quite fathomed yet. It was this: "Under what conditions does elastic tissue occur in the body?" Now the hopeless confusion of theory and fact raised in one's mind by this question is appalling. If the examiner had asked, "In what parts of the body is elastic tissue found?" and had then said, "And what do you think are its uses?" we should have been able to get along nicely. Some men reckon an examiner's merits in terms of the number of doubtful candidates he is able to fairly help through. This is complicated by the question whether the examination is designed to help a candidate on or to keep him back. The former object is undoubtedly the right one.

Woman in Industry from Seven Points of View. By Gertrude M. Tuckwell, Constance Smith, Mary R. Macarthur, May Tennant, Nettie Adler, Adelaide M. Anderson, and Clementina Black. With a Preface by D. J. Shackleton, M.P. Price 2*s.* 6*d.* net.

FISCHER, GUSTAV, Jena.

Neuere Ergebnisse auf dem Gebiete der Speziellen Eiweisschemie. Von Emil Abderhalden, o. Professor für Physiologie an der Kgl. Tierärztlichen Hochschule, Berlin. Price M.3.50.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Principles of Sewage Treatment. By Professor Dr. Dunbar, Director of the Hamburg State Hygienic Institute. Translated, with the Author's sanction, by H. T. Calvert, M.Sc., Ph.D., F.I.C., Chief Chemical Assistant, West Riding of Yorkshire Rivers' Board. Price 15*s.* net.

HEFFER, W., AND SONS, Cambridge. (SIMPKIN, MARSHALL, AND CO., London.)

Exercises in Practical Physiological Chemistry. By Sydney W. Cole, M.A., Trinity College, Cambridge, Junior Demonstrator in Physiology, Cambridge University. Second edition. Price 5*s.* net.

KABITZSCH, CURT (A. STUBER'S VERLAG), Wurzburg.

Die Sprache des Kindes und ihre Störungen. Von Dr. Paul Maas, Spezialarzt fur Ohren-, Nasen-, Halsleiden und Sprachstörungen in Aachen. Price, paper, M.2.80; bound, M.3.50.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C.

Kimpton's Essential Series. Essentials of Sanitary Science. By Gilbert E. Brooke, M.A. Cantab., L.R C.P. Edin., D.P.H., F.R.G.S., Fellow of the Royal Institute of Public Health, Port Health Officer, Singapore. Price 6*s.* net.

KING, P. S., AND SON., Orchard House, Westminster, London, S.W.

The Future of Medicine. By Sydney W. MacIlwaine, M.R.C.S., L.R.C.P. (retired). Price 1*s.* net.

Philanthropy and the State, or Social Politics. By B. Kirkman Gray, Author of "A History of English Philanthropy." Edited by Eleanor Kirkman Gray and B. L. Hutchins. Price 7*s.* 6d. net.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

The English Castles. By Edmund B. d'Auvergne. Illustrated. Price 6*s.* net.

LEHMANN, J. F., Heustrasse, 20, München.

Unsere Mittelschüler zu Hause. Schulhygienische Studie. Bearbeitet von Dr. Eugen Dörnberger, pr. Arzt in München und Dr. Karl Grassmann, pr. Arzt in München. Price M.5.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London; and New York, Bombay, and Calcutta.

Naval Warfare, its Historical Development from the Age of the Great Geographical Discoveries to the Present Time. By Baron Curt von Maltzahn, Vice-Admiral (retired). Translated from the German by John Combe Miller. Price 2*s.* net.

The Chemical Constitution of the Proteins. By R. H. Aders Plimmer, D.Sc., Assistant Professor of Physiological Chemistry in, and Fellow of, University College, London. In Two Parts. Part I., price 3*s.* net; Part II., price 2*s.* 6*d.* net.

NEMNICH, OTTO, Leipzig.

Der Syphilis-Bacillus, seine Geschichte, Literatur, Kultur, und spezifische Pathogenität für Tiere und Menschen. Von Dr. med. Max von Niessen, Wiesbaden. Price not stated.

Handbuch der Röntgentherapie nebst Anhang: Die Radiumtherapie. Ein Lehrbuch für Aerzte und Studierende. Von Dr. med. Josef Wetterer, Spezialarzt für Haut- und Harnkrankheiten in Mannheim. Price M.27.

RICHARDS, GRANT, 7, Carlton-street, London.

The Birds of the British Islands. By Charles Stonham, C.M.G., F.R.C.S., F.Z.S. With Illustrations by Lilian M. Medland, F.Z.S. In Twenty Parts. Part XII. Price 7*s.* 6*d.* net.

ROUSSET, JULES, 1, Rue Casimir-Delavigne, Paris.

Leçons Elémentaires de Microbiologie Générale professées à l'École Nationale d'Agriculture et de Médecine Vétérinaire du Pérou. Par M. Emm. Pozzi-Escot, Professeur de Chimie et de Microbiologie à l'École Nationale d'Agriculture et de Médecine Vétérinaire du Pérou. Price Fr.9.

SMITH, ELDER, AND CO., 15, Waterloo-place, London, S.W.

The Origin of the Sense of Beauty. Some Suggestions upon the Source and Development of the Æsthetic Feelings. By Felix Clay, B.A., Architect. Price 6*s.* net.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Action de la Contraction Utérine sur l'Œuf Humain. Phénomènes passifs de la Grossesse et du Travail. Par le Dr. Paul Bouquet, Médecin de la Maternité de Brest, Directeur du Cours départemental d'Accouchement. Price Fr.10.

SURGERY PUBLISHING COMPANY, 92, William-street, New York, U.S.A.

Practical Points in Anæsthesia. By Frederick-Emil Neef, B.S., B.L., M.L., M.D., New York City. Price 60 cents.

UNIVERSITY PRESS, Cambridge. (CAMBRIDGE UNIVERSITY PRESS WAREHOUSE (C. F. Clay, Manager), Fetter-lane, London, E.C.)

The Methods and Scope of Genetics. An Inaugural Lecture delivered 23rd October, 1908. By W. Bateson, M.A., F.R.S., Professor of Biology in the University of Cambridge. Price 1*s.* 6*d.* net.

UNIVERSITY PRESS, Manchester. (SHERRATT AND HUGHES, 33, Soho-square, London, W.)

Dreschfeld Memorial Volume. [illegible] the Life, Work, and Writings of [illegible]ld, M.D., F.R.C.P., with a Series of [illegible]ed to his Memory by Colleagues in the [illegible]ester and Former Pupils. Edited by E. M. Brockbank, M.D., F.R.C.P. Price 10*s.* 6*d.* net.

UNWIN, T. FISHER, 1, Adelphi-terrace, London, W.C.

Vital Economy, or How to Conserve Your Strength. By John H. Clarke, M.D. Price, paper, 1*s.* net; cloth, 2*s.* net.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Lehrbuch der Physiologischen Chemie. In Zweiunddreissig Vorlesungen. Von Emil Abderhalden, O. Professor der Physiologie an der Kgl. Tierärztlichen Hochschule, Berlin. Zweite, vollständig umgearbeitete und erweiterte Auflage. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BERKELEY, COMYNS, M.B., B.C. Cantab., M.R.C.P., has been appointed an Examiner in Midwifery and Diseases of Women to the University of Oxford.

EMRYS-ROBERTS, EDWARD, M.B., Ch.B. Vict., M.B., Ch.B. Liverp., has been appointed Pathologist to the Bristol General Hospital.

JONES, D. W CARMALT, M.B. Oxon, M.R.C.P., has been appointed Assistant Physician to Westminster Hospital.

PATTON, J., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ederney District of the county of Fermanagh.

RAMSAY, JEFFREY, [illegible] Surgeon at the Bl[illegible]

SEMPLE, M., M.D., [illegible] under the Factory and Workshop Act for the Cong District of the county of Mayo.

WHITLOCK, ADA MILES, M.B., B.S. Lond., has been appointed a Medical Inspector of Schools by the Gloucestershire Education Committee.

WILLIAMS, T. GEE, M.B., Ch.B. Manch., has been appointed Junior House Surgeon at the Blackburn and East Lancashire Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH, EASTERN DISPENSARY.—Resident Medical Practitioner. Salary £130 per annum, with apartments, coals, gas, and attendance.

BERMONDSEY MEDICAL MISSION.—Resident Assistant (female) for six months. Board and residence provided.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—House Surgeon. Salary £70 per annum.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM, UNIVERSITY OF.—Lecturer in Physiology. Stipend £150 per annum.

BLACKPOOL, COUNTY BOROUGH OF.—School Medical Officer (female). Salary £200 per annum.

BRISTOL ROYAL INFIRMARY.—Ophthalmic and Obstetric House Surgeon. Salary £75 per annum, with board, lodging, and washing. Also House Physician.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch.—Junior Assistant Medical Officer, unmarried. Salary £170, with quarters and all found.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Registrars.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence.

DERBYSHIRE ROYAL INFIRMARY.—Two House Surgeons, One House Physician, and One Assistant House Surgeon. Salary of three former £100 per annum, with apartments, board, &c.; and of latter at rate of £60 per annum, with apartments, board, &c.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, &c.

DUBLIN, DR. STEEVENS' HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, fire, and light.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Aural Surgeon, also Clinical Assistants.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, with board and residence.

HUDDERSFIELD INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary £30, with board, residence, and washing.

LINCOLN UNION.—Medical Officer. Salary £100 per annum and fees.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle-street.—House Surgeon. Salary £80 per annum, with board and residence.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—House Physician. Salary £60 per annum, with board and residence.

LONDON LOCK HOSPITAL, Dean-street, Soho.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, non-resident, for six months. Salary at rate of £75 per annum.

commission finds that, with the exception of four medical districts, quackery is already on the wane, and that among the general public, who really are the *parties most* concerned, there is no great wish for any reform in this respect. On the other hand, it is proposed that regulations already in force against quackery should be more strictly applied than heretofore, the principles on which these regulations are founded remaining as before.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

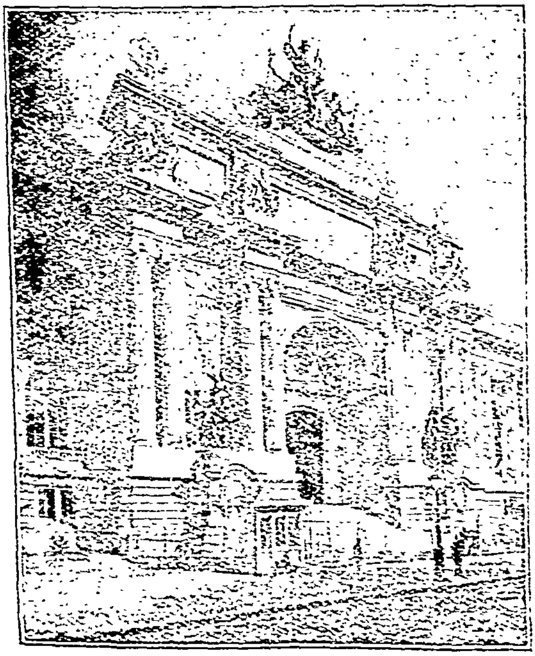
(FROM OUR SPECIAL SANITARY COMMISSIONER.)

WHY THE CONGRESS WAS BADLY HOUSED.—THE UNMANAGEABLE SIZE OF MODERN CONGRESSES.—NEED OF GOVERNMENT AID.—THE HUNT FOR PREMISES.—THE PRESSURE EXERCISED BY THE MEDICAL PROFESSION AND THE PARLIAMENTARY WRECKERS.—THE SUPPRESSED RESOLUTIONS AND THE VOICE OF SCANDAL.—THE ABORTIVE INTERNATIONAL COMMITTEE AND ITS BLUNDERS.—THE MORAL OF THE STORY.

New York, November, 1908.

ON the homeward journey, when waiting in New York for the steamer that was to take me back once more to Europe, I had an opportunity of discussing at length some of the shortcomings of the Congress with one of its principal and active organisers. It must be acknowledged that no congress of such importance has ever been so badly housed, the accompanying reproductions of photographs showing by contrast more than words can express. The first is the entrance to the Grand Palais at Paris where the Second Congress on Tuberculosis was held; the second is the entrance to the building where the Third Congress was held, the size of the figures showing that the reproductions have been arranged on practically the same scale.

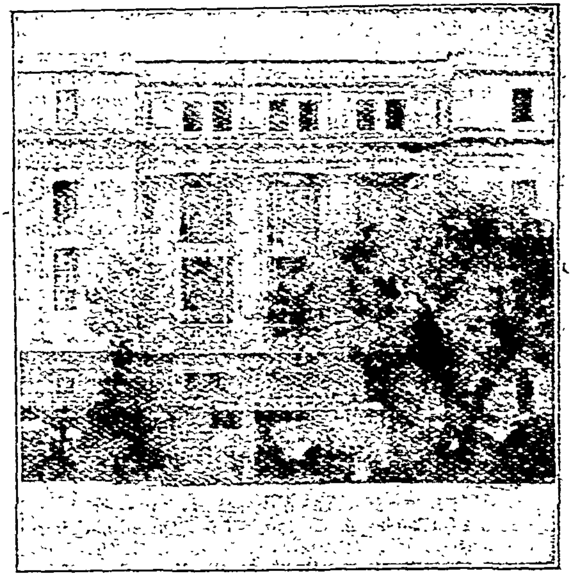
FIG. 1.



Reproduction of a photograph showing the Avenue d'Antin entrance to the Grand Palais, Paris, where the Second Congress on Tuberculosis was held in 1905.

I was pleased to obtain, and this on the best authority, an account of what had occurred, leading up to such a poor reception of the Congress. It appears that, according to the American law, the Government cannot itself participate in receiving a congress. On the other hand, it may allow the Ministry which is particularly concerned in the object of a congress to take part in that congress. The vagueness of these conditions makes their strength. Thus though the spending of money over a congress is not expressly sanctioned, neither is it forbidden. Consequently it was fully expected that one or more of the Ministries, forming part of the Government, would aid the Congress. Nevertheless the National Association for the Study and Prevention of Tuberculosis set to work to raise a fund of £20,000 so as to defray the costs. For this purpose a special office was opened at Washington. Then the organising committee visited all the buildings in Washington to find a suitable place wherein the Congress might be held.

FIG. 2.



Entrance to the session of the Third International Congress on Tuberculosis held in the unfinished premises of the new Museum at Washington in 1908.

Here I would interrupt the narrative to enter an energetic protest against such lax proceedings as are here described. The rule for these large international congresses is that no invitation shall be accepted unless it is endorsed by the Government of the country from which the invitation emanates. It is then only natural to presume that a Government would not invite several thousand guests unless it has a suitable building in which to receive them. Therefore in 1905 the American delegates who invited the Congress to hold its next session in the United States and got Mr. Elihu Root, the Secretary of State, to confirm this invitation, should have assured themselves *first* that there was a suitable *locale* at their disposal and that the necessary money would be forthcoming. Indeed, this is the meaning of a Government invitation. It is quite evident that private individuals cannot provide palatial buildings and spend the thousands of pounds necessary to receive a great international congress. Precisely by reason of the difficulty and expense we have now reached the stage when these congresses are becoming unmanageable and a very earnest effort, it is hoped, will be made either to reduce their size or their frequency. The Sixteenth International Congress of Medicine will meet at the end of next August in the capital of Hungary, and it must be noted that an announcement has already been sent out to the effect that a proposal will then be brought forward to hold these congresses only once in four years instead of every third year. The difficulty of organising huge international congresses, to which this most recent incident again testifies, was recognised many years ago. The American delegates at the Paris Congress of 1905 had plenty of comparatively recent experience to warn them. There was fresh before them the history of the great crush at the International Congresses of Medicine and of Hygiene that met at Paris in 1900; and, above all, there was the appalling gathering of some 7000 persons under Government management, while the estate hospitals maintained by the planters are under Government supervision. The number of patients treated in the hospitals in 1907 was 28,708, of whom 1193 were Europeans; the corresponding figures for 1906 were 27,340 and 1103 respectively. The deaths numbered 3688 (74 being Europeans). The inmates of the various leper hospitals, the majority of whom are quartered at Pulau Jerejak, numbered 389 at the close of the year as compared with 391 in 1906. 135 deaths occurred, as against 154 in 1906.

Messrs. Cadbury of Bournville have sent us some specimens of their confections, which are excellently prepared and packed in neat and artistic boxes. Good chocolates are appreciated by most people, both young and old, and are, moreover, safe sweetmeats.]

◆

Curious.—We know of no work on mnemonics in connexion with medicine; every medical school has certain traditional mnemonics and some are common to many schools. As a rule, mnemonics are best when they are *home* made. The line to remind students of the order of the structures passing behind the internal malleolus is "Timothy doth vex all very nervous pupils." Timothy is supposed to refer to Mr. Timothy Holmes, who was, as a matter of fact, a kind as well as a just examiner, but who had an awe-inspiring manner.

J. C. (1)—To the best of our knowledge there is no preparation possessing the exact qualities desired. A dermatologist might be able to prescribe something *that* would be useful in a particular case but the symptom is not always dependent upon the same cause.

Mr. J. Jacobs.—Hospitals are compelled to make rules for the prevention of abuse and to assist them in their administrative work.

R. F.—The Students' Number of THE LANCET for 1906, under the heading The Student's Library, will give the information.

Duplex.—No; the numerous stories will not bear investigation, while the biological improbabilities are insuperable.

J. C. (2)—Our correspondent should put the matter before his medical adviser who might communicate with us.

I. C. U.—Certainly.

T. T.—Yes.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 4.15 P.M.

Paper:

Dr. Colcott Fox: Endothrix Trichophytic Flora in London (illustrated by a collection of cultures).

Cases:

Dr. Graham Little: (1) Favus of Scalp and Glabrous Skin; (2) Anomalous Pigmentation.

Dr. Whitfield: An Unusual Secondary Syphilide.

Dr. Wilfred Fox: (1) A Case of Lichen Planus treated with Soamin Injections, with Toxic Signs; (2) (with Dr. Freshwater): A Case of Syphilis "Secondaire Tardive."

Dr. J. M. H. MacLeod: A Case of Cicatricial Alopecia.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles): at 5 P.M. (Special Meeting).

Discussion:

Whooping-cough.

The following are expected to take part in the Discussion:—Dr. Carpenter, Dr. J. Walter Carr, Dr. Cautley, Dr. Leonard Guthrie, Dr. Newsholme, and Dr. Porter Parkinson.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.

Dr. Lake Hope (Brighton): The Value of Recent Improvements in Radiographic Technique.

Dr. William Martin (Newcastle-on-Tyne): The Biceps Tubercle and X Ray Examination—a Point of Medico-legal Value.

Dr. G. Harrison Orton (London) will open a Discussion on the X Ray Examination of the Accessory Sinuses of the Nose.

Dr. Horace Manders (London): Undamped Waves.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on Athletics in Relation to Disease (opened by Mr. R. H. A. Whitlocke (Oxford)). Sir Lauder Brunton, Bart., Dr. W. Collier (Oxford), Dr. A. Morison, and others, will take part in the discussion.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. P. McConnel: London Milk Supply from a Farmer's Point of View.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor street, Chelsea, S.W.

TUESDAY.—8 P.M., Clinical Evening. Cases will be exhibited by the President (Dr. A. F. Penny), Mr. A. Baldwin, Dr. A. Eddowes, Mr. A. H. Greg, Dr. C. J. H. Gunning, Mr. J. H. Evans, Dr. E. Pritchard, Mr. C. Ryall, Mr. R. Thompson, and Dr. S. Taylor.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. J. E. Stead: (1) A Workshop Microscope for the Examination of Opaque Objects; (2) A Simple Method of Illuminating Opaque Objects.—Rev. E. Tozer: On Mounting Rotifers and Protista in Canada Balsam.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Dr. W. C. Hossack: The Present Position of the Rat Flea *Theory* of Plague; Recent Observations in Calcutta.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—12 (noon), Prof. Shattock: Fibroma. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M., Lecture:—Mr. M. Little: A Demonstration of Orthopædic Appliances.

TUESDAY.—4 P.M., Dr. A. Morison: Clinique (Medical). 5.15 P.M., Lecture:—Mr. J. E. Lane: The *Treatment of Syphilis by* Arylarsonates

WEDNESDAY.—4 P.M., Mr. T. Walker: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. W. Stuart-Low: Nasal Obstruction, its Causes, Consequences, and Care.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. R. Jones (Liverpool): The Treatment of Congenital Club Foot.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 12 *noon*, Dr. *Low: Pathological* Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Dunn: Cases of Diseases of the Eyes.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Bidwell: The Causes of Disappointing *Results after* Gastro-enterostomy.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Keetley: Clinical (with cases).

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: The Prophylaxis of Venereal Diseases.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought *Hospital, Greenwich.*

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4 P.M., Special Lecture:—Mr. Lawrence: Hearing.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. *Morris:* Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., [illegible] F. Taylor: Medicine. 3.30 P.M., [illegible] Out-patient Demonstrations:—10 A.M., [illegible] 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., *Surgical* Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. A. J. Whiting [illegible] Auld).

TUESDAY.—Clinic: 10 A.M., [illegible] Out-2.30 P.M., Operations (M[illegible] Giles). patient (Mr. W. Edmunc[illegible] losis. 4.30 P.M., Dr. R. M. Leslie [illegible] (Dr. T. R.

WEDNESDAY.—Clinics:—2[illegible] P. Brooks). Whipham); Skin (Dr. [illegible] of Mental 4.30 P.M., Dr. S. J. Gill[illegible] Disease at the *Colney* Hatch Asylum, N.

that the American Government would supply the necessary buildings and a sufficient subvention. Nevertheless, they had a promise from the Secretary of State and the support of the President of the Republic, and everything would probably have worked out satisfactorily but for the fact that two or three political wire-pullers failed to understand the importance of the Congress that was about to take place.

All this did not tend to make the international delegates take a lenient view of other shortcomings that followed on the initial one of unpreparedness. The climax was reached when on the Saturday morning the International Committee discovered that an attempt was to be made to suppress all the resolutions of the Congress. This I have already described,[1] but it appears that deductions have been made for which I can not be held responsible. Suspicion was first aroused by invitations given to a breakfast which was held at 8.30 on the Friday morning at the Hotel Villa. There were present at this breakfast some members of the American organising committee and apparently no foreigner excepting Professor Robert Koch. It was thought that the resolutions adopted in the sections were discussed at this breakfast, but I am assured by a delegate who was present that such was not the case and that the conversation ran principally on the question of where the next Congress should be held. But the plot seemed to thicken when it was found that the same set which met at breakfast held what has been qualified as a caucus meeting at 5 o'clock that same afternoon and that there was present at both these meetings the intermediary who had obtained from a former member of one of the greatest of the great American trusts a subscription towards the expenses of the Congress amounting, it was said, to no less a sum than $30,000. What made the Friday afternoon meeting appear like a caucus was the absence of nearly all the foreign members of the International Committee. The official delegate from Chili had been met in the corridors and persuaded to enter. This meeting appeared to him to consist almost exclusively of Americans and yet it was discussing the resolutions of the International Congress. This seemed to him so irregular that he wanted to leave, as he did not wish to be compromised by unwillingly taking part in the proceedings. Professor Koch was examining a resolution, and finally agreed to a recommendation for the boiling of milk. Of course, this was absolutely out of order. Professor Koch, it appeared, would not accept the resolution on bovine tuberculosis passed by the section which dealt with the subject. Obviously there was here a serious misunderstanding. Someone even went so far as to suggest that Professor Koch should himself frame a resolution just as if there had been no Congress and no meeting of the sections. Professor Koch kept saying that he could not accept, and that the Germans who followed his lead would vote against, this or that proposal. But even if this had been a proper meeting of the International Committee itself, it could not possibly have interfered with resolutions actually carried. A committee cannot alter the decision of a section. The Congress wanted to know how the sections had voted, and no amount of disapproval on the part of Professor Koch or of any committee could alter a vote duly taken by a section. In view, however, of Professor Koch's disapproval and also because there was some disagreement in regard to the wording of a resolution on the housing question, it was suggested that the resolutions carried in the sections were not of much importance. Then it was argued that the hurried vote given at the closing sitting was even less important than the vote of the sections and that, on the whole, it would be best not to mention the resolutions at all. With a carelessness and want of perspicacity which all concerned have now had leisure bitterly to regret this view was ultimately adopted.

In these circumstances the American organisers have really only themselves to blame if their action has given rise to incorrect interpretations. Perhaps some of them are old enough to remember the time when, if anything untoward happened in Europe, the opinion was at once expressed that it must be the fault of Bismarck. Such is the state of mind to-day in America. If anything goes wrong it is the fault of the trusts. If there is any fault to be found with the International Congress on Tuberculosis it is all the doing of the trusts. So here we have money traced to the trusts, a meeting irregularly held, and a far-off Chilian dragged in to give it a semblance of the international character which it did not possess, and then resolutions are suppressed. As a matter of fact, the delegate from Chili had attended more international congresses than some of the American organisers and was much better able to appreciate the blunder which they were committing.

The answer to the above attempt to interpret the events in a scandalous sense is, first and foremost, that in the war against tuberculosis any number of wealthy people have subscribed money and this has never prevented the denunciation of all the conditions that favoured the spread of the disease. If the medical profession could be influenced by money considerations they would not take the lead in the campaign against tuberculosis, as no disease affords a better source of revenue to the profession. With regard to the money subscribed for the expenses of the Congress the organisers were beholden to wealthy people who had endowed hospitals and dispensaries but these subscribers could not, and would not, exercise any influence whatsoever over the Congress. Though so much has been said in America about "graft," municipal corruption, and venal practices generally, the cause of science does not attract mere money hunters, the medical profession has always enjoyed the highest reputation and stands above suspicion. But it is frankly admitted that a great blunder has been committed. The meeting held at 5 o'clock on the Friday afternoon was not intended to be a hole and corner gathering. It was meant to be a formal, regular meeting of the entire International Committee. As, however, the foreign members knew that they would meet, according to the usual custom, at 10 o'clock on the Saturday morning they did not anticipate a convocation for 5 o'clock on the Friday afternoon, and would probably have had other engagements interfering with such a convocation. But they were not properly notified and did not go. There were present, I am told, only the representative of Canada, Professor Koch from Germany, Dr. von Schrötter from Austria, and the Chilian representative. Obviously this was not enough to constitute a quorum of the International Committee. Any conversation held should have been considered as informal, and, of course, so unrepresentative a gathering should have shrunk from the responsibility of interfering with the well-established procedure of international congresses, particularly as many of those who were present had had no experience of such congresses. On the Saturday morning when the International Committee really met and there was a full quorum, the violent protests that arose soon convinced those who had assisted at the abortive meeting of Friday afternoon that they had committed a serious mistake. Those who on the Friday had been in favour of suppressing all the resolutions carried in the sections now felt that it would be better to resuscitate them. That being so, the committee should have proceeded in the usual manner and appointed persons to read out to the Congress the text of the resolutions that had been adopted by the sections. Instead of this it drew up a sort of omnibus resolution which was supposed to summarise what had been done in the sections, but which, of course, had never been seen or voted upon by anyone. With the exception of the emphatic pronouncement on the question of bovine tuberculosis this resolution consists of an appalling collection of platitudes, and when compared with the resolutions carried at Paris three years ago can only be qualified as a retrograde step. On the other hand, some of the resolutions adopted in the sections were a distinct advance on what had been done on previous occasions, and therefore it is natural that their suppression should occasion keen disappointment.

From this long story of muddle and of misunderstanding the moral stands forth quite clearly. Every civilised State should have in its annual budget a sum set aside for the advancement of science. This sum should suffice, among other things, to enable each State in its turn to entertain the more important international scientific congresses. Invitations from countries where this is not done as a matter of principle should be refused. To obtain private subscriptions for congresses that are of national and international benefit should not be necessary. It is the duty of Governments to attend to such vast interests, and, in respect to these great international congresses, many Governments have already

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[1] See THE LANCET, Nov. 14th, 1903, p. 1477.

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Ardath Tobacco Co., Lond.; Dr. R. W. Allen, Lond.; Professor Dr. Albert Adamkiewicz, Vienna; The Ambora Soap Works, Lond.; Dr. J. Anderson, Pitlochry; Mr. G. H. Adam, West Malling; Mr. R. J. Albery, Lond.

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E.—Mr. F. W. Edwards, Lond.; Mr. [illegible] Mr. [illegible] Mr. [illegible]

F.—Dr. Theodore Fisher, Sidcup; Dr. J. M. Fortin, Remedios; Messrs. Ferris and Co., Bristol; Dr. Simon Flexner, New York.

G.—Dr. Alfred M. Gossage, Lond.; Dr. W. Gray, West Hartlepool; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Professor P. Gasparini, Turin; Mr. W. D. Gittins, Liverpool; Messrs. W. and A. Gilbey, Lond.; G. A. C.

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I.—Mr. C. E. Iredell, Lond.; Indiarubber, Gutta Percha, and Telegraph Works, Lond., Secretary of; Imperial Accident Insurance Co., Lond., Managing Director of; Messrs. Ingram and Royle, Lond.

J.—Jeyes Sanitary Compounds Co., Lond., Secretary of; Mr. J. Jones, Lond.; Mr. J. Jacobs, Lond.; Mr. W. Judd, Lond.; *The Journal of the American Medical Association*, Chicago.

K.—Messrs. Kutnow and Co., Lond.; Dr. A. F. A. King, Washington, D.C.; K. L. S.; Professor W. W. Keen, Philadelphia.

L.—Mr. C. Lawrence, Lond.; Messrs. Lee and Nightingale, Liverpool; Loughborough, &c., General Hospital, Secretary of; London County Council, Clerk of; Mr. Ernest Leitz, Lond.; *Le Ferment*, Paris; Mr. J. P. Lee, Ripon; Local Government Board, Lond., Medical Officer of; Mr. Claude Lillingston, Lillehammer.

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R.—Messrs. Rosing Bros., Lond.; [illegible] Mr. R. Redpath, Newcastle-on-Tyne; Royal Albert Hospital, Devonport, Secretary of; Royal Society of Medicine, Lond., Section for the Study of Disease in Children, Hon. Secretary of; Royal Mail Steam Packet Co., Lond., Secretary of; Royal Institute of Public Health, Lond., Secretary of; Messrs. Ross, Lond.; Royal Academy of Medicine in Ireland, Dublin.

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Letters, each with enclosure, are also acknowledged from—

A.—Mr. W. L. Ascherson, Lond.; Dr. B. Anningson, Cambridge; Dr. A.; A. F.; A. H. B.; A. F. M.; The Apollinaris Co., Lond.

B.—Mr. C. E. Baker, Lond.; Mr. N. M. Barron, Lincoln; Dr. G. B. Buchanan, Glasgow; Messrs. Bates, Hendy and Co., Lond.; Blaenavon Workmen's Doctors' Fund, Secretary of; Blackburn, &c., Infirmary, Secretary of; B. B. F.

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J.—Jenner Institute for Calf Lymph, Lond., Secretary of; J. H.; J. J. W.; J. D. W.

K.—Dr. L. S. Keegan, St. John's, Newfoundland.

L.—Mr. E. A. Lindsay, Isfield; London University, Accountant of; Dr. C. L. Lakin, Lond.; Mr. R. W. Lindsay; Buchlyvie; Mr. T. Llewellyn, Ogmore Vale; L. W. K. T.; "Locum," Sunderland.

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O.—Baron de Oliveira, Lond.

P.—[illegible] Dr [illegible] J. P[illegible] Dr. F. W. Pavy, Lond.; Mr. M. Pegge, Lond.; Mr. R. W. Porter, Manchester.

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So it seems as if the question of beer being good or bad for people at Christmas time depends very much on social position. This gentleman could not deny that many of the inmates were in the workhouse owing to a liking for strong drink and that it was undesirable to reintroduce beer to them. He paid, by the way, a somewhat ambiguous compliment to the officers by saying that they had not brought their condition to that of the paupers "up to the present." A lady guardian said that the inmates expressed themselves as satisfied without beer. The amendment to give them beer was rejected and probably, on the whole, wisely. But it is a curious position for the guardians to have the tea-pot on one side and the beer barrel on the other. They, however, stand on a higher plane.

Overhead Telegraph Wires.

The various committees of the Manchester City Council do not always see eye to eye. The city is already well supplied with overhead wires, too well by far, but there is a danger of still more being added to the hideous and dangerous network that threatens us in the principal streets. A long discussion took place the other day at a meeting of the highways and paving committee in regard to an agreement entered into between the watch committee and the Postmaster-General granting leave to the latter to erect telegraph posts in certain streets of the city. When first this proposal came before the council it was rejected by a large majority. Under the new agreement the watch committee seemed to think that the difficulty had been got over by giving the poles "a double debt to pay," and arranging that they should serve the purpose of bearing the telegraph wires and also those connected with the Gammell fire alarm system which the corporation has decided to adopt. The highways committee is practically unanimous in opposing the scheme and passed a resolution that no poles should be erected and that all wires connected with the Gammell system should be put under ground, or attached to the tramway standards, so now there is a prospect that the further disfigurement of our none too beautiful streets may be prevented. Besides being a disfigurement, these overhead wires are a dangerous nuisance. It is to be hoped that the opposition to the scheme will be successful.

Dec. 8th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

University College, Cardiff, Medical School.

THE increasing number of students entering the medical department of the University College of South Wales and Monmouthshire at Cardiff is seriously taxing the limited accommodation provided for them. The College buildings consist of a three-storey stone building which was originally the Cardiff Infirmary, supplemented by wood and iron structures which have been erected from time to time as they were required. The medical school is provided for on the topmost storey of the main building where there are two lecture theatres, a dissecting-room, a museum, and a room for practical histology and practical physiology. In the department of physiology Professor J. B. Haycraft has found great difficulty in carrying on his work to the best advantage owing to the lack of accommodation for demonstration purposes. In a letter which he recently sent to the College council asking that some steps should be taken to lessen the difficulties of teaching in such cramped quarters, he pointed out that the number of medical students entering the Cardiff College was greater than in any other provincial school except Cambridge and that the number was exceeded in only three of the London schools. The council will be well advised if it makes the necessary provision asked for by Professor Haycraft with as little delay as possible.

Water-supply of Glamorgan.

The Glamorgan county council has realised almost from the time of its formation that the provision of an adequate supply of water was a question of serious concern and one with which the council would have ultimately to deal. The question has grown more and more urgent in recent years owing to the rapid growth of the colliery districts and to the necessity for obtaining a supply well outside the coal-field. The council promoted a Bill in the last session of Parliament to empower the council to make inquiries and surveys with a view to the utilisation of water-supplies in South Wales and to form water districts and for other purposes. The power to form water districts was not conceded by Parliament, but the council was fully empowered to make inquiries and surveys and this power has been sufficiently utilised to justify the council in promoting a Bill in the next Parliamentary session having for its object the preservation of water areas for the benefit of various districts in the county and the formation of a water board which it is intended should include representatives from the local sanitary authorities. It is proposed in the Bill that the board should buy up the existing sources of supply of all the areas within the administrative county. The three county boroughs within the county, Cardiff, Swansea, and Merthyr Tydvil, are already well supplied with water for their present needs and the Cardiff corporation is actively engaged in securing a sufficiency for the anticipated increase in the population of the town. The county water board will keep in its own hands the sources of supply and the reservoirs and will supply the water in bulk, at a maximum charge of 4½*d.* per 1000 gallons, to the local authorities who will have the control of the distribution within the areas of their administration. The principal undertakings which it is intended to purchase are those of the Pontypridd Water Company and of the Rhymney and Aber Gas and Water Company. The former has a storage reservoir of 200 million gallons from which supplies are delivered to a portion of the Rhondda valleys, the town of Pontypridd, and to portions of the urban district of Caerphilly.

Damages against a Cardiff Hairdresser.

A Cardiff lady has obtained damages to the amount of £41 against a hairdresser in the town in circumstances which are fortunately of somewhat rare occurrence. While having what was styled a "brightening shampoo" she declared that the wash which was being used burned her head, took away her breath, and made her eyes water, and that subsequently her hair changed colour and broke off both at the roots and at the ends. Medical evidence was given on behalf of the hairdresser in support of his contention that the condition described by the lady was not due to the wash which was used, but in the end, as already stated, the county court judge gave judgment in her favour.

Dec. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh and Leith Medical Practitioners' Association.

THE inauguration of this association was referred to some weeks ago. It has now concluded its first attempt to deal with public questions affecting practitioners and the results are deserving of note. Dr. Alexander James read a paper before the association on the relations of the practitioner and the public health authorities. In this paper the development of the medical officer of health and of the inspecting officer in board schools was traced. In both cases the object was to protect the community as a whole from disease to which they were exposed as the result of the aggregation of individuals in communities and in schools. He emphasised the fact that the medical man was an expert whose opinion the public were not in a position to judge of and that it was, as a consequence, of the utmost importance that the medical advice should not lead to responsibilities and burdens being laid on the community when they ought to be left on the shoulders of the individual. This proposition was preliminary to Dr. James expressing the opinion that an impartial examination of the health statistics of the last 25 years showed that public health enactments had not been followed by the improvement which the public had been led to expect, and that in certain cases harm had resulted therefrom. He thought that at the present time what was desirable in the public interest was a lessened rather than an increased interference on the part of the public health authorities in the ordinary relations between the public and the medical profession. In conclusion, he suggested that the association might be asked to give its opinion on each of the three following points: (1)

when the first dressing was changed, usually after a week, the wound had healed. If, however, for the purpose of investigation one dresses such wounds early, one obtains a negative result as regards the presence of bacteria in their interior. Further, in cases where as the result of leaving too large a cavity or from some other cause serum accumulates in the wound, one may find on evacuating it even after a week or more that it does not contain organisms. As a practical fact, therefore, we may take it that organisms do not grow in wounds treated by strict Listerian precautions.

But can we say that living bacteria do not gain access to wounds at the time of the operation and are not present there in a living state when the wound is closed? It is quite probable that in the earlier methods of treatment, such as the application of undiluted carbolic acid, the bacteria were all destroyed, and no living organisms were left in the wound. But that can hardly be the case in the later developments of the Listerian method, especially in the plan which is so much the fashion now—namely, the so-called aseptic method. No doubt the entrance of living organisms during the operation from external objects such as the skin, the instruments, the ligatures, &c., can be prevented, but their entrance from the air can not. We know that air in a state of motion is full of dust, and if we expose plates covered with nutrient jelly to such air we find that various spots of growth appear on the surface, their number and the character of the organisms which compose them varying according to the length of time the plates are exposed, to the place where the exposure is made, and to the moisture of the atmosphere. Why, then, are these organisms not found in the discharge contained in the wound after 24 hours?

This raises a very wide question. If organisms do not, as a rule, grow in a wound when the only loophole for their entrance is the air, why is it that they so constantly grow in wounds when no antiseptic precautions have been taken and where other loopholes have therefore been left open? This depends, in the first place, on the kind of organism which enters. If plates covered with nutrient jelly are exposed in an ordinary dry atmosphere, the great majority of organisms which develop are moulds or various kinds of bacilli. As a matter of fact, the chief living contents of the dust of the air are spore-bearing organisms, for non-spore-bearing organisms, such as the micrococci, cannot withstand drying and soon lose their vitality when deprived of moisture. We may therefore assume that the fungi and bacilli which are ordinarily present in the atmospheric dust are unable to grow in the living tissues of man; in other words, are not pathogenic in man, at any rate under the conditions present in a wound treated by strict Listerian methods.

The chief habitat of the pyogenic cocci so far as infection of wounds is concerned is the skin of the patient or the operator or discharges from wounds which may be present in the neighbourhood of the seat of operation. Where, therefore, the skin of the patient and the hands of the operator are thoroughly disinfected, and where precautions are taken which prevent further contamination, the probabilities are that there are many wounds into which no pyogenic cocci have entered and where the only organisms which fall in are non-pathogenic to man. Nevertheless one does find cocci closely related to the pyogenic ones and sometimes actually belonging to that class in atmospheric dust, especially where the air is moist, and in a prolonged operation it is highly probable that organisms of that class also fall into the wounds and yet they do not grow. Hence, we must consider the other possibilities.

Early in the development of bacteriology it was shown that pathogenic power was a property which varied very markedly and which could be impaired by a variety of comparatively slight causes; among others, the use of various antiseptic substances in a dilution short of that required to kill micro-organisms was found to diminish their pathogenic activity. For example, among the various ways in which the virulence of the anthrax bacillus can be diminished or "attenuated," as the French expression is, one is the action of weak solutions of carbolic acid on the organisms for varying periods of time. Hence, when, as already stated, I found micrococci in the discharges from wounds which were following an aseptic course, in the old days of carbolic gauze and the freer use of carbolic lotions, I thought that the explanation might be that the virulence of the organisms had been diminished by the action of the carbolic acid, and the same may have been the case with cocci coming from the air in the old days of the carbolic spray. This, however, though a plausible explanation, did not seem to me on more careful consideration to be altogether sufficient to explain the facts.

On thinking further over these matters it occurred to me to inquire whether the number of bacteria which entered the body at any one time was of importance and whether this might explain the improved results of those who had not fully adopted the Listerian treatment but who, nevertheless, tried to be as cleanly as possible—that is to say, who introduced as few bacteria as possible into their wounds. The fact already demonstrated by Lister that, in order to produce putrefaction in blood clot in glass vessels, it was necessary to add a definite, though small, quantity of putrid material, and the statement that good results were obtained by simply washing the hands and skin with soap-and-water, in operations on the peritoneum especially, seemed to make it worth while to try a few experiments on the subject. The result showed that the number of bacteria which initiate the disease is in certain cases of paramount importance, and this has now become one of the fundamental bacteriological facts. In only very few cases was a single bacterium able to start disease; in most instances several were necessary, while in some large numbers were required. Thus in the case of anthrax and mouse septicæmia one bacterium was apparently sufficient to start the disease in guinea-pigs and mice respectively, while in the case of rabbits several anthrax bacilli were required. In the case of tetanus no result followed the introduction of less than 1000 bacilli into rabbits. With somewhat larger doses a local tetanic spasm of the limb inoculated occurred from which the animal recovered, while larger numbers caused death, till 40,000 and over killed the animals in two days. In the case of pyogenic cocci in rabbits the numbers required to produce disease were very much larger, something like 100 to 300 million being required to produce an abscess, and 1000 million to cause death. The results, of course, vary with the species of animal tested; in other words, with the susceptibility of the animal to the action of a particular organism. Among other conclusions arrived at the following may be mentioned as bearing on our subject: (1) The pathogenic dose of a virus varies inversely with the predisposition of the animal to the disease in question; and (2) in animals not very susceptible to a disease, the severity of the affection varies directly within certain limits with the amount of the virus introduced in the first instance. The same facts apply according to the virulence of the organism. Where the organism is in a high state of virulence a smaller number will be required to produce the effect in a suitable animal than where the virulence is what we may term normal; and, conversely, if the virulence is diminished a larger number of organisms will be necessary. As regards the pyogenic organisms in man, I came to the conclusion that man was not a particularly susceptible subject for the growth of these organisms, and that, therefore, a considerable number were required to produce a pathogenic effect.

Thus we have three reasons why wounds treated on Listerian principles are found to be free from organisms, even although it is certain that organisms of some kind or other do enter during the operation. 1. No pathogenic organisms are admitted at the time of the operation; this is probably so in most instances. 2. If pathogenic organisms do enter they may be so few in number that they cannot obtain a footing. 3. The pathogenic organisms which enter may have such slight virulence, either naturally, or acquired as the result of the action of the antiseptics with which they come in contact, that they cannot overcome the resisting power of the body. As a matter of fact, the organisms which usually enter during a carefully performed Listerian operation are either non-pathogenic bacilli or the ordinary micrococcus epidermidis which has only very slight, if any, pathogenic power.

2. Let us now refer in the second place to the effect on the tissues of the methods employed to prevent bacteric infection. In the treatment of wounds we must not concentrate our whole attention on the exclusion of bacteria. We must also avoid irritation of the tissues exposed in the wound as far as possible. I have already referred to this matter and to the results which may follow as regards the healing of wounds from too great irritation. The question here is how far the measures necessary to prevent bacteric infection do

forthcoming from all directions that the apostolic methods of itinerant instruction in hygiene and sanitation which have developed so auspiciously in association with, and in the wake of, the anti-tuberculosis crusade are already producing fruit.

Completion of Waterworks and Main Drainage System of Howth.

A new epoch in the sanitary and general hygienic progress of the picturesque locality of Howth has just been ushered in by the completion—and "expert inspection"—of the works designed for the water-supply and drainage of this very ancient village. The scenery and surroundings of Howth have ever proved specially attractive to foreign visitors, and while the electric tramway has made it a convenient suburb of Dublin its wireless telegraph station has given it a privileged position in relation to the distant centres of the world. A remarkable fact in the history of the development of recent Irish industrial activity is that the contract has been completed within a period of nine months less than the stipulated time. This is the more noteworthy as cliffs and crags had to be continuously negotiated; and steam drills, "American shovels," and the whole battalion of instruments of engineering warfare with the strongholds and fastnesses of nature were actively utilised throughout the whole proceedings. Also, ten fountains have been provided in the village and there are 50 hydrants which are placed in the various positions in which danger to property from fire might be anticipated. A circular has been sent out to the householders of Howth (by the contractors, Messrs. McKee and McNally) notifying to them the completion of the waterworks and intimating that connexion should be made forthwith for utilisation of the same. There is every reason to believe that under the new conditions Howth will become one of the healthiest localities within the British Islands.

Health of Belfast.

At a meeting of the city council held on Dec. 1st it was reported that for the period from Oct. 25th to Nov. 21st the death-rate was 17·0 per 1000. 38 cases of enteric fever were notified, as compared with 32 in the corresponding period of 1907. In four instances the milk-supply was from the same source, a supply which was promptly dealt with, in order to prevent any danger from further infection. The Local Government Board has asked the council for payment of £1431 10*s.* 10*d.*, the expenses of the Health Commission, less £500 Treasury grant towards the same, and the council has replied repudiating any liability in the matter, but saying that it was prepared to offer, without prejudice. to pay £1431 10*s.* 10*d.*, less £608 0*s.* 3*d.*, the expenses of the chairman, Colonel Harding, D.L., Dr. L. W. Darra Mair, and Dr. A. K. Chalmers.

The Abbey Sanatorium, Belfast.

Mr. Robert Hall (physician to the Abbey Sanatorium for Pulmonary Tuberculosis) has presented to his committee a most interesting report of the half year ending Sept. 30th, 1908. During this period 568 patients were treated, of whom 303 left the institution, thus leaving 265 still under treatment. Of those who left 201 were males and 102 were females, and of the total 35 were greatly improved, 165 were improved, 35 were not improved. and 68 were for too short a period in hospital or died. The general average age in years of the above was 30—32¾ for males and 27⅓ for females. The average duration of time in days in the sanatorium was 115½—117 for males and 114 for females. As to occupation among the females, the largest number were housekeepers and spinners, while among the men labourers were by far the largest class. Mr. Hall urges very strongly the necessity of patients entering in an early stage of the disease, and he gives preference for sanatorium treatment to those patients in an early stage. Despite the fact that there are 265 beds in the sanatorium, he has still 85 consumptive patients in the union infirmary who cannot be received in the Abbey owing to want of space. Additional buildings at the sanatorium are becoming daily more urgently needed. All discharges from the Abbey are notified to the public health department, so that the medical officer of health may look after them. Those of the patients who are able are employed in various light occupations, the work in all classes being regulated by the medical officer. The average cost per week of each patient was 11*s.* 8¼*d.*, or if all other charges—viz., establishment, burial, law, repayment of loan, &c.—be added, 16*s.* 9½*d.*, which is remarkably small. The board of guardians of Belfast and its efficient medical officer, Mr. Hall, who was the first Poor-law infirmary medical officer in Ireland to isolate consumptives in a union infirmary, are to be congratulated warmly on the Abbey Sanatorium which is an object-lesson to the rest of Ireland.

Sir Robert Hart, Bart., G.C.M.G.

During the past week one of the most distinguished living Ulstermen has been revisiting his native home and has been most cordially welcomed. As an old student of Queen's College, Belfast, Sir Robert Hart was enthusiastically received on the afternoon of Dec. 2nd, when he was presented with an address, and on the next evening he was entertained at a banquet at the College. In reply to the toast of his health Sir Robert Hart gave a most interesting account of his work in China.

The Queen's University of Belfast.

At the first meeting of the Senate held in Queen's College, Belfast, on Dec. 4th, Sir Robert Hart, Pro-Chancellor, presided in the place of the Chancellor, the Earl of Shaftesbury, who was unable to be present. The charter of the University having been laid on the table, an executive committee (to carry out the details rendered necessary in connexion with the getting into working order of the University) and a building committee (to inquire what additional buildings are required, to obtain plans for same, with estimates of cost, and to report through the executive committee to the Senate) were appointed. It was agreed to insure the college buildings.

Municipal Elections in Belfast.

The coming elections for the city council, Belfast, in January are likely to be contested sharply, and in most cases the health question is being made a test one. In Ormeau ward Alderman J. D. Williamson, M.D. R.U.I., chairman of the police committee, and in St. George's ward Dr. Henry O'Neill, chairman of the markets committee, are going forward for re-election. They have each in their separate departments done good work.

Outbreak of Enteric Fever in Co. Leitrim.

An alarming outbreak of enteric fever has occurred in the Glenfarne district, there being 50 cases in hospital. Dr. B. A. O'Flynn, acting medical officer of health, in a report to the Manorhamilton district council on Nov. 5th, said he was forced to the conclusion that the alarming proportions which the epidemic had assumed were undoubtedly due to infection by separated milk. The Local Government Board has urged the necessity of putting into force the Dairies and Cowsheds Order and appointing a competent veterinary surgeon. This latter advice was acted on and it was decided to appoint such an official.

Dec. 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Hot-air Douche.

M. Dausset and M. Laquerriére communicated a paper at a recent meeting of the Society of Medicine which dealt with the cases of 70 patients treated by a rapid current of hot air, a method which seemed to them superior to other ways of applying heat for the production of hyperæmia. They were able to confirm the good results already obtained by other observers in such diseases as neuralgia. rheumatism, eczema, and hydrarthrosis, and they endeavoured in their paper to define the indications for this method of treatment. Finally, they claimed to be the first to have made observations with regard to this method in the conditions hereinafter mentioned. In suppurating wounds the hot-air douche rapidly brings the suppuration to an end and causes cicatrisation. In cases of stiff joints the periarticular œdema is absorbed and the hot air causes an analgesia which permits of the joint being moved from the first. In chronic cases of radio-dermatitis the itching disappears while the atrophy of the skin is much improved. M. Borns asked whether the treatment had been used in sciatica. M. Laquerriére replied that he had found it give good results in cases of simple sciatica if

mercurial preparations, and thus protect the bacteria in the interior for a long time. Carbolic acid, however, can penetrate this coagulum and even under these circumstances will, as a rule, lead to complete destruction of the bacteria and their spores in 24 hours. It is well to recall these facts, for the extremists seem to forget that antiseptics can do what is asked of them and that heat is not the only way of destroying bacteria. It is not really necessary to try to devise elaborate methods of sterilising materials such as catgut by heat, or to discard the use of valuable articles such as marine sponges because they are spoilt by boiling. Immersion in suitable antiseptic solutions for the appropriate length of time will be thoroughly effectual in these cases.

As regards the fourth point, I believe that the extreme aseptic-views have sprung up to a large extent from the statement that it is practically impossible to disinfect the skin. I confess that these statements puzzle me very much, bearing in mind the uniformly aseptic results which we have for years obtained without the use of gloves—results which have not and cannot be improved upon. In the absence of organisms from our wounds and the aseptic course they pursue it is difficult to believe that the skin has not been thoroughly disinfected. Some time ago I went over all the various points in the technique to see how far we were working under bacteria-free conditions, and the ordinary methods of disinfection of the skin seemed quite satisfactory, except in a few situations such as the axilla and the perineum. My plan was to disinfect the skin with antiseptics in the ordinary way and then to flush the part carefully with sterilised water so as to remove the antiseptic; then to scrape the skin so as to obtain the epithelium and to implant that into tubes of suitable material. The conclusion I arrived at was that there was no difficulty in disinfecting the skin except in the situations I have mentioned. In the case of children and in parts of the body where the skin was thin the disinfection seemed to be thorough and rapid. I was therefore at first very much surprised at the statements as to the difficulty of disinfecting the skin. These statements rest on a different method of testing the matter than that which I adopted—namely, a piece of the whole thickness of the skin is taken instead of a mere scraping of the surface, and it is assumed that the organisms lie in the deeper layers of the epithelium and in the sweat and sebaceous glands, and thus escape the action of the antiseptics. It is very difficult, however, to believe that organisms inhabit the sebaceous and sweat ducts and glands without causing trouble; besides, we must also assume that these canals differ from others, such as the healthy urethra, along which organisms seem unable to penetrate for any distance. It may also be pointed out that this method of testing the matter is more open to the risk of contamination than that of taking the epithelium alone, and also that much depends on the methods of disinfection employed. I believe it is essential to employ carbolic acid for the disinfection of the skin. It mixes with the fatty material and penetrates through the epithelium in a way that no other antiseptic does. Mercurial solutions are very inefficient as they do not mix with fatty material, and thus do not penetrate the epidermis. Even after washing the skin thoroughly with etherial soap the mercurial solution collects in drops like water on a duck's back, while carbolic lotion wets the skin uniformly. In many of the experiments mercurial preparations have apparently been the antiseptic employed. In any case, however, I would maintain that my method of experimentation is the better test and more in accordance with the practical technique.

Fifthly, these views as to the inefficiency and harmful action of antiseptics have coincided with an increased belief in the resisting power of the tissues to bacteric invasion, and in the minds of some it has seemed of even greater importance to try to keep up or to increase the resisting power of the tissues than to destroy the bacteria. The importance of this point was early realised by Lister and has not been lost sight of and there is no doubt that every care must be taken to interfere as little as possible with these protective agencies. It is, however, really a question of relative importance, and I believe that where we have to do with an operation through unbroken skin the most important point is to prevent the entrance of bacteria. Experience amply shows that this can be done as far as is necessary without materially damaging the resisting power of the part. On the other hand, where the operation is performed in regions such as the mouth, where bacteria are present and cannot be excluded, while fresh contamination should of course be avoided, the chief reliance must be placed on the resisting power of the tissues, and everything which may to any extent diminish that must be avoided. At the present time the subject of resisting power is still in the stage of development, and in any case ample clinical experience has shown us that we must not place too great reliance on this factor.

Let us now see how far the methods of wound treatment at present adopted meet the requirements of the case. Of late many surgeons have gone to extremes in the avoidance of antiseptic solutions and speak of the plan they use as "aseptic surgery." This term "aseptic surgery" is in my opinion not a good one. It is looked on by some as implying a different principle to the Listerian one, but, of course, that is not the case. It is only carrying to an extreme the principle of avoiding irritation of wounds and giving Lister's second postulate a position of undue prominence. It is fortunately only a few surgeons who misread the facts to such an extent as to give up any attempt at excluding bacteria and depend upon what is popularly known as cleanliness. These use water boiled or unboiled, sometimes not even adding chloride of sodium to it, and are thus under the happy delusion that they are using materials which will not interfere with the normal resisting mechanism of the body. But so far as that mechanism depends on the integrity of leucocytes and other cells in the wound they might as well, or even better, use antiseptics; for one has only to watch the behaviour of these cells under the microscope, on the addition of plain water, to see how rapidly they swell up and become completely disintegrated. I used the term "aseptic surgery" many years ago to indicate Listerism, with the meaning that the wound was kept aseptic, as opposed to "antiseptic surgery," where attempts were made to eradicate sepsis from wounds already infected. At the present time "aseptic surgery" is used to indicate the character of the materials used rather than the result of the procedure. I confess I do not like this use of the term and prefer my own. By all means speak of "aseptic dressings," but in speaking of aseptic surgery we ought, I venture to assert, to refer to the results of the method rather than to the materials employed. Even the term "aseptic treatment" is not quite accurate if it implies treatment without antiseptics, for the disinfection of the skin cannot be carried out without antiseptics. As a matter of fact, however, it is only in certain details that differences exist between those who still adhere to the full Listerian views and those who go to extremes in the avoidance of chemical antiseptics. For my own part, I still adhere to the moderate party—if I may so term it—and consider that antiseptics should not be discarded altogether, but that their judicious use is advisable and important.

Three things have to be borne in mind in connexion with an operation. In the first place we have to see that the skin of the operator and the patient is as thoroughly disinfected as possible, and that no instrument or other article which comes in contact with a wound is soiled with living bacteria; in the second place, we have to avoid accidental infection of the wound during the operation; and in the third place, we have to avoid infection of the wound subsequent to the operation.

As regards the *first point*, we have to consider the disinfection of the chief things which must of necessity come in contact with the wound, and more especially the disinfection of the skin of the patient in the region of the operation and of the surgeon's hands and arms, for the chief source of contamination of wounds with pyogenic organisms is no doubt the skin of the patient and of the operator. I do not think that there is any real divergence of views as to the necessity for this procedure, and there is general agreement that this can only be satisfactorily carried out by the use of antiseptics. No doubt there are considerable differences in the methods of disinfecting the skin, but I need not go into them. It is true also that a few surgeons are content with rinsing the skin of the patient and of their own hands in boiled water, but I fancy that most will agree that that does not meet the requirements of the case.

In addition to the disinfection of the skin a good many surgeons take the precaution of wearing gloves in case the disinfection of the hands has been imperfect; indeed, some

you or your assistant ever receive a fee from a chemical factory either for making an experimental or a clinical trial of a compound? If so, was the fee received for your personal benefit or for some charitable institution connected with your hospital? If not, do you think it proper to accept such a fee? The opinions given by the medical men in question have varied considerably. Professor Curschmann of Leipsic wrote that he never tried compounds for, or gave a certificate to, a chemical factory. He publishes reports in the medical press exclusively and expressly forbids chemical manufacturers to circulate copies of these reports as advertisements. Professor von Noorden, on the other hand, declared that he had often stipulated with chemical factories that they should pay a certain sum to some charitable institution for the trial of compounds. One half of the sum was to be paid before the trial began and the other half only when the trial was successful; but he had never accepted a fee for his personal use. Professor Ehrlich of Frankfort said that a distinction must be made between the trial of compounds on patients and experiments in laboratories. The latter entail heavy expenses and he considers that it is only fair for chemical factories which derive so much advantage from these experiments to bear at least a portion of the expenses. The Union of the Medical Press was not unanimous on the subject but finally the majority agreed that whilst it was in the interests of medical science that new compounds should be thoroughly examined by competent authorities, the respective experiments entailed so much time and sometimes expense that it would be unjust to forbid those who undertook them to receive fees for their work. The editors of medical journals were, however, asked to insert no articles concerning compounds which are not by responsible authors and to reject any article which bears a trace of partiality. Authors of such articles will be put on the "black list" according to the decision passed at the last meeting of the Union of the German Medical Press.[1]

Paying Wards in Municipal Hospitals.

Some members of the municipal council have put down a motion proposing the erection of paying wards for the better-class patients in the municipal hospitals similar to the wards which exist in other hospitals. The medical press objects to this proposal. It is said that in the non-municipal hospitals (which in Berlin for the most part belong to religious corporations) the fees paid by the better-class patients are just sufficient to cover the expenses of the patient's stay in the hospital, but that the hospital physicians and surgeons who attend these patients do not receive a farthing from the sum paid by them. If these patients were received into a private sanatorium they would have to pay not only higher fees for their board and lodging but also fees to their medical attendant, and as they belong as a rule to the well-to-do classes there is no reason to give them facilities for gratuitous medical attendance. The system obtaining in the hospitals belonging to religious and other corporations has always been resented by the medical profession because it prejudices their private practice and there is no need to extend it to the municipal hospitals. Well-to-do patients desiring to have their home comforts during their illness should be treated in private nursing homes, which are abundant in Berlin, and not in municipal hospitals supported by the ratepayers. The beds occupied by the proposed paying wards had better be devoted to ordinary patients, especially as the existing number of beds at certain times of the year is not sufficient to meet the requirements. In every case the medical staff ought to be allowed to recover fees from their patients. This motion has not yet been discussed and it is to be hoped that the council will not agree to it.

Dec. 8th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Sunshine in the Treatment of Surgical Tuberculosis.

Dr. Oscar Bernhard of St. Moritz in the Engadine has just published his experiences of many years on the therapeutic influence of sunlight in the treatment of simple and infected wounds, ulcers, tuberculosis of the skin, glands, joints, and bones, of cancer of the skin, and deep-seated syphilitic ulcerations. In a great number of such cases sunshine directly applied was of great help in determining a cure. A number of good illustrations prove this point. The high altitude (1800 metres, or 6000 feet, above the sea level) increases the beneficial effect of the sunlight treatment, and the excessive dryness of the air must also take some part in it. The active hyperæmia produced by the rays of the sun doubtless assists in the process of healing. The bactericidal effects of sunshine were proved by Downes and Blunt (Proceedings of the Royal Society of London) so far back as 1877. Dr. Bernhard employs pliable metallic funnels to treat fistulæ of different sizes and depth. He refers to the good results which Dr. Rollier has obtained by heliotherapy. In the *Revue Médicale de la Suisse Romande* of Sept. 20th, 1907, Dr. Rollier reports about 110 cases of surgical tuberculosis treated since 1903 at Leysin (altitude 1450 metres = 4800 feet), above Aigle in the canton of Valais, in his clinique on lines developed by Dr. Bernhard. Operative interference was reduced to a minimum and the results obtained were most gratifying. Dr. Rollier publishes ten new cases of complex tuberculous disease of joints and bones treated with remarkable success.

A Zürich League against Consumption.

On Nov. 29th at a meeting in the town-hall of Zürich, which was attended by more than 300 persons of both sexes, a cantonal league against tuberculosis was founded. Dr. Staub, physician of the canton of Zürich sanatorium at Wald, spoke on medical measures for fighting this dire disease which still annually causes some 4500 deaths in Switzerland, the rate of mortality being 18 in 10,000. Pastor Reichen of Winterthur enlarged on the social dangers and financial losses caused by the "white plague." Mrs. Corradi-Stahel referred to antituberculous educational methods in family life, whilst Dr. Hauser, president of the Cantonal Medical Society, gave full details about the present and future programme.

Zurich, Dec. 8th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Emmanual Movement.

THE medical profession and the public are agitated over the introduction into the practice of medicine of what is called "The Emmanual Idea," which had its origin in the Emmanual Church of Boston of which the Rev. Dr. Worcester is rector. The rector recently explained the origin of the Emmanual method to a New York audience composed largely of clergymen, physicians, and "Christian Scientists," the object of the lecture being to establish clinics in connexion with churches for the treatment of diseases by this method in this city, on the plan of the clinic in operation in the Emmanual Church of Boston. The rector stated that seven years ago he and Dr. S. Weir Mitchell of Philadelphia, the well-known specialist in nervous diseases, were discussing the growth of "Christian Science" and the latter suggested that they should together evolve a system which would be adapted to present conditions. After years of thought the rector finally evolved the idea which, after consulting "one of the best known physicians" of Boston, was worked out by him and his assistants in the Emmanual Church. He stated that "one of the most eminent physicians of New England" had come down to start the work and other members of the medical faculty are now working with the clergy in the clinics. He added that since the work was begun 2200 persons had been treated and many had been greatly benefited, while none had committed suicide. The method of treatment is that of suggestion. Already the "Emmanual Idea" has found great favour with the episcopal clergy of New York and has been publicly approved by several of the most prominent specialists in nervous affections. A clinic is about to be established in connexion with St. Mark's Church, one of the oldest episcopal churches in the city, and St. George's Church is likely to organise another clinic.

The Army Medical Department.

The Surgeon-General of the Army, Dr. O'Reilly, has issued his report and on Jan. 14th next will retire, having

mercurial preparations, and thus protect the bacteria in the interior for a long time. Carbolic acid, however, can penetrate this coagulum and even under these circumstances will, as a rule, lead to complete destruction of the bacteria and their spores in 24 hours. It is well to recall these facts, for the extremists seem to forget that antiseptics can do what is asked of them and that heat is not the only way of destroying bacteria. It is not really necessary to try to devise elaborate methods of sterilising materials such as catgut by heat, or to discard the use of valuable articles such as marine sponges because they are spoilt by boiling. Immersion in suitable antiseptic solutions for the appropriate length of time will be thoroughly effectual in these cases.

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[1] See THE LANCET, August 17th, 1907, p. 483.

As regards the fourth point, I believe that the extreme aseptic views have sprung up to a large extent from the statement that it is practically impossible to disinfect the skin. I confess that these statements puzzle me very much, bearing in mind the uniformly aseptic results which we have for years obtained without the use of gloves—results which have not and cannot be improved upon. In the absence of organisms from our wounds and the aseptic course they pursue it is difficult to believe that the skin has not been thoroughly disinfected. Some time ago I went over all the various points in the technique to see how far we were working under bacteria-free conditions, and the ordinary methods of disinfection of the skin seemed quite satisfactory, except in a few situations such as the axilla and the perineum. My plan was to disinfect the skin with antiseptics in the ordinary way and then to flush the part carefully with sterilised water so as to remove the antiseptic; then to scrape the skin so as to obtain the epithelium and to implant that into tubes of suitable material. The conclusion I arrived at was that there was no difficulty in disinfecting the skin except in the situations I have mentioned. In the case of children and in parts of the body where the skin was thin the disinfection seemed to be thorough and rapid. I was therefore at first very much surprised at the statements as to the difficulty of disinfecting the skin. These statements rest on a different method of testing the matter than that which I adopted—namely, a piece of the whole thickness of the skin is taken instead of a mere scraping of the surface, and it is assumed that the organisms lie in the deeper layers of the epithelium and in the sweat and sebaceous glands, and thus escape the action of the antiseptics. It is very difficult, however, to believe that organisms inhabit the sebaceous and sweat ducts and glands without causing trouble; besides, we must also assume that these canals differ from others, such as the healthy urethra, along which organisms seem unable to penetrate for any distance. It may also be pointed out that this method of testing the matter is more open to the risk of contamination than that of taking the epithelium alone, and also that much depends on the methods of disinfection employed. I believe it is essential to employ carbolic acid for the disinfection of the skin. It mixes with the fatty material and penetrates through the epithelium in a way that no other antiseptic does. Mercurial solutions are very inefficient as they do not mix with fatty material, and thus do not penetrate the epidermis. Even after washing the skin thoroughly with etherial soap the mercurial solution collects in drops like water on a duck's back, while carbolic lotion wets the skin uniformly. In many of the experiments mercurial preparations have apparently been the antiseptic employed. In any case, however, I would maintain that my method of experimentation is the better test and more in accordance with the practical technique.

Fifthly, these views as to the inefficiency and harmful action of antiseptics have coincided with an increased belief in the resisting power of the tissues to bacteric invasion, and in the minds of some it has seemed of even greater importance to try to keep up or to increase the resisting power of the tissues than to destroy the bacteria. The importance of this point was early realised by Lister and has not been lost sight of and there is no doubt that every care must be taken to interfere as little as possible with these protective agencies. It is, however, really a question of relative importance, and I believe that where we have to do with an operation through unbroken skin the most important point is to prevent the entrance of bacteria. Experience amply shows that this can be done as far as is necessary without materially damaging the resisting power of the part. On the other hand, where the operation is performed in regions such as the mouth, where bacteria are present and cannot be excluded, while fresh contamination should of course be avoided, the chief reliance must be placed on the resisting power of the tissues, and everything which may to any extent diminish that must be avoided. At the present time the subject of resisting power is still in the stage of development, and in any case ample clinical experience has shown us that we must not place too great reliance on this factor.

Let us now see how far the methods of wound treatment at present adopted meet the requirements of the case. Of late many surgeons have gone to extremes in the avoidance of antiseptic solutions and speak of the plan they use as "aseptic surgery." This term "aseptic surgery" is in my opinion not a good one. It is looked on by some as implying a different principle to the Listerian one, but, of course, that is not the case. It is only carrying to an extreme the principle of avoiding irritation of wounds and giving Lister's second postulate a position of undue prominence. It is fortunately only a few surgeons who misread the facts to such an extent as to give up any attempt at excluding bacteria and depend upon what is popularly known as cleanliness. These use water boiled or unboiled, sometimes not even adding chloride of sodium to it, and are thus under the happy delusion that they are using materials which will not interfere with the normal resisting mechanism of the body. But so far as that mechanism depends on the integrity of leucocytes and other cells in the wound they might as well, or even better, use antiseptics; for one has only to watch the behaviour of these cells under the microscope, on the addition of plain water, to see how rapidly they swell up and become completely disintegrated. I used the term "aseptic surgery" many years ago to indicate Listerism, with the meaning that the wound was kept aseptic, as opposed to "antiseptic surgery," where attempts were made to eradicate sepsis from wounds already infected. At the present time "aseptic surgery" is used to indicate the character of the materials used rather than the result of the procedure. I confess I do not like this use of the term and prefer my own. By all means speak of "aseptic dressings," but in speaking of aseptic surgery we ought, I venture to assert, to refer to the results of the method rather than to the materials employed. Even the term "aseptic treatment" is not quite accurate if it implies treatment without antiseptics, for the disinfection of the skin cannot be carried out without antiseptics. As a matter of fact, however, it is only in certain details that differences exist between those who still adhere to the full Listerian views and those who go to extremes in the avoidance of chemical antiseptics. For my own part, I still adhere to the moderate party—if I may so term it—and consider that antiseptics should not be discarded altogether, but that their judicious use is advisable and important.

Three things have to be borne in mind in connexion with an operation. In the first place we have to see that the skin of the operator and the patient is as thoroughly disinfected as possible, and that no instrument or other article which comes in contact with a wound is soiled with living bacteria; in the second place, we have to avoid accidental infection of the wound during the operation; and in the third place, we have to avoid infection of the wound subsequent to the operation.

As regards the *first point*, we have to consider the disinfection of the chief things which must of necessity come in contact with the wound, and more especially the disinfection of the skin of the patient in the region of the operation and of the surgeon's hands and arms, for the chief source of contamination of wounds with pyogenic organisms is no doubt the skin of the patient and of the operator. I do not think that there is any real divergence of views as to the necessity for this procedure, and there is general agreement that this can only be satisfactorily carried out by the use of antiseptics. No doubt there are considerable differences in the methods of disinfecting the skin, but I need not go into them. It is true also that a few surgeons are content with rinsing the skin of the patient and of their own hands in boiled water, but I fancy that most will agree that that does not meet the requirements of the case.

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rofessor R. J. Kinkead of Galway. Dr. Allen was buried on ec. 4th, the funeral being strictly private.

SAMUEL HOPKINS STEEL, M.B. LOND., M.R.C.S. ENG., J.P.

Dr. Samuel Hopkins Steel died at his residence, Dyne ouse, Abergavenny, Monmouthshire, on Nov. 25th, in his ghty-eighth year. The deceased, who received his medical ucation at King's College Hospital, London, qualified .R.C.S. Eng. in 1843 and two years later graduated M.B. of e University of London. Dr. Steel was for many years in ractice at Abergavenny but retired from active work some ears ago. He was at the time of his death consulting sureon to the Abergavenny Cottage Hospital. He was for many ears medical officer of health of the Abergavenny urban disict and was on the commission of the peace for the county f Monmouth. He took a great interest in the Volunteer ovement and for some years was captain of the Abergavenny ifle Corps, then known as the 7th Monmouthshire. Dr. teel was one of the oldest and most respected inhabitants f Abergavenny and his funeral, which took place at lanfoist Churchyard on Nov. 30th, was very largely ttended.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths f the following foreign eminent medical men are nnounced:—Dr. Hermann Gutmann of Berlin, author of arious books on hygiene and diseases of children, aged 60 ears. Dr. Erdmann, medical councillor of Dresden.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following egrees were conferred recently:—

M.D.—C. H. W. Page, Corpus Christi; A. G. Harvey, St. John's; and R. N. Chopra, Downing.
M.B.—C. H. Rippmann, King's; H. H. Taylor, Pembroke; H. G. Fream, St. John's; F. P. Young, Christ's; J. B. Mennell, Pembroke; and J. F. Windsor, H. Selwyn.
B.C.—W. B. Marshall, St. John's.

Permission to incept in Surgery without examination has een granted to Dr. T. H. Kellock, Emmanuel College.—The office of Superintendent of the Zoology Museum becomes acant on Jan. 15th, 1909, by the resignation of Dr. Harman. The stipend at present is £200 per annum. Applications should be made to Professor J. N. Langley before Jan. 21st, 1909.—The following appointments have been made:—University Lecturer in Pharmacology: Professor W. E. Dixon. Members of General Board of Studies: Dr. W. H. Gaskell and Mr. A. E. Shipley. Member of Library Syndicate: Dr. H. K. Anderson. Members of State Medicine Syndicate: Professor Langley and Dr. W. L. H. Duckworth. Member of Special Board for Medicine: Dr. W. M. Fletcher. Member of Board of Geographical Studies: Dr. F. H. H. Guillemard. Member of Board of Military Studies: Dr. J. Griffiths. Examiners in State Medicine: Dr. B. Anningson, Dr. J. Niven, Dr. G. S. Graham-Smith, and Mr. J. E. Purvis. Examiners in Tropical Medicine and Hygiene: Dr J. W. W. Stephens, Dr. C. W. Daniels, and Lieutenant-Colonel W. B. Leishman.

UNIVERSITY OF LONDON.—At examinations held in October the following candidates satisfied the examiners:—

M.B., B.S. EXAMINATION.

Honours.—*§Herbert Orpe Brookhouse (University medal), Guy's Hospital; §Arthur Laurence Candler, St. Bartholomew's Hospital; ‡Maxwell Dick, University College Hospital; *Habibulla I. Jan-Mahomed, Guy's Hospital; §Austin Threlfall Nankivell and ‡James Ernest Helme Roberts, St. Bartholomew's Hospital; Douglas Robert C. Shepherd, Middlesex Hospital; *Vincent Townrow, Guy's Hospital; and ‖Ethel Margaret Walters, London (Royal Free Hospital) School of Medicine for Women.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Alice Pears Abbott, London (Royal Free Hospital) School of Medicine for Women; Ernest Fryer Ballard, St. Thomas's Hospital; Robert Sidney Barker, Westminster Hospital; Charles Anthony Barker, Guy's Hospital; Frank Cyril Harvie Bennett, St. Mary's Hospital; Phiroshaw C. Bharucha, University College Hospital; Lilias Margaret Blackett, London (Royal Free Hospital) School of Medicine for Women; Sydney Herbert Booth, University of Leeds; John Webster Bride, Victoria University of Manchester; Kate Brown, London (Royal Free Hospital) School of Medicine for Women; Ralph Brown, University College and Westminster Hospitals; Eda Stanley Bryan Brown, London (Royal Free Hospital) School of Medicine for Women; Thomas William Higgins Burne, St. Bartholomew's Hospital; Francis William Chandler, University of Sheffield; Cecil Clarke, University College, Bristol; Cecil Colmer, London Hospital; Ernest Neville Cook, University College Hospital; Ethel Constance Cousins, London (Royal Free Hospital) School of Medicine for Women; Herbert Rees Davies, London Hospital; Rose Lilian Humphrey Davy, London (Royal Free Hospital) School of Medicine for Women; Vaman Ganesh Desai, King's College Hospital; Ethel Adelaide Douglas, London (Royal Free Hospital) School of Medicine for Women; Dean Dunbar, University of Leeds; Douglas Gordon Evans, London Hospital; Robert Cecil T. Evans, B.Sc., and Norman Kessen Foster, University College Hospital; Gertrude Gazdar, London (Royal Free Hospital) School of Medicine for Women; Henry Leatham Grabham; St. Thomas's Hospital; Thomas John Hallinan, Charing Cross Hospital; John Maximilian Hammond, St. Bartholomew's Hospital and University College, Bristol; George Blenkhorn Harland, Guy's Hospital and University of Durham; Henry John Henderson, Guy's Hospital; Susie Eleanor Hill, London (Royal Free Hospital) School of Medicine for Women; Kenneth Hill Hole, Guy's Hospital; William Andrew Morton Jack, St. Thomas's Hospital; William Johnson, Guy's Hospital; Alexander John Kendrew, St. Bartholomew's Hospital; Hugh Braund Kent, Guy's Hospital; Elsie Marian Layman, London (Royal Free Hospital) School of Medicine for Women; John Lewis, University College, Cardiff, and University College Hospital; William Ernest Lord, Victoria University of Manchester; Oswald William McSheehy, St. Thomas's Hospital; Mary Elizabeth Parsons, London (Royal Free Hospital) School of Medicine for Women; Douglas Reynolds, Guy's Hospital; Mabel Russell and Alice Emilie Sanderson, B Sc., London (Royal Free Hospital) School of Medicine for Women; Harry Archibald Sanford, Guy's Hospital; Rachel Hicks Shelley, London (Royal Free Hospital) School of Medicine for Women; Frank Standish, London Hospital; Vernon Harold Starr, King's College Hospital; Kenneth Henry Stokes and John Jerome Suckling, University College Hospital; John Thompson, B.Sc., Victoria University of Manchester; Geoffrey Viner, St. Bartholomew's Hospital; Cuthbert Ferguson Walker, Queen's College, Belfast, and St. Mary's Hospital; Anna Belinda Walsh and Dora Muriel Watney, London (Royal Free Hospital) School of Medicine for Women; Charles McMoran Wilson, St. Mary's Hospital; Horace Richard Wilson, University of Liverpool; Sophia Margaret V. Witts, London (Royal Free Hospital) School of Medicine for Women; Arthur Lowndes Yates, St. Bartholomew's Hospital; and Courtenay Yorke, University of Liverpool.

The following is the supplementary pass list of candidates who have passed in one of the two groups of subjects:—

Group I.—John Nathaniel Beadles, Westminster Hospital; Harry Cecil R. Darling, University College Hospital; Arthur Davies, Westminster Hospital; Irene Cecil Davy Eaton, London (Royal Free Hospital) School of Medicine for Women; Raymond Charles Viner Edsall and William Poole Henley Munden, Guy's Hospital; John Sherwood New, University College Hospital; Hilda Margaret Pollard, London (Royal Free Hospital) School of Medicine for Women; Marion Stocks, Victoria University of Manchester; Robert Archibald Slater Sunderland, St. Bartholomew's Hospital; Robert William Walter Vaughan, University College Hospital; and Lilian Enid Watney, London (Royal Free Hospital) School of Medicine for Women.

Group II.—Leonard Tilley Baker, Guy's Hospital; Henry Lewis Barker, St. Thomas's Hospital; Wilfred Blaydes, St. Bartholomew's Hospital; Charles Herbert Broomhead, Victoria University of Manchester; Angel Camacho, Charing Cross Hospital; Claude Howard S. Fransau, St. George's Hospital; William Lionel Evelyn Fretz, University College Hospital; Eric Leigh Fyffe, St. Thomas's Hospital; Edward Ratcliffe Holborow, University College, Bristol; Matilda Hunt and Mary Sophia Jevons, London (Royal Free Hospital) School of Medicine for Women; Robert Henry Hatten Jolly, Charing Cross Hospital; James Douglas Judson, Victoria University of Manchester; Herbert Cubitt Lucey, Guy's Hospital; Walter Henry Palmer, London Hospital; Eustace M. Parson-Smith, St. Thomas's Hospital; Kenneth Robinson, Victoria University of Manchester; Florence Stacey, London (Royal Free Hospital) School of Medicine for Women; Sydney Arthur Tucker, St. Bartholomew's Hospital; Sybil Albertson Welsh, London (Royal Free Hospital) School of Medicine for Women; and Edward Denis Whittle, University College Hospital.

The names of students who have now completed the M.B., B.S. examination do not appear in this list.

At examinations held in November for internal students the following candidate satisfied the examiners:—

D.Sc. EXAMINATION.

Physiology.—Hubert William Bywaters, University of London (Physiological Laboratory).

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

UNIVERSITY OF BIRMINGHAM.—The following gentlemen have passed the Final M.B., Ch.B. Examination:—

John Adams, George Henry Chavasse Mold, David Priestley Smith, and Henry Philip Thomasson.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on Dec. 3rd at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. The sitting lasted the whole day, the amount of disciplinary work before the Board being very large. The Board considered the following charges, amongst others, against the midwives whose names are given below and ordered will probably occur very rapidly, while even in the case of spore-bearing organisms, it is quite possible that the spores may have their growth, at the very least, inhibited by the action of the antiseptic, so that the tissues may be able to dispose of them before they begin to grow. In the same way instruments laid down on the towels remain in contact with an antiseptic and are not so likely to become contaminated as if laid on dry cloths. For the same reason I prefer, instead of using dry sterilised linen overalls, to use a mackintosh apron, and to have fastened in front of it a piece of towelling which has been boiled and wrung out of 1 in 2000 sublimate solution. The insignificant amount of antiseptic which might get into the wound from these sources during the course of an operation could not possibly have the slightest effect; it would at once mingle with the blood and be precipitated and thereby rendered inert.

As regards the instruments, after being boiled they are very often placed in salt solution and left there during the course of the operation; in other cases they are kept in alcohol. As regards salt solution, the same thing applies, as I have already pointed out, with regard to dry towels. In the course of time, and not a very long time either, the surface of the salt solution becomes covered *with floating dust, and an instrument taken out of it will* carry with it a considerable amount of dust, which dust retains its vitality. At the same time as the operator picks out instruments he gets dust on his fingers, and while—as I have repeatedly pointed out—this dust is in the great majority of cases innocuous, it may not be so, and it introduces a possible loophole for infection. Hence, just as I have the towels moistened with an antiseptic solution, so I prefer to keep the instruments in an antiseptic solution till they are required for use, that which I use being 1 in 20 or 1 in 40 carbolic solution, which does not injure the metal. In that case the dust falling into the lotion becomes speedily acted upon and all dangerous organisms are rendered inert. I much prefer the carbolic lotion to alcohol, which is not an active antiseptic, and it is just as easy to rinse the antiseptic off the instruments after their removal from the lotion as it is to rinse the alcohol from them.

In a third point I would differ from the extremists in that instead of having only salt solution at hand during an operation, I have an antiseptic solution as well, such as 1 in 2000 sublimate solution, so that the fingers and instruments can be rinsed in it from time to time, and thus any accidental contamination got rid of. It always strikes me as if a surgeon voluntarily deprived himself of a very valuable aid to asepsis when he deliberately avoids having antiseptic solutions at hand during the course of an operation. I do not want the antiseptic solutions for the purpose of deluging the wound with them, but I do want them at hand to rinse my fingers in from time to time, to rinse away the blood from the instruments, and so forth, and for this purpose I always keep at my side a basin containing 1 in 2000 sublimate solution. As I have already said, the minute amount of antiseptic which will gain entrance to the wound as the result of these precautions is of no practical importance whatever, nor has it any injurious effect. In the case of operations on the peritoneum, joints, &c., I employ only saline solutions as soon as the peritoneum is opened, and I have it frequently changed so as to avoid the accumulation of dust on it, and when I wish to cleanse my hands I wash them first in the sublimate and then in the saline solution. I have repeatedly seen in watching operations under so-called aseptic conditions accidental infection of the hands and instruments of the surgeon occur without there being any possibility of removing that contamination owing to the absence of antiseptic solutions. I would point this out strongly as a loophole in the work of the extremists which is an unnecessary one and may lead to trouble.

Another point which has been the source of very considerable trouble to those who avoid the use of antiseptics has been the question of disinfecting ligatures, sutures, &c. As silk and material of that kind are easily enough disinfected by boiling the troubles which have arisen in connexion with deep sutures must, in my opinion, be explained by infection of the material during the course of the operation. This, as I have tried to point out, may quite readily occur where the use of antiseptic solutions is barred. Apparently the greatest difficulty has arisen in connexion with catgut, and to some the difficulty has seemed so great that they have practically abandoned the use of this material. This I think is a great pity. Personally I do not have any trouble with catgut, and I always use Lister's sulpho-chromic gut. As it comes from the instrument maker it is, of course, covered with bacteria. I do not think, however, that bacteria are present, at any rate in any numbers, in the substance of the catgut, because in the process of preparation the bacteria there must have been pretty thoroughly killed, but there is no doubt that on the surface there are any number of organisms. To those who believe only in boiling, or who are afraid of any antiseptic getting into the wound, the disinfection of the catgut presents the greatest difficulty, because boiling in water spoils catgut, however it is prepared. Hence, methods of sterilisation by boiling the catgut in various solutions have been introduced. It must be remembered, however, that Lister had in view other points besides the aseptic character of the material in his methods of preparing catgut, such as the strength of the knot, the length of time required for absorption and so forth. Of late, these points in the preparation of catgut seem to have been lost sight of, and the main question which has been considered has been how to sterilise it. As a matter of fact, I have never found any difficulty in sterilising catgut, nor have I seen any disadvantage from its use. I always keep the *chromicised* gut as obtained from the manufacturer in 1 in 20 carbolic solution for at least a week before using it, indeed, in order to make certain of its disinfection I place it in the first instance for a few hours in undiluted carbolic acid and then for at least a week in 1 in 20 carbolic solution. Before use I place it in weak sublimate solution so as to soak out the carbolic acid and I have never seen any reason to attribute any irritation of the wound to the minute amount of antiseptic which may be carried in with the catgut. As a matter of fact, my belief is that with catgut, as with silk, the real trouble is due to reinfection of the material during the operation and I think this is only another example of how the extremists handicap themselves by their fear of antiseptics.

Before going into the third question, there is one other point to which I wish to make reference—namely, the question of the drainage of wounds. Here, again, I think a retrograde step has been taken by many surgeons. There is no question that if one wishes to carry off fluid, especially if that fluid is thick as in the case of pus, an open tube is much better than capillary attraction. The drainage of wounds by capillary means was worked at a good deal in the early Listerian days, and with the view of avoiding changing of dressings for the purpose of removing tubes absorbable drainage-tubes were employed and also bundles of catgut and so on. The results were not particularly satisfactory and these methods did not take root. At the present time, judging from what is written and what one sees, the use of tubes has been given up to a great extent in favour of drainage by strips of gauze, for what reason I cannot imagine. I think it is a matter of practically no importance in the case of aseptic wounds, for the serum will escape quite readily by capillary drainage, the chief trouble being that if much blood is poured out, the gauze drain is apt to be imperfect as compared with the tube. But where I think the use of capillary drainage is a disadvantage as compared with tubes, is in the treatment of abscesses. Apparently the popular method of dealing with abscesses at the present time is either to pack them with gauze, or at any rate to insert strips of gauze to act as drains, and certainly in the case of sinuses one constantly sees strips of gauze used instead of drainage tubes. Now there are two objections to this; in the first place, gauze will not drain pus properly, and the result is that accumulation is apt to take place behind the gauze plug, and it is quite a common thing to see on pulling out a plug of gauze, that some pus runs out which has really been prevented from escaping by the gauze which had acted as a plug instead of as a drain. The result is that one very often fails to obtain the beautiful result noted by Lister—namely, that if an acute abscess is opened and properly drained and if fresh bacteria are prevented from entering from outside there is no further pus formation. At the present time continued suppuration from an abscess seems to be looked on as a normal state of matters till the abscess cavity closes. In sinuses I think gauze drains are especially bad, because not only do they cork the wound and prevent the escape of the discharge, but, becoming soaked midwives throughout the country, the difficulties of the rural districts being fully realised.

UNIVERSITY COLLEGE HOSPITAL, LONDON.—Sir Victor Horsley will read a paper on "The Cerebellum," on Wednesday, Dec. 16th, before the Medical Society of the hospital in the school, Grafton-street, W.C., Dr. J. S. Risien Russell in the chair. The proceedings will commence at 8.30 P.M.

DONATIONS AND BEQUESTS.—The governors of St. Thomas's Hospital have received from the executors the sum of £3493 8*s.* 6*d.*, the legacy bequeathed by the late Mr. Isaac Lyell Coley. A similar sum from the same source has been received by the treasurer of the City of London Lying-in Hospital.—The late Mr. Henry Barnato has left by will £250,000 sterling for the purpose of founding a hospital or other charitable institution in memory of his late brother, Mr. Barnett Barnato, and of his late nephew, Mr. Woolf Joel.—Under the will of the late Sir George Livesey £10,000 (subject to the life interest of Lady Livesey) will be paid to the King Edward VII. Hospital Fund.—The Ipswich and East Suffolk Hospital will benefit by the sum of £1000 under the will of the late Mr. James Farrow.—By the will of Mrs. Elizabeth Lottle Irving £1000 have been bequeathed to the Manchester Royal Infirmary Dispensary and Lunatic Hospital to endow a bed in her name; £300 each to the Christie Cancer Pavilion and Home, Manchester, the St. Mary's Hospital, Manchester, and Henshaw's Blind Asylum, Manchester, and £200 to the Northern Counties Hospital for Incurables.

CHURCH CONTRIBUTIONS AND THE CLOSING OF THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE, AGAINST ALL RELIGIOUS SERVICES.—As is usual on "Lord Mayor's Sunday," the collections at the morning and evening services at the Cathedral at Newcastle-upon-Tyne were devoted to the medical charities of the district. The amount contributed was only £93, as against £126 last year. More than one explanation has been put forward to account for this very marked decline in the amount given to the medical charities. The prevailing distress as the result of unemployment may in part account for it. Others attribute the falling off in the contributions to the passing of the Old Age Pensions Act and argue that now that the public has to be charitable by Act of Parliament it will cease to contribute voluntarily. However that may be, there can be but little doubt that in the present instance the unfortunate action of the governors of the Royal Victoria Infirmary in closing the infirmary against all religious services at the instance of the Nonconformist bodies of the district must be held largely responsible and this view was held by one of the best known clergymen in the city who appealed to his congregation to give as liberally as they had done in previous years and not to allow any action of the governors to interfere with their contributions to the relief of the sick whose needs were as great now as ever they were. The facts leading up to the closing of the infirmary against religious services may with advantage be outlined here. In 1754 a chapel was consecrated in the old infirmary. When the new infirmary buildings were being erected on the Town Moor a chapel was built in continuation of the chapel in the old infirmary and the cost of building was defrayed out of the money subscribed for the new buildings. The new chapel was consecrated by the bishop on Sept. 19th, 1906. Provision was at the same time made for the Nonconformist bodies to hold services in the infirmary and the students' lecture theatre was made available for this purpose. Services were regularly held in the theatre for a period of nearly 18 months—October, 1906, to February, 1908. The secretary of the Free Church Council cordially acknowledged in several letters to the house governor the efforts of the house committee to secure the comfort and to meet the wishes of the Free Church Council and the arrangements made were adopted as satisfactory by the executive committee of the Council in a letter dated Oct. 18th, 1906. The Nonconformist bodies, however, subsequently demanded equal facilities with the Church of England chaplain in the use of St. Luke's chapel. The house committee addressed a series of questions to Chancellor Tristram, Commissary General, and also obtained an opinion from their honorary solicitors, Messrs. Clayton and Gibson, with a view to ascertain whether St. Luke's chapel could be legally made available for the holding of services not in accordance with the ritual of the Church of England. Chancellor Tristram replied that in his opinion neither the bishop nor any other authority had power to grant a licence whereby the chapel might be available for services conducted by a Nonconformist minister and not according to the ritual of the Church of England. Messrs. Clayton and Gibson replied in the same sense but thought it possible that a special Act of Parliament might be obtained for the purpose, though they did not advise that course partly because it was not certain that such an Act would pass and partly on the ground of expense. At the annual court of governors held on Feb. 29th of this year the house committee reported that acting on these opinions they were unable to accede to the request that St. Luke's chapel should be made available for the holding of Nonconformist services. After an amendment to the effect that a chapel should be erected for the Nonconformists at the expense of the Nonconformists, and that the cost of St. Luke's chapel should be defrayed by an appeal to members of the Church of England, had been defeated by 305 votes to 157, a motion was put that St. Luke's chapel should be closed forthwith and this was carried by 299 votes to 147. A subsequent motion that the students' lecture theatre should be also closed against religious services was agreed to unanimously. The position to-day unfortunately remains unchanged.

MEDICAL INSPECTION IN WORCESTERSHIRE.—At the last quarterly meeting of the Worcestershire education committee Mr. Willis Bund, the chairman, said that it was obvious from the circular sent out that the Board of Education contemplated further additions to the calls on the ratepayers. He suggested that as the work, admirable in itself, was largely national as opposed to local, the council should be advised not to undertake further than it had already done any arrangements for the health and physical condition of the school children. He pointed out that the council had to decide whether it would acquiesce in a Government department raising the rates by adding year by year to the county expenditure, requiring new work to be done and enforcing their desires by threats to withhold the grant already voted by Parliament for work already done by the council. He urged that it should be remembered that the medical inspection scheme now in force, which involved the county in a rate of almost ½*d.* in the pound, was adopted on the assurance of the President of the Board of Education that a Government grant would be made towards the cost, but that grant had not yet been made. At the same meeting the sanitary subcommittee reported the results of the medical inspection so far attained. Up to Oct. 30th 4166 children had been examined, but classified results were only available regarding the 2378 children who had been examined before Sept. 30th; of these it had been found necessary to notify the parents in 1660 cases. Heads were unclean in 524 cases. Defective teeth were present in 254 cases. There were 197 cases of enlarged tonsils, 120 of defective eyesight, 115 cases of anæmia, 70 of consumption, and one of pneumonia. Altogether it had been found necessary to exclude 270 children from the schools, of whom 70 were consumptive.

LONDON SCHOOL OF MEDICINE FOR WOMEN.—The seventh annual dinner of the Royal Free Hospital and the London School of Medicine for Women was held at the Hotel Cecil on Wednesday, Dec. 9th, Miss Aldrich-Blake, M.D., M.S., being in the chair. The company numbered about 120, among whom were Mrs. E. Garrett Anderson, M.D., who this year is the holder of the ancient office of Mayor of Aldeburgh, Mr. and Mrs. James Berry, Mrs. Stanley Boyd, Dr. Walter Carr, Sir W. Watson Cheyne, Dr. H. P. Cholmeley, Mr. Clinton Dent, Mr. and Mrs. Willmott Evans, Mr. A. Pearce Gould, Dr. W. S. A. Griffith, Mrs. Harris, Mr. T. P. Legg, Mr. Clement Lucas, Dr. and Mrs. Harrington Sainsbury, and Sir Felix Semon. The toast list was commendably short, for besides the loyal toasts there were only two—viz., "The School and the Hospital" and "The Guests." The former was proposed in an admirable speech by Miss Aldrich-Blake and responded to by Dr. Sainsbury and the latter was proposed by Mrs. Garrett Anderson and replied to by Dr. W. P. Herringham. A delightful musical programme had been provided, drawn up by Dr. A. G. Phear, the two vocalists being Mr. Louis Godfrey and Miss Hare, who sang amongst other things the old folk-dialogue "The Keys of only say that my own results, and those of surgeons who use antiseptics judiciously, are in every way as good as those obtained with the more elaborate aseptic precautions; in fact, seeing that we are not troubled with sepsis or stitch abscess at all I venture to assert that they are better, because they are more constant and dependable.

FURTHER OBSERVATIONS ON THE TREATMENT OF GOUT BY THYMINIC ACID.

BY ROBERT FENNER, L.R.C.P. EDIN., M.R.C.S. ENG.

IN a paper communicated to THE LANCET[1] I drew attention to the fact that the synthetic manufacture of thyminic acid was an accomplished fact and I gave a table of cases in which it had been exhibited with marked success. If I should appear to attach undue importance to the value of this drug in the treatment of the gouty symptoms it is because I have proved it efficacious in a large number of cases which have yielded to no other treatment. The exhibition of thyminic acid for the elimination of uric acid has its support on such a scientific basis that it is lifted above the stigma of empiricism.

The nitrogenous foods oxidised in the process of digestion may be divided into proteins, paranucleins, and nucleins; of these it is only the nucleins that produce uric acid by splitting up and forming nucleic acid and the purin bases. The purin bases are xanthin, hypoxanthin, guanin, adenin, &c., and it is only in the presence, and by the oxidation, of these that uric acid is produced normally. At the same time, and as a result of the same process, thyminic acid also is formed. Kossel and Minkowski have shown that uric acid will combine and form a compound with thyminic acid. By no process known to chemists can the uric acid be detected when once this compound is formed; it loses its identity and can no longer be precipitated. It is as a constituent of this compound that uric acid circulates in normal blood. We know that it must be present there, yet it cannot be detected; it is its precipitability and not simply its presence in the blood which occurs in gout. The amount of uric acid contained in gouty blood may not exceed the normal, but it tends to be precipitated and we may fairly conclude that this tendency is owing to the fact that its combination with thyminic acid has not taken place or has become unstable. If we could discover why this combination of uric acid and thyminic acid has not occurred, an important advance in the knowledge of the pathogenesis of gout would result. Schmoll says: "There are two possibilities (1) uric acid is formed 'normally,' i.e., by oxidation of the purin bases, but is for some reason not combined with thyminic acid; (2) uric acid is formed synthetically and not by oxidation." Following up the researches of Minkowski and Wiener, he contends that synthetic production of uric acid actually occurs in gout. By treating a series of gouty cases with thyminic acid Schmoll further proved that the free uric acid in the blood had not lost its power to form a compound with thyminic acid.

Thus we see that in gout the uric acid produced by the oxidation of the purin bases can combine naturally with thyminic acid and in this combination passes out of the system, whilst the uric acid of synthetic production has not the amount of thyminic acid at hand necessary for its combination, and this clearly explains why its presence can be detected in the serum. It is therefore this synthesised uric acid deprived of the chance of combining with thyminic acid which is present, and, by its saturation in the serum, becomes precipitated and deposited in the joints and tissues. Again, if the uric acid derived from the oxidised purins be prevented by any cause from combining with the thyminic acid, which comes from the same source, we also have free uric acid in the system. It is well known that in pneumonia, during the absorption of the exudate in the lungs, uric acid is in evidence. Müller demonstrated that the absorption of the inflammatory products takes place by autolysis. During this process the nuclein is split up into the purin bases but the thyminic acid is decomposed (Schmoll); therefore the uric acid has no thyminic acid with which to combine. Thus again in nephritis, the compound of uric acid and thyminic acid is split up in the kidneys and uric acid becomes precipitable in the urine. In the case of the administration of the thymus gland, which contains a large amount of uncombined purin bases, these, absorbed without the complementary thyminic acid, yield precipitable uric acid.

In the gouty state we see that the molecules of uric acid are built up and automatically pieced together, and this synthetically formed and complex molecule is found in the blood and tissues. If, then, thyminic acid can be introduced into the blood by ingestion or other method in sufficient quantities to retain the free uric acid in circulation, the method of rendering the latter soluble is found. Schmoll has conclusively proved that thyminic acid taken by this method passes into the blood stream unaltered. The nitrogen output gradually increases, reaches its maximum, and decreases as the gouty attack diminishes. The thyminic acid, meeting with the uric acid, has formed the requisite combination, biurate of sodium is no longer precipitated, and the uric acid passes out of the system.

It is not within the scope of this paper to discuss the etiology of gout in detail, but it is salutary to insist upon the fact that in a vast number of cases the gouty condition is engendered and maintained by quite preventable causes. It is quite time that heredity and high living were relegated to the list of merely predisposing causes. A very large number of people suffer with gout whose habits and mode of living are so carefully regulated that they do not deserve to be so afflicted. Hunting men and men who get regular and sufficient exercise, men like navvies and labourers who earn their living by the sweat of the brow, suffer to a greater extent than is usually believed. I have seen a number of patients whose dietary has been reduced to the vanishing-point, to whom wine has been denied, who have been dosed and depleted, whose holidays have been spent in mud and salt baths and water-drinking bouts, whose lives have become almost unbearable, but whom a little observation and common sense would have cured. By all means let us enjoin moderation in all things, but at the same time let us be sure that we have discovered the cause of our patient's troubles. Over and over again I have found the gums of patients who have been treated for gout reeking with the pus of pyorrhœa alveolaris. I have before me a series of 78 cases, in 66 of which I have found this trouble. I have been astonished at the manner in which this has been overlooked by doctors and dentists alike. It is difficult to cure and often necessitates the removal of many of the apparently good teeth. Many dentists seem disinclined to take the trouble and so the auto-infection goes steadily on—recurrent attacks of gout occur, and the patient gets disheartened and flies to quack remedies and nostrums. Such are many of the cases that come to me and complain that the treatment they have been ordered has not benefited them. Since I have come to regard gout as of purely toxic origin and have carefully sought for and often found the cause, my results have been more than gratifying. Let us, therefore, seek for evident causes in the treatment of the gouty state. The mouth, throat, and nasal cavities should be carefully examined for local diseases. Evidences of intestinal fermentation or putrefaction should be carefully noted. In these days of rush and the struggle to live, mental worry and overstrain are responsible for a large number of acute and subacute attacks. Attacks of acute lumbago and sciatica are as common among business men who have little opportunity for exercise as among hunting and golfing men who are probably more free from the depression resulting from bad times and the stress of competition.

At the present time a fierce battle is raging over the pathogenesis of gout. The generally accepted belief that uric acid *per se* is the guilty factor has apparently received its death-blow at the hands of such eminent authorities as Walker Hall, Chalmers Watson, Woods, Murchison, Sir Dyce Duckworth, and Luff. The first-named authority says: "As an etiological entity uric acid must be definitely discarded." Luff says: "For my part I have ceased to regard uric acid as in any sense a poison."[2] Sir W. Roberts says: "There is complete absence of direct experimental proof increase the restriction. The Bill was putting much the same into the same category as the most deadly poisons now known. Ireland had its own code of Pharmacy Acts and the Pharmacy Acts now being amended did not apply to Ireland at all. Consequently, it was not originally intended to apply this Bill to Ireland. In response, however, to a great desire among Irish agriculturists Clause 2 was extended to Ireland. Clause 5, which dealt with the vexed question of the drug stores, did not apply to Ireland. If, however, he found that there was a general desire in Ireland to have Clause 5 applied to Ireland he should only be too happy to take that into consideration.

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[1] Uric Acid: A Rational Treatment for its Elimination in the Light of Recent Research, THE LANCET, July 1st, 1905, p. 19.

[2] Transactions of the Medical Society of London, vol. xxx., p. 73.

The Bill was read a second time.

White Phosphorus Matches Prohibition Bill.

The House considered the White Phosphorus Matches Prohibition Bill on report.

The Earl of BEAUCHAMP, in moving the omission of Clause 1, said that the object of the Bill was to prevent the spread of necrosis. From the very few cases of this disease in the last few years it appeared to be practically extinct. He feared that the result of prohibiting the manufacture of white phosphorus matches would be the formation of a large trust or combine amongst the manufacturers of matches in the country.

Mr. GLADSTONE replied that it was true that only a few cases of necrosis had occurred during the last three years and the immunity had been secured at the expense of very great trouble and continual watchfulness. He would not say now that the match trade was the main or principal source of this very dreadful and terrible disease. He did not see any fear of a combination of match manufacturers being formed as the result of the Bill.

The amendment was withdrawn.

The Bill subsequently passed through the report stage and was read a third time.

FRIDAY, DEC. 4TH.

The Cost of Medical Inspection of School Children.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether he had received representations from local authorities drawing his attention to the expense of medical inspection provided for by the Education (Administrative Provisions) Act of last year, and whether any further assistance was to be provided from the Exchequer so as to enable this inspection to be carried on efficiently.—Mr. RUNCIMAN replied (by written answer): I have already stated that there is, in my opinion, the strongest objection to giving special grants for special purposes in connexion with elementary education, but under the financial proposals in connexion with the Bill now before the House local education authorities will receive a large additional grant to assist them in carrying out medical inspection and their other duties in respect of elementary education.

TUESDAY, DEC. 8TH.

A Surgeon-Captain and the Territorial Force.

Mr. WATT asked the Secretary of State for War whether his attention had been called to the case of Surgeon-Captain James Swanson, late of the 1st Battalion Highland Light Infantry, whose headquarters were in Glasgow; whether he was aware that this officer had a very distinguished career of 15 years in that regiment; that he in two successive years won the challenge shield for Great Britain, and in a third year was second for it; that he was on several occasions complimented by his commanding officers for his excellent work; yet when he expressed willingness to transfer to the new Territorial Army was not recommended in July for transfer to the new force; and would he inquire into this case and find out why the service was refused to this officer.—Mr. HALDANE replied: I have made inquiry into this case. The general officer commanding-in-chief, Scottish command, reports that after full consideration of the case he was satisfied that this officer should not be transferred to the Territorial Force.

The Medical Inspection of School Children.

Mr. [illegible] asked the President of the Board of Education whether he would, either by regulation [illegible] or, if not, by amending legislation, provide the means to enable local education authorities to proceed against parents who withhold their children from medical inspection and thereby reduce the effectiveness of Section 13 (1) (b) of the Education (Administrative Provisions) Act, 1907.—Mr. RUNCIMAN furnished the following written reply: The Board has reason to believe that the number of children withheld by their parents from medical inspection is inconsiderable, and that as the benefits of such inspection become better known the number will decrease. At present the Board do not consider that any special action on their part is required or desirable.

The Sale of Food and Drugs Act in Cavan.

Mr. VINCENT KENNEDY asked the Chief Secretary to the Lord Lieutenant of Ireland to state for how many years past there was a record of samples taken under the provisions of the Food and Drugs Acts in Cavan; [illegible] how many convictions were [illegible] were records kept, what steps were taken to secure that the results of analyses were [illegible] accurate, and would he say of the 100 samples submitted in Cavan in 1907, how many were analysed by the public analyst and how many [illegible].—Mr. BIRRELL (by written answer) replied: The Local Government Board inform me that they are satisfied as to the qualifications of the analyst for county Cavan. They have no official information as to the other matters referred to in the question.

The [illegible] Hospital at Stornoway.

Mr. WEIR asked the Secretary for Scotland, in view of the fact that there was a population of nearly 30,000 in the Island of Lewis, would he state the extent of the accommodation in [illegible] cases of [illegible] in the [illegible] Hospital at Stornoway.—Mr. SINCLAIR wrote in reply: I am informed that the hospital has room to accommodate ten patients.

WEDNESDAY, DEC. 9TH.

The Report of the Departmental Anthrax Committee.

Mr. [illegible] asked the Secretary of State for the Home Department whether, in connexion with the report of the Anthrax Committee [illegible] of the Bradford Chamber of Commerce which points to the fact that the germs of anthrax were to be [illegible] and in [illegible], he could state that any of the rules [illegible] now in force [illegible] the sorting and handling of foreign wools and hair [illegible].—Mr. GLADSTONE furnished the following written answer: The investigations of the Anthrax Board are not yet completed, and it will be seen, on referring to page 9 of the report, that dust is still regarded as a source of danger. It would therefore be premature to propose any alterations in the existing rules at the present time. Regulations may not prove to be practicable.

HOUSING AND TOWN PLANNING BILL.

The Standing Committee of the House of Commons which was charged with the consideration of the Housing and Town Planning Bill dealt with proposed new clauses on Thursday, Dec. 3rd.

Sir JOHN DICKSON POYNDER moved the following new clause:—"Every county medical officer of health shall make periodical reports to the public health and housing committee of the council, and if it appears to the county council from any report of such committee or medical officer that the Public Health Act, 1875, the Local Government Act, 1894, the Housing Acts, or any Acts amending or extending the same, have not been properly put in force within any county district to which the report relates, or that any other matter affecting the public health of the district requires to be remedied, the county council may institute any proceedings and do any act which the council might have instituted or done for that purpose, and shall be entitled to recover from the district council in default all such expenses in and about the said proceedings or act as the county council incur, and are not recovered from any other person, and have not been incurred in any unsuccessful proceedings." He said that he only moved this new clause for the purpose of getting to know the views and intentions of the President of the Local Government Board on the subject. Would the right honourable gentleman include a clause similar to this one in the regulations to be issued under the Bill? Unless something of the kind was provided there would be friction between the county medical officer of health and the district medical officer. Some such provision as he proposed would be most useful.

Mr. BURNS said that he understood the honourable baronet moved the new clause less with the intention of getting it in the Bill than as a direction to the Local Government Board to act, through their regulations, generally on the lines laid down in the clause. If it was intended to embody the clause in the Bill he could certainly not accept it in its present form. However, as it was put forward to ascertain how the Local Government Board intended to act in this particular matter he could tell the honourable baronet that it did not include a number of matters that might be included. There had been one or two instances of [illegible] already when such things were concerned. It might happen that both the county council and the district council would refuse to act, and then it ought to be that the Local Government Board should have power to act in default of the two authorities. The Local Government Board intended in its regulations to give full scope to what the honourable baronet desired. There would be one or two additions to give the superior body more default powers.

Sir JOHN DICKSON POYNDER said that he was satisfied with the answer of the President of the Local Government Board, and he therefore asked leave to withdraw his proposed new clause.

The clause was then withdrawn.

After further discussion the Committee stage of the Bill was completed and it was ordered to be reported to the House.

BOOKS, ETC., RECEIVED.

AMERICAN LARYNGOLOGICAL ASSOCIATION, New York. (Dr. J. E. NEWCOMB, Secretary, 118, West 69th-street, New York City, U.S.A.)

Transactions of the Thirtieth Annual Meeting of the American Laryngological Association held at Montreal, Canada, May 11th, 12th, and 13th, 1908. Price not stated.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Traité des Maladies des Vieillards. Par le Docteur G. Rauzier, Professeur de Pathologie et de Thérapeutique Générales à la Faculté de Médecine de Montpellier. Préface de M. le Professeur Grasset. Price Fr. 12.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

Handbook for Attendants on the Insane. Fifth edition, revised and enlarged. Thirty-third thousand. Published by the Authority of the Medico-Psychological Association. Price 2s. 6d. net.

BUTTERWORTH AND CO., 11 and 12, Bell-yard, Temple Bar, London.

[illegible] in Law. An Inquiry into the Meaning of Law and of [illegible]. By [illegible] Wilson, M.A., B.C.L., LL.D., of Lincoln's Inn and the Middle Temple, Barrister-at-Law. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

Report on the Prevention of Malaria in Mauritius. By Ronald Ross, D.P.H., F.R.C.S., D.Sc., LL.D., F.R.S., C.B., Professor of Tropical Medicine, University of Liverpool, and Liverpool School of Tropical Medicine. Price [illegible].

COLLINGRIDGE, W. H. AND L., 148 and 149, Aldersgate-street, London, E.C.

The Encyclopaedia of Gardening. By T. W. Sanders, F.L.S., F.R.H.S. ([illegible] of "Amateur Gardening" and "Farm and Gardening." Thirteenth edition. Price [illegible] net.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.

Essays, Biographical and Chemical. By Sir William Ramsay, K.C.B., Commander of the Legion of Honour, Commendatore of the Crown of Italy, Fellow of the Royal Society, &c. Price 7s. 6d. net.

DUCKWORTH AND CO., 3, Henrietta-street, Covent Garden, London, W.C.

The Pros and Cons of Vivisection. By Dr. Charles Richet, Professor of Physiology in the Faculty of Medicine, Paris. With a Preface by W. D. Halliburton, M.D., LL.D., F.R.S., Professor of Physiology, King's College, London. Price 2s. 6d. net.

irritable condition so often associated with the gouty state. I have been very gratified to note the marked relief this combination has given to many of my patients. But salicylic acid and its derivatives have no marked or lasting effect for good and are only useful as aids in the treatment of symptoms.

4. The alkaline treatment consists of the administration of the salts of potash, soda, or lithia. It has been pointed out that a large dose of bicarbonate of potassium at bedtime stems "the acid tide," and this may be true as regards the "initial acidity" and merely applies to the stomach. It can have no effect upon the "uric acid tide," to develop later. The treatment of gout by alkalies is carried out nowadays entirely by the action of the waters of the various natural springs. All forms of mineral waters are beneficial but mainly owing to the good effect of their largest constituent —viz., water.

Sir W. Roberts claims to have shown conclusively that alkalies are useless and have no influence whatever on the sodium biurate. "The sodium salts are particularly harmful, and yet the gouty from all parts of the world are sent to those very continental springs in which these salts predominate. *The efficacy in the treatment is in the water* [the italics are mine], the method of imbibing it, the regulated and modified diet, the observance of proper hours, exercise, and absence of worry with its corresponding peace of mind."[6] One is not surprised, therefore, to find that so many of one's patients work up an acute attack of gout during the treatment at these spas or immediately on their return. It is poor comfort to be told by the physician that "this is to be looked for," to which is added a real grain of comfort that "this gouty storm is but a flash in the pan and that great and lasting improvement will follow."

Dr. Labbé in "La Diathèse Urique" gives a most interesting description of the action and uses of these various drugs. After describing their chemical properties, he writes: "There are a great number of chemical combinations which have the property of dissolving and retaining in solution considerable quantities of uric acid as compared with their own weight. Of these not one can be said to be 'physiological.' All these substances are absolutely foreign to the organism *and as such cannot be used for a long time or in great quantities with impunity* [the italics are mine]. Further, if their dissolving power has been proved and measured *in vitro* it has not been demonstrated that *in vivo* the complex combinations in which they may be called upon to act do not modify and render inert their therapeutical properties. It is this point of view which has caused certain authors to seek the possible existence of physiological combinations formed by the union of uric acid with certain compounds existent or pre-existent in the organism. The theory of the constant circulation of uric acid in the organism under the form of a combination which is permanent and not precipitable in acid with the substance *thyminic acid* or nucleotin-phosphoric acid has been discussed elsewhere." (Ibid., p. 15.)[7]

For the past five years I have treated a very large number of cases of gout and kindred affections, and have made a careful study of the effects produced by the administration of thyminic acid. I should like to preface my remarks with a word of warning: thyminic acid is not, and never can be, a panacea for each and every variety of the gouty state. My observations, however, lead me to claim for thyminic acid the power of preventing the formation of free uric acid in the serum and its deposition in the tissues and joints. In my former paper I showed that thyminic acid had an enormous advantage over any of the so-called solvents in its retentive power for uric acid, that all tests were valueless in detecting the presence of uric acid when combined with its desideratum of thyminic acid, and that its exhibition has proved of the greatest service in the treatment of cases which had resisted all ordinary drugs. Thyminic acid may be given in the compressed tablet form or in powder. The first form is the most convenient, the taste is not unpleasant, and to secure rapid absorption the tablets may be masticated. Careful observation has proved that my former dose of 12 grains per diem may with advantage be increased to 24 grains—that is, a dose of eight grains after the three principal meals. Given in this way there are absolutely no unpleasant effects, and in my own practice and in that of many hundreds practising in the United Kingdom and abroad practically none have been produced after a long use of this drug. Those that have been recorded appear to have been due to some idiosyncrasy of the patient. It has certainly no deleterious action on the heart, the digestion, or the secretive organs. Not a single patient has complained of any depression; on the contrary, its action is distinctly tonic, due probably to the phosphoric acid it contains and to the rapid amelioration of the gouty symptoms. At the beginning of the treatment patients have occasionally complained of some fugitive pains in the lumbar region and in the various joints, but these quickly subside under the continued use of the drug. In acute cases I find that a larger dose should be given and I often combine with it, in a cachet, colchicum or aspirin. From eight to ten grains may advantageously be given every four hours. In chronic cases of the arthritic variety, where more or less permanent injury has occurred in the joints, a smaller dose of four grains should be taken over a prolonged period, and it is in these cases, contrary to one's expectation and in those troublesome forms of irregular gout, that thyminic acid gives very gratifying results. As regards general treatment in acute cases I forbid from the very outset all purin-containing foods. Large quantities of milk and Vichy water or skimmed milk and vegetable soups with well-cooked toast should be given, and if rapid loss of strength occurs chicken and veal broth and light milk puddings. The swollen joint should be placed in an electric-ray light bath and the temperature gradually raised until the thermometer registers from 200° to 240° F. At this heat gentle local diaphoresis occurs. The part may then be bathed in a hot alkaline solution or immersed in an alkaline bath, carefully dried, and protected from the weight of the bed-clothes. If the patient is sitting up the part should be raised and a light medicated wool dressing applied and lightly bandaged. I seldom apply outward applications during this stage; I find they are practically useless. This proceeding may be repeated at intervals of six hours and the symptoms gradually subside. When the swelling has subsided gentle massage of the muscles and tendons may be commenced, but all movement of the joints should be forbidden. This word of caution is necessary, as the highly-trained masseur of to-day is always anxious to perform gymnastics with joints when given the opportunity. The dose of thyminic acid may be reduced to 24 grains a day as the pain and swelling subside, and continued for some three or four weeks, and then again reduced to 12 grains per diem.

In attacks of acute sciatica and lumbago I find nothing so efficacious locally as the application of the high-frequency current in the form of the effleuve and massage with the vacuum glass electrode. The first vigorous application greatly lessens the pain and frequently allays it, while usually two or three applications are sufficient to bring about a cure. In some cases I find that thyminic acid administered by the mouth is unable to effect a sufficiently rapid cure, but in the chronic forms it is of the greatest service in mitigating pain and loss of muscular power which are the chief symptoms. It has also a very marked effect in entirely preventing or in greatly lengthening the period between the attacks in those who suffer from recurrent sciatica or lumbago.

A very valuable help in the treatment of all gouty cases is the ray light bath which can now easily be procured at a reasonable price and may be lighted from the ordinary electric plug from the main. A temperature of from 130° to 140° F. is generally sufficient and adequate diaphoresis obtained in from 15 to 18 minutes. If followed by a warm or tepid bath and brisk towelling it is most beneficial and invigorating. This may be taken two or three times a week and in the local treatment of joints nothing is more soothing and beneficial in the relief it gives to pain and swelling.

I have had prepared a sterilised solution of thyminic acid equivalent to two grains of the powder for intramuscular injection and carefully conducted experiments on rabbits and guinea-pigs proved that the injection was well borne and harmless. I was then fortunately able to test its efficacy on myself. The pain that I had suffered for three weeks, probably owing to some deposition within the joint, with resulting neuritis of the musculo-spiral nerve, was very greatly lessened by one intramuscular injection into my shoulder. Another injection on the following day completely removed the symptoms and I have been free since. A professional brother also allowed

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[6] Croonian lecture, 1892.

[7] Translated.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £150 per annum, with rooms, attendance, board, and washing.

MANCHESTER, MONSALL FEVER HOSPITAL.—Senior Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and washing.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board and residence.

MERTHYR TYDFIL EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £200, rising to £250 per annum.

MIDDLESEX HOSPITAL, W.—Medical Registrar, Surgical Registrar, and Obstetrical Registrar. Also Second Assistant to the Director of the Bacteriological and Clinical Laboratories. Salary £100 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Resident Medical Officer. Salary £50 per annum, with board and residence.

NEWCASTLE-UPON-TYNE, CITY LUNATIC ASYLUM, Gosforth.—Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, and laundry.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £150 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £50 per annum, with board, &c.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £50 per annum, with board, lodging, and washing.

OXFORD EYE HOSPITAL, Walton-street.—Resident House Surgeon. Salary £100 per annum, with board and lodging.

...TH DISTRICT ASYLUM, Merthyr.—Assistant Medical Officer. Salary £150 per annum, with rooms, board, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

ROYAL EAR HOSPITAL, Soho.—House Surgeon for six months. Salary at rate of £50 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £50 per annum, with board and washing.

ST. GEORGE'S HOSPITAL, Hyde Park-corner, S.W.—Resident Anæsthetist. Salary at rate of £100 per annum, with board and residence.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Clinical Assistants.

ST. PANCRAS INFIRMARY (NORTH), Dartmouth Park-hill, N.—Junior Assistant Medical Superintendent. Salary £75 per annum, with apartments, rations, and washing.

SOUTHPORT, COUNTY BOROUGH OF, EDUCATION DEPARTMENT.—School Medical Officer. Salary £250 per annum.

SUNDERLAND, MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, &c.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants. Also Casualty Officers.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Assistant Surgeon. Also Medical Registrar. Salary £50 per annum.

YORKSHIRE, PENTH UNION AND RURAL DISTRICT COUNCIL.—Medical Officer (Muker District) and Medical Officer of Health (Whole District). Salaries £25 and £50 respectively.

Births, Marriages, and Deaths.

BIRTHS.

BARWELL.—On Dec. 4th, at Wimpole-street, the wife of Harold Barwell, M.B., F.R.C.S., of a son.

HILL.—On Dec. 4th, at St. Domingo, Hoylake, the wife of Charles A. Hill, M.A., M.B., B.C. Cantab., D.P.H., of a son (Charles Gore).

PASMORE.—On Dec. 2nd, at Warlingham, the wife of Dr. E. Stephen Pasmore, M.R.C.P., medical superintendent of Croydon Mental Hospital, of a son.

THOMSON.—On Nov. 30th, at Bath, the wife of F. G. Thomson, B.A. Cantab., M.D. Lond., M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

FALCONER—CLARKE.—On Dec. 5th, at McFadyen Memorial Church, Chorlton-cum-Hardy, by the Rev. David Walters, James Law Falconer, M.B., F.R.C.S., of 22, Chorley New-road, Bolton, to Lena, daughter of Thos. Clarke of Whalley Range, Manchester.

SHORE—HALL.—On Dec. 8th, at St. Mary Abbots, Kensington, Lewis Shore, M.D., Fellow of St. John's College, Cambridge, to Agatha Catherine, daughter of R. Gresley Hall, D.L.

DEATHS.

BEEVOR.—On Dec. 5th, at Harley-street, W., Charles Edward Beevor, M.D., F.R.C.P., aged 54 years.

DAVIES.—On Dec. 2nd, at Holmfield, Ewell, Surrey, Francis Pritchard Davies, M.D., aged 64 years.

HENRY.—On Dec. 2nd, at Strathmore, Leckhampton, Cheltenham, Lieutenant-Colonel J. J. Henry, R.A.M.C., aged 79 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

NEGLECTING CHILDREN.

ONE of the most depressing aspects of certain portions of what we call civilised life is the callousness and cruelty so often shown to helpless infants. Frequently, too, it is accompanied by gross immorality, of which, indeed, it is often an incidental product. A particularly bad case was brought under observation as the result of an inquest on an illegitimate child that was held in Harpurhey, Manchester. The father of the family earned £1 17s. a week and two of his seven children brought up the income to £2 15s. The father was charged with neglecting two of his children. One daughter, Edith, was charged for neglecting her illegitimate child. Another daughter, Laura, had so neglected her child, also illegitimate, that he died. Instead of weighing about 17 pounds, as he should have done, he only weighed 6 pounds. Though two years old, the child of Edith, who had so far survived, could not even stand. The father's excuse was that his wife died seven years since and things had been "at sixes and sevens." He was bound over but his two daughters were sent to prison for six months each. Is the education that is promised in the future going to be more successful than that which we have had for more than 30 years past in training up children? Will it build up character and good citizenship more thoroughly than during the old order? If not, the omens for the future of the people, or for a large percentage of them, look discouraging.

A WANT IN PUBLIC URINALS.

To the Editor of THE LANCET.

SIR,—Although the phrase "want to wash your hands" is a euphemism for urination, I have for years been struck with the want of opportunity for touching the hands at our public urinals where so much water runs to waste. I would urge on our great firms who manufacture earthenware for sanitary fittings, and upon sanitarians generally, the boon that one or two taps of running water for the purpose of rinsing the hands after micturition would be, especially when one reflects how many individuals, butchers, bakers, bankers, &c., who handle food, money, &c., suffer from local maladies and have no opportunity of hand ablution before handling goods, &c., on their rounds, office, &c. I have been moved to bring forward the above after reading Dr. D. S. Davies and Dr. I. Walker Hall's suggestions for "typhoid carriers" in THE LANCET of Nov. 28th, and trust my suggestion may attract the attention of our great pottery firms and those authorities who order their earthenware.

I am, Sir, yours faithfully,

Dec. 7th, 1908. POUR LES HOMMES.

A NEW EMPLOYMENT FOR LADIES AND GENTLEMEN.

THE following advertisement appeared in the *Morning Post* on Dec. 7th:—

> A QUALIFIED DENTAL SURGEON (West End) offers handsome Commission to any Lady or Gentleman introducing NEW PATIENTS, ledger may be inspected at completion of work, *only good-class patients accepted*, confidence and secrecy expected and given.—Address C., 0191b, "Morning Post" Office, Strand, W.C.

This should attract the attention of others besides the ladies and gentlemen who are invited to act as touts for the advertiser and to earn a presumably secret commission by doing so.

WANTED—A HOME.

To the Editor of THE LANCET.

SIR,—Can any of your readers recommend to me a home that would receive a woman 52 years of age suffering from rheumatoid arthritis deformans. She is quite able to do a useful amount of work, and 8s. a week would be found for her care.

I am, Sir, yours faithfully,

242, Westgate-road, Newcastle-on-Tyne, JAMES D. FARQUHARSON.

Dec. 2nd, 1908.

HEALTH IN THE STRAITS SETTLEMENTS.

IN his annual report Mr. Arthur Young, Colonial Secretary, gives the population of the Straits Settlements as 619,750. The death-rate was 39·07 per 1000 and the birth-rate 25·11 per 1000 of the population. There were ten deaths from small-pox, 223 from cholera, 1535 from beri-beri, and 15 from plague. The stringent quarantine regulations and the vigilance of the medical and municipal authorities have hitherto prevented these scourges from finding a permanent home in the colony. The mean temperature of the air at Singapore was 80·5° F., at Penang 80·3°, and at Malacca 79·9°. The mean rainfall at Singapore was 91·25 inches, in Penang 97·55 inches, in Province Wellesley 75·78 inches, in the Dindings 95·21 inches, and in Malacca 71·35 inches. In spite of the high death-rate the climate in the towns and country cannot be considered unhealthy for Europeans, who, with their higher and more sanitary mode of life, can, if they take ordinary precautions, to a great extent avoid the malarial and other tropical fevers and dysentery which attack the Oriental inhabitants of the peninsula. Practically all the hospitals of the colony are

a , taking much exercise. Present
at thrice daily the attacks became
le ... ... months ago, the longest interval
of health he has had hitherto.

CASE 10.—A boy, aged 13 years. Previous history: Eczema almost from birth. Present attack (July 6th, 1906): Face, hands, and chest covered with purulent eczema; has been unable to attend school. Treatment: 4 grains thyminic acid three times a day; byno-glycerophosphates. Remarks: Is now attending school and only occasionally has an outbreak on the fingers.

CASE 11.—A man, aged 60 years. Previous history: Has had gouty symptoms for many years. Present attack: Gastric catarrh; acute dyspepsia; stomach much distended; gastralgia. Treatment: 8 grains thyminic acid three times a day; high-frequency electricity. Remarks. Symptoms subsided in three weeks. Is now able to digest food; stomach nearly normal.

CASE 12.—A woman, aged 60 years. Previous history: Gradually increasing obesity. Present attack: October, 1906; weight, 12 stones 3 pounds; May, 1907, weight, 11 stones. September, 1908; weight, 10 stones 1 pound. Treatment: 8 grains thyminic acid three times a day. Remarks: Can now take walking exercise with comfort and has not increased in weight; is strong and in good health.

CASE 13.—A man, aged 50 years. Previous history: Has suffered from attacks of acute gout for several years. Treatment: Since taking thyminic acid regularly during the past three years has been quite free.

Queen Anne-street, W.

OTOSCLEROSIS: SOME POINTS IN ITS ETIOLOGY, DIAGNOSIS, AND TREATMENT.

BY ALEXANDER R. TWEEDIE, F.R.C.S. ENG., L.R.C.P. LOND.,

LATE CLINICAL ASSISTANT AT THE HOSPITAL FOR DISEASES OF THE THROAT, GOLDEN-SQUARE, LONDON, ETC.

A VAST amount of work has of recent years been carried out to elucidate the morbid processes on which the disease "otosclerosis" depends. Its pathology has thus been fairly well established, and its history and course are comparatively well known, but its cause is still most obscure. It must further be admitted that its diagnosis, especially in the initial stages, may at times be most difficult, whilst as regards its treatment we do not yet know any method or drug which can be claimed as curative.

It is usual to find the description of otosclerosis in text-books on diseases of the ear included in those chapters dealing with chronic inflammatory or catarrhal processes of the tympanic cavity. This arrangement, however, is at least most misleading, as the disease is neither catarrhal in origin nor the result of an inflammation in the ordinary acceptance of this term, nor does it originate in the middle ear. It is dependent on totally different causes and must be treated by quite different methods. The chief pathological changes may be described as consisting in the formation of small well-defined areas of newly-formed bony tissue which replace the true bone. These occur probably as the sequel of a local trophic disturbance or vascular stasis and consist in the rarefaction of the parts so affected, which subsequently become sclerosed and in places proliferated. Between these pathological changes and the healthy adjacent bone a sharp line of demarcation exists. The commonest site for these alterations is the anterior superior angle of the oval window, and their chief result is ankylosis of the stapedio-vestibular joint.

Bearing in mind the pathological changes, it is obvious we are dealing with a condition which is necessarily most unresponsive to drugs or any method of treatment. It may be improved, however, or perhaps it would be more accurate to say may be arrested, by the exhibition of drugs and by general treatment when circumstances permit an ideal life in healthy surroundings, especially if at the same time care and worry can be reduced to a minimum and the least possible demand made on both the mental and bodily energies.

Etiology.—As already mentioned, the causes which lead to the production of the pathological changes in "otosclerosis" have yet to be determined. The disease, however, seems to be attributable either to circumstances which affect the general nervous system or to alterations of the normal condition of the blood and circulatory mechanism. Thus its commencement can be constantly referred to shock, fright, sudden grief, or prolonged mental anxiety, whilst as instances of the second group of causes, chlorosis, anæmia, severe hæmorrhage, and parturition may be mentioned, and its incidence is traceable at times to the establishment of the menstrual functions in young girls. General febrile conditions also have a causal relation to its onset, influenza being especially noticeable in this respect; and finally it appears to be much commoner in people of the neurotic type.

Most statistics reveal that "otosclerosis" is slightly more common amongst women than men, the reason for which is assigned by some to the relation which parturition appears to have, both as regards its onset and further progress. When we consider, however, how much more likely all the probable causes are to affect the female sex it is not surprising to find as a matter of practical experience that it occurs even more commonly amongst women than the published records indicate. The disease is often found in several members of the same family, though neither of the parents may be afflicted. Still many of these patients, as already stated, are neurotic, and thus heredity may have some influence on its occurrence.

Course.—The disease commences probably in the second or third decade of life, though perhaps patients most frequently seek advice between the ages of 25 and 35 years. Its onset is most insidious and its first symptom is either slight tinnitus or a condition of apparent inattention, observed by others, especially when several are conversing together, as, for instance, at table. The patients may be unaware of this latter abnormality, and thus it occasionally happens that it is chiefly the anxiety of friends which leads them to seek advice. These early symptoms are particularly important because it is at this stage especially that we should urge active treatment. If further progress can now be arrested, although existing lesions are not cured, the condition of the patients will be far less distressing than when they themselves realise their misfortune and both advanced deafness and tinnitus have become a source of continual worry and annoyance to them; to say nothing of the obvious disadvantage and severe handicap to which they are then subjected on all sides.

If untreated in the early stages the deafness and tinnitus are progressive in varying degrees of rapidity as regards the ear first attacked, whilst almost always the other ear also sooner or later becomes similarly involved. Acute exacerbations of the disease also occur often associated with those affections mentioned above as etiological factors. The loss of hearing may ultimately become extreme though the disease very rarely leads to absolute deafness. The tinnitus may persist or as the power of hearing depreciates may become less and less so as to be almost negligible, or it may indeed absolutely disappear.

Diagnosis.—The objective examination is chiefly "negative"—that is to say, the tympanic membrane is found normal or nearly normal, though it sometimes presents a peculiar pinkish hazy appearance, often quite characteristic though difficult to describe accurately. The membrane is moveable together with the handle and short process of the malleus, and there are no signs of inflammatory or catarrhal conditions either past or present. The nasal passages and Eustachian tubes are often found unusually patent, due apparently to collapse and anæmia of the mucous membrane in these situations. The external auditory canal, too, is often so patent that at times a good view may be obtained of the tympanic membrane without the aid of the speculum, whilst its lining membrane is white and shiny and peculiarly deficient in wax.

Though these are the conditions usually found on examination cases do occur in which there is co-existent catarrh of the middle ear and Eustachian tubes associated with rhinitis and naso-pharyngitis. The deafness and tinnitus may be aggravated by these complications, but for the most part persist even when such catarrhal changes subside or respond to treatment. Operative or energetic local treatment, however, in this direction should be adopted with great caution as it may only intensify the deafness and tinnitus. If possible it is better avoided or only tried tentatively in such cases as present some doubt as to the existence of otosclerosis.

The functional tests, as a rule, afford very similar results to those found in any other lesions which involve the conductive apparatus of the middle ear, and may be shortly enumerated as consisting in marked depreciation of the range of perception for whispers; little or no lowering of the upper tone limit; definite raising of the lower tone limit by air conduction; perception *viâ* the bone greater than *viâ* the air; bone conduction greater than that of a normal

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics.—Medical Out-patient (Dr. A. J. Whiting), Surgical (Mr. H. W. Carson), X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture Demonstration:—Dr. A. G. Auld: Methods of Diagnosis applicable to Abdominal Organs.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld), Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Fungous Diseases (continued): (3) Favus, (4) Leptothrix.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. G. Stewart: Spinal Caries.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Mr. Collum: The Administration of Anæsthetics to Children.

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.)

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.)

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.)

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.)

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 10th, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 4	30·29	S.		46	46	37	35	37	Overcast
" 5	30·25	S.W.	0·04	51	49	37	46	46	Overcast
" 6	30·03	S.W.	0·01	50	43	43	40	47	Raining
" 7	30·10	N.	0·15	47	44	42	42	42	Overcast
" 8	29·99	S.W.		69	50	33	42	44	Fine
" 9	29·71	S.W.	0·15	54	43	43	43	43	Overcast
" 10	29·30	S.	0·10	51	50	42	44	45	Raining

During the week marked copies of the following newspapers have been received.—*Liverpool Daily Post, South Wales Daily News, Manchester Evening News, Birmingham Evening Despatch, Daily Mail, Daily Chronicle, [illegible] Observer, Eastern Morning News, Norfolk Weekly Standard, [illegible] Mail, Grimsby Telegraph, Nature, Pall Mall Gazette, Nottingham Evening Post, Blackpool Gazette, Liverpool Post and Mercury, [illegible] Gazette, Scientific American, &c.*

mastoid region. Such sudden increase of the deafness or tinnitus is probably not due to rapid extension of the disease itself to other parts of the inner ear but to a temporary local congestion of the vascular system of the labyrinth which may be expected to bear more heavily on areas already diseased. Such conditions, however, if untreated may very possibly lead to a further spread of the disease and a permanent increase of the symptoms.

Apart from the drugs necessary to combat any general dyscrasia from which the patient may be suffering tonics, such as strychnine, phosphorus, or arsenic alone or combined with the iodides, should be advised. This treatment in the first instance should be adopted for a period of some six months with short remissions and then short courses of these medicines extending over six weeks should be advised two or three times a year. In this way the further progress of the disease may be controlled to some extent, though, of course, a cure of already existing lesions cannot be expected. Such treatment, however, often makes the patient more comfortable generally, reduces the tinnitus, and apparently improves the hearing. The improvement is usually more apparent than real and is due probably to the relief of the subjective noises, for the results to the functional tests remain much the same.

Tinnitus and occasionally vertigo may require special treatment, for which purposes the bromides, hydrobromic acid, and drugs of like action are still probably the best. They should be used to give temporary ease pending the more permanent relief from the general and therapeutic measures recommended above. Unfortunately severe tinnitus points to an irritative lesion in the cochlea and vertigo to a similar affection of the walls of the semicircular canals, and consequently the exhibition of such sedatives may meet with little response. A course of Weir-Mitchell's rest cure is said to be often of great benefit in cases of otosclerosis with extremely marked subjective symptoms occurring in neurotic subjects.

Whatever drugs or method of treatment are used the patients should be told that only a prolonged course as above suggested can be expected to be of any service. If they are not disposed to carry this out the sporadic "taking a bottle of medicine" means only useless expense to them.

That the treatment outlined above is vague and empirical must be admitted, yet it is justified by the results obtained, and till a better and possibly specific treatment is discovered should certainly be employed.

Artificial aids to hearing are sometimes useful, but little can or need be said of them. Generally speaking, the more cumbersome and unsightly the more valuable they are, but the best plan is to advise the patient to visit a reliable maker of such instruments and to purchase that which affords him most relief if such aids are desired.

In the past patients afflicted with otosclerosis have often been allowed to drift without appropriate treatment and without warning as to the probable course of the disease so that they have become the prey of the quack and his advertisements, and the object of this paper is to urge the importance of early recognition and early and prolonged treatment of this condition. Though a cure cannot be expected, a certain amount of relief may be obtained and, what is much more important, the further progress of the disease may be controlled or actually arrested. An excellent and most exhaustive monograph, "Die Otosklerose," has been written by Dr. Denker of Erlangen, in which those who are sufficiently interested in the subject will find it ably discussed.

In conclusion, I wish to express my gratitude to Mr. C. A. Parker for the great help he has given me in preparing this paper whilst working with him at the Throat Hospital, Golden-square.

Nottingham.

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.—At a recent meeting of the board of directors of the Rockefeller Institute for Medical Research Dr. Rufus I. Cole of the Johns Hopkins Medical School, Baltimore, was appointed director of the hospital of the Rockefeller Institute for Medical Research, and Dr. Christian A. Herter was appointed one of the physicians to the hospital. Work on the hospital buildings is in progress and it is expected that they will be completed and the hospital be ready for opening in November, 1909.

THE MERCURIAL REACTION AS AN ELEMENT OF DIAGNOSIS IN SYPHILIS.

BY F. CURIONI, M.D. TURIN.

SEVERAL times during my practice I have observed the fact, apparently strange, of an intolerance, sometimes relative, sometimes absolute, to mercury presented by some persons. They were individuals who applied to me for advice concerning the treatment of a syphilitic affection which they said they had contracted some months previously and of which on the most diligent examination there were no apparent traces. Some of the syphilitic or pseudo-syphilitic said that they had been examined at the time of the ulcer by medical men who had diagnosed it as syphilitic; others, again, were satisfied by the diagnosis of their chemist, and some, and these unfortunately were not few, had accepted the confirmation of so-called practical friends. In dealing with these cases I was often perplexed what to do. In any case in which I was convinced that the individual was not affected by syphilis but only the victim of an error of diagnosis I advised him not to use specific treatment. In cases more or less suspicious, on the other hand, I have usually prescribed a mild cure for precaution, following in this respect the advice of the greatest specialists. It was among this latter group that, as already stated, I noted a number of cases strangely intolerant to the action of mercury, especially during the first days of treatment. It was in this way that I had the idea that persons affected with syphilis supported mercury much better than normal subjects and I decided to find how the mercury was eliminated in the urine by the healthy and how by the syphilitic.

In order to accomplish my research I chose 30 syphilitic patients and at the same time 20 friends whom I knew were quite free from the disease and submitted them all to mercurial treatment, first having made sure that the kidney was in normal condition in the syphilitic as well as in the healthy. I proceeded in this way. In the morning, always about the same time—that is, at about 11 A.M.—I made an injection of 0·01 of perchloride of mercury in 1 cubic centimetre of distilled water. I collected the urine at first about 7 P.M., again some five or six hours later, and also on the following morning between 8 and 9 o'clock.

With the aid of my friend, G. Fortuna, Doctor in Chemistry, I tested the specific reaction in the three samples of equal volume of urine, using for that purpose the method suggested by Professor Vitali, which is as follows. Place in 200 cubic centimetres of urine previously acidified with a few drops of hydrochloric acid eight grammes of copper wire, well cleaned and cut in small pieces, allowing this to remain for three hours, taking care to agitate the liquid occasionally, then decant the urine and wash the copper well first with distilled water, then with alcohol, and finally with ether. (In doing so it is necessary not to shake the copper too much.) Next place the washed copper on blotting-paper to dry easily; afterwards place in a test-tube quite clean and dry and close this with a plug of cotton; now heat gently the bottom of the tube until the wire becomes slightly brownish, then allow to cool; when quite cold reject the copper and drop in a tiny piece of iodine, heat again gently the bottom of the tube in such manner as not to develop the iodine vapour too strongly. In the presence of a mercurial salt there will be formed on the cool part of the tube small crystals of yellow iodide of mercury and also red bi-iodide. The chemical reaction is easily understood. It is necessary to follow exactly the above directions and to place the tube at the moment of the reaction over something white in order to make the slightest trace of colour visible; to an unaccustomed eye it may be difficult to distinguish between the violet-red vapour of the iodine on the one hand and the straw-yellow of the iodide or the bright-red of the bi-iodide on the other, especially as the quantity is so infinitesimal. It is well to practise beforehand with a weak solution of mercurial salt until one is accustomed to distinguish between the colours. It is most necessary that the tube should be quite dry, because otherwise the iodine vapour dissolving in the small particles of water adhering to the tube will colour them and will in this way interfere with the exact appearance of the reaction. The quantity of iodine

THE LANCET, December 19, 1908.

The Bradshaw Lecture

ON

THE TREATMENT OF WOUNDS.

Delivered before the Royal College of Surgeons of England on Dec. 4th, 1908,

By Sir W. WATSON CHEYNE, Bart., C.B., F.R.S., M.B., C.M. Edin., F.R.C.S. Eng.,
SENIOR SURGEON TO KING'S COLLEGE HOSPITAL, ETC.

Mr. President and Gentlemen,—In taking as the subject of the Bradshaw lecture a critical examination of the present views and methods of treating wounds, I do not think that I need say anything by way of apology for my choice. It is one of the great advantages of lectures such as these that they afford an opportunity not only of introducing new views and observations but also of weighing the theories and practice current at various periods, and of considering how far they accord with definitely ascertained facts and how far we are following the right lines. In a subject such as medicine, where knowledge is still very imperfect, there is a constant oscillation in the views which are current from time to time, and a constant swing of the pendulum of medical opinion in one or other direction, sometimes very extreme and far beyond what is justified by the facts of the case. One has constantly to be on one's guard not to be carried too far by this swing—on the one hand not to discard too hastily the results of previous research and experience, and on the other not to overlook what seems to be sound in the new work. Nowhere is this oscillation of opinion more marked at the present time than in the views founded on experimental and chemical pathology, and more especially in connexion with the new science of bacteriology and the relation of bacteria to the living body. And when the wish was expressed to me that I should take up the subject of the treatment of wounds at the present time I was the less reluctant to do so, seeing that as regards that matter we are just now in one of those extreme oscillations. Whether this swing has gone too far or not is the point which I purpose to consider in this lecture, and it will therefore be advisable in the first place to recall as simply as possible the essential points which relate to the treatment of wounds and to the avoidance of the infective disasters which are ever ready to occur when the attention of the surgeon is relaxed, and in the second place to examine the current views and details of practice with the object of seeing how far they meet the requirements of the case.

What first put Lister on the track of his epoch-marking work was the consideration of the behaviour of a subcutaneous wound as compared with an open one, and his aim from the very first was to place an open wound as far as possible under the same conditions as a subcutaneous one. In the open wound two sets of noxious agencies come into play. In the first place, it is exposed to a variety of mechanical and chemical irritations from the dressings, air, &c., and in the second place to the entrance of infective agents. The surface of the wound, for instance, comes in contact with dressings and is mechanically irritated by movement, &c. And in the attempts to get a wound to heal it may also be irritated by various chemical substances intentionally applied to it, with the result that instead of healing rapidly the tissues are kept in a constant state of irritation, exudation goes on and cells accumulate in the part, the original tissue at the surface is destroyed, and its place is taken by granulation tissue. It is true that if irritation of this kind is but slight healing will nevertheless take place readily, but if it be excessive it may be markedly delayed or actually prevented.

Even where an open wound is stitched up, and thus, as far as these mechanical and chemical causes of irritation are concerned, is converted into a subcutaneous one, very serious troubles much more grave than those alluded to above may arise, due to the entrance of various forms of bacteria into the wound and their growth either in the discharges present in it or in the tissues themselves. It is in reality to these organisms rather than to the other agencies to which I have referred above that the essential troubles in connexion with open wounds are due. Apart from the growth of bacteria, it would be quite easy to minimise the other sources of irritation so that little, if any, delay in healing should result, and in the absence of micro-organisms none of the serious troubles which affect the health or life of the patient or of the part, and which so often used to follow open wounds, would arise. These troubles are practically entirely due to bacterial infection, which occurs as soon as the skin is broken or so injured that it is deprived of its vitality, and the essence of the problem of the treatment of wounds is how to avoid such infection. It was this problem that Lister attacked, and though the main principle on which he proceeded from the first was to prevent as far as possible the entrance of bacteria into wounds he laid much stress on the avoidance of undue irritation of the latter in the process. In fact, his ideal was so to alter the conditions in an external wound as to approach as closely as possible to those in a subcutaneous one. The question for review, then, is how far this ideal is or can be attained and what are the best methods to adopt for this purpose.

1. In the first place, let us consider the question of the exclusion of bacteria from wounds. Lister began by trying to kill the bacteria before or when they came in contact with the wounds, and for this purpose he had recourse to the use of various chemical substances belonging to the class now known as antiseptics. In his earliest work, which had to do with compound fractures, the wounds being already soiled and infected, the method he adopted was to apply undiluted carbolic acid to the wound, with the view of destroying the organisms which had already entered it before the patient came under the notice of the surgeon, and then in order to prevent the access of fresh bacteria he made a paste with the blood contained in the wound and the undiluted carbolic acid, which must have effectually prevented the further entrance and growth of micro-organisms. This original plan was very soon modified, and the constant efforts which he made to improve his methods in the direction of less irritation of the wounds with at the same time efficient exclusion of bacteria will be found detailed in his collected papers.

When I became house surgeon to Lord Lister in Edinburgh in 1876, it occurred to me to test the discharges of the wounds which were under his treatment to see how far the desired result—viz., the exclusion of bacteria—was really attained. At that time it was easy to examine this matter very thoroughly, because in the case of practically every operation a drainage-tube was inserted and was retained for from four to eight days, and as long as the tube was present the dressing was changed daily. At that time the modern methods of staining bacteria had not been introduced and I had, therefore, to devise methods of cultivation in various fluid media. These methods need not be detailed here, but the results so obtained were very definite and entirely coincided with those got in after years by simpler and better methods of cultivation and also by suitable staining of the discharge. The results practically came to this, that as a rule in wounds treated by Lister's methods no organisms were found in material taken from the interior of the drainage-tube during the first few days, but that afterwards one began to find micrococci in a certain proportion of the cases, especially if the dressing had been left unchanged for more than 24 hours or if old epithelium had been allowed to accumulate under the dressing. Suppuration, however, did not necessarily occur, even when these organisms were present. I therefore assumed that they were innocuous organisms, either of a special kind or else the common pyogenic organisms deprived of their infective power by the antiseptics employed. I also came to the conclusion that they spread into the wound under the carbolic gauze dressing by growing in the epithelium, for I found that they were present in the old epithelium at some distance from the edge of the wound in larger numbers and at an earlier period than in the wound itself. It was thus evident that bacteria either did not get into the wounds at the time of the operation, or if they entered they found themselves under such conditions that they were unable to grow, but that at a later period of the case they might spread in, presumably under the protection of the superficial layers of the epithelium, even though the part was covered by a carbolic gauze dressing. After the drainage of wounds was to a large extent given up, it was not so easy to test this matter thoroughly, because mastoid region. Such sudden increase of the deafness or tinnitus is probably not due to rapid extension of the disease itself to other parts of the inner ear but to a temporary local congestion of the vascular system of the labyrinth which may be expected to bear more heavily on areas already diseased. Such conditions, however, if untreated may very possibly lead to a further spread of the disease and a permanent increase of the symptoms.

Apart from the drugs necessary to combat any general dyscrasia from which the patient may be suffering tonics, such as strychnine, phosphorus, or arsenic alone or combined with the iodides, should be advised. This treatment in the first instance should be adopted for a period of some six months with short remissions and then short courses of these medicines extending over six weeks should be advised two or three times a year. In this way the further progress of the disease may be controlled to some extent, though, of course, a cure of already existing lesions cannot be expected. Such treatment, however, often makes the patient more comfortable generally, reduces the tinnitus, and apparently improves the hearing. The improvement is usually more apparent than real and is due probably to the relief of the subjective noises, for the results to the functional tests remain much the same.

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SEVERAL times during my practice I have observed the fact, apparently strange, of an intolerance, sometimes relative, sometimes absolute, to mercury presented by some persons. They were individuals who applied to me for advice concerning the treatment of a syphilitic affection which they said they had contracted some months previously and of which on the most diligent examination there were no apparent traces. Some of the syphilitic or pseudo-syphilitic said that they had been examined at the time of the ulcer by medical men who had diagnosed it as syphilitic; others, again, were satisfied by the diagnosis of their chemist, and some, and these unfortunately were not few, had accepted the confirmation of so-called practical friends. In dealing with these cases I was often perplexed what to do. In any case in which I was convinced that the individual was not affected by syphilis but only the victim of an error of diagnosis I advised him not to use specific treatment. In cases more or less suspicious, on the other hand, I have usually prescribed a mild cure for precaution, following in this respect the advice of the greatest specialists. It was among this latter group that, as already stated, I noted a number of cases strangely intolerant to the action of mercury, especially during the first days of treatment. It was in this way that I had the idea that persons affected with syphilis supported mercury much better than normal subjects and I decided to find how the mercury was eliminated in the urine by the healthy and how by the syphilitic.

In order to accomplish my research I chose 30 syphilitic patients and at the same time 20 friends whom I knew were quite free from the disease and submitted them all to mercurial treatment, first having made sure that the kidney was in normal condition in the syphilitic as well as in the healthy. I proceeded in this way. In the morning, always about the same time—that is, at about 11 A.M.—I made an injection of 0·01 of perchloride of mercury in 1 cubic centimetre of distilled water. I collected the urine at first about 7 P.M., again some five or six hours later, and also on the following morning between 8 and 9 o'clock.

With the aid of my friend, G. Fortuna, Doctor in Chemistry, I tested the specific reaction in the three samples of equal volume of urine, using for that purpose the method suggested by Professor Vitali, which is as follows. Place in 200 cubic centimetres of urine previously acidified with a few drops of hydrochloric acid eight grammes of copper wire, well cleaned and cut in small pieces, allowing this to remain for three hours, taking care to agitate the liquid occasionally, then decant the urine and wash the copper well first with distilled water, then with alcohol, and finally with ether. (In doing so it is necessary not to shake the copper too much.) Next place the washed copper on blotting-paper to dry easily; afterwards place in a test-tube quite clean and dry and close this with a plug of cotton; now heat gently the bottom of the tube until the wire becomes slightly brownish, then allow to cool; when quite cold reject the copper and drop in a tiny piece of iodine, heat again gently the bottom of the tube in such manner as not to develop the iodine vapour too strongly. In the presence of a mercurial salt there will be formed on the cool part of the tube small crystals of yellow iodide of mercury and also red bi-iodide. The chemical reaction is easily understood. It is necessary to follow exactly the above directions and to place the tube at the moment of the reaction over something white in order to make the slightest trace of colour visible; to an unaccustomed eye it may be difficult to distinguish between the violet-red vapour of the iodine on the one hand and the straw-yellow of the iodide or the bright-red of the bi-iodide on the other, especially as the quantity is so infinitesimal. It is well to practise beforehand with a weak solution of mercurial salt until one is accustomed to distinguish between the colours. It is most necessary that the tube should be quite dry, because otherwise the iodine vapour dissolving in the small particles of water adhering to the tube will colour them and will in this way interfere with the exact appearance of the reaction. The quantity of iodine or need interfere with healing. In the earlier development of the treatment no doubt wounds were considerably irritated by the antiseptics employed, and though that did not go so far as to interfere seriously with healing it led to excessive effusion of serum and necessitated the constant use of drainage-tubes and therefore frequent changes of dressings. Since, however, the carbolic spray has been given up, drainage-tubes have been found to be unnecessary unless in exceptional cases. As a matter of fact, as we have managed matters of late years, no carbolic acid comes in contact with the wounds, and the few drops of sublimate solution which may get in on the fingers, &c., are at once precipitated by the blood and rendered inert.

Apart from interference with healing, excessive irritation of a wound has another bad effect in that it diminishes the resisting power of the tissues, and thereby may enable organisms to take root which otherwise would have been unable to do so. At first sight, in accordance with recent views on the importance of the serum in connexion with resisting power, one might think that an increased flow of serum as the result of the irritation of the wound would be a good thing, but in my opinion the important seat of the resisting power of the body is in the tissues. In the Wightman lecture delivered last May I discussed the defensive arrangements of the body and showed that they resided in the main in the tissues, and that an extremely important point in connexion with the subject was the local differences in the resisting power. I instanced, for example, the different behaviour of the tubercle bacillus in the various bones and joints of the body, and similar differences exist in the case of the pyogenic organisms, according to the part of the body into which they are introduced. Thus we know that if pyogenic organisms enter joints, or bursæ, or lymph spaces they produce much more violent effects than if they are introduced into the peritoneal cavity or into the subcutaneous areolar tissue.

That the living tissues have the power in some way or other of disposing of bacteria was quite early recognised by Lister. He frequently referred to this point in his lectures and showed specimens of urine free from growth which had been obtained simply by cleansing the orifice of the urethra and then passing the urine into sterilised flasks with precautions against the entrance of dust, thus proving that bacteria could not spread along a healthy urethra. He also pointed out the influence of the tissues in preventing the growth of bacteria, as exemplified by the results of operations performed in situations where bacteria cannot be excluded. For example, in operations for hare-lip and cleft palate union by first intention is the rule, provided the tissues are not handled roughly, even though the wounds are bathed with saliva containing large numbers of bacteria.

Now when we have said above that non-pathogenic bacilli or only slightly virulent cocci, or only cocci in small numbers may get into wounds made under Listerian precautions, but under these conditions cannot grow, this failure to grow must clearly be due to the action of the living tissues, for under any of these circumstances growth would occur if the tissues were dead; while the tissues are alive, therefore, they have the power of opposing the growth of bacteria and actually destroy them under favourable conditions.

This action of the tissues in destroying bacteria can be seriously interfered with in various ways in the course of an operation, such as by severe handling and bruising, by the excessive use of antiseptics, or even by washing the wound with plain water, which causes the cells to swell up and lose their vitality, and which is about the worst thing that one can introduce into a wound from this point of view. If under any of these circumstances scrupulous care be not taken to prevent the entrance of pathogenic bacteria into a wound, and if they do enter in any considerable numbers, they can grow more readily and produce more violent effects than in wounds which have been more carefully treated. The experience of years, however, shows that the minute traces of antiseptics which may get into wounds during a properly performed Listerian operation have no appreciable effect in retarding the healing of the wound or in interfering with the resisting power of the tissues.

As a result of the foregoing considerations we see that there are two great points to be kept in mind in treating wounds—namely, (1) the exclusion of bacteria, especially of pathogenic organisms, as far as possible during and after an operation; and (2) avoidance of irritation of the surface of the wound so as not to interfere with healing, nor with the power of the tissues in preventing the growth of any bacteria which may have entered. These are the two essential principles which Lister laid down, and which his immediate pupils have tried to follow. It is interesting indeed to see how Lister, beginning by making the exclusion of bacteria from wounds his main aim and having apparently attained this object, devoted increased attention to the avoidance of irritation of the wounds by the means employed to keep out the bacteria. In fact, in the later period of his work his main efforts were directed to the search, not for more efficient antiseptics, but for equally efficient antiseptics, which would be as little irritating as possible to the wound. It is always the tendency, however, of pupils to out-Herod their masters and thus many of those who took up Listerian treatment went to the extreme of deluging their wounds with carbolic acid and disregarded Lister's second postulate; they thus became well acquainted with the poisonous and irregular action of the antiseptics employed, while at the same time they did not always succeed in avoiding infection. Indeed many, thinking that everything necessary was done if only carbolic acid were employed, forgot the most elementary precautions, especially the cleansing of the hands and the avoidance of reinfection of the hands during the operation. And the result was that sepsis occurred and was often, indeed, more severe than if no antiseptic had been employed, owing to the diminution of the resisting power of the tissues as the result of the irritation of the antiseptic. Curiously enough, many men at the present day who have not been intimately acquainted with Lister's own work think that that was Lister's treatment, and that there is, therefore, some fundamental antagonism between the Listerian principles and the so-called aseptic treatment of the present day. From this extreme travesty of Listerian treatment the pendulum has swung completely round to the other extreme, and the surgeon's efforts have of late been largely directed to avoiding the contact of antiseptic chemical agents with wounds and to injuring the tissues in that way as little as possible. In fact, in the hands of the extremists this point has been carried as far beyond the mean as the abuse of antiseptics was in former times.

As far as I can judge, what led to this swing of the pendulum was, firstly, the excessive use of antiseptics with unsatisfactory results of which I have just spoken; secondly, the constant statements as to satisfactory results obtained by ordinary cleanliness; thirdly, the slow action of antiseptics in destroying spores and their consequent inefficiency under certain conditions; fourthly, various statements as to the difficulty of disinfecting the skin—that is to say, of entirely eradicating the bacteria—which have led many to look on it as a hopeless task; and fifthly, an exaggerated belief in the resisting power of the body.

The first of these points I have just referred to. As regards the second, the opposition to the strict Listerian treatment arose in the first instance and chiefly from surgeons whose operative work dealt essentially with the peritoneal cavity. When, however, these surgeons had to operate on the tissues in other parts of the body they encountered a discouraging amount of suppuration. This is explained by the difference in resisting power in different tissues; evidently the peritoneum has a special power of dealing with bacteria when they are not present in too great numbers or in too virulent a condition.

As to the third point, doubt has arisen as to the efficacy of chemical antiseptics in destroying bacteria, and this is probably a reaction from the idea that antiseptics are instantaneous in their action, which was, of course, the only justification of the use of the spray. Koch was the first to test this matter definitely, and the chief point brought out by his researches was the great difference in the resisting power of actively growing bacteria on the one hand and of spores on the other. In the case of the former, if the antiseptic solution can obtain free access to the organisms, it is only a matter of seconds, or at most of a very few minutes, before they are completely destroyed, provided the solution is sufficiently strong. In the case of spores, on the other hand, the time is much longer, but in any case 1 in 20 carbolic lotion kills them in 24 hours. Where bacteria are surrounded by albuminous material the antiseptic coagulates the albumin and this coagulum may prevent the penetration of the antiseptics, especially of the solution was employed throughout the operation, some two to three pints being utilised.

On the following day the patient's condition was much improved; the drainage-tube was replaced by a gauze plug on the third day and the latter was removed on the fourth day. On the second day after the operation pain in the right side of the chest was complained of and examination led to a diagnosis of "dry pleurisy" at the right base and "pneumonia" involving the left lower lobe; the chest was strapped. The temperature on the third day was 98° and the pulse-rate was 84 per minute. From this date the temperature became irregular, varying from 97° to 102·8°. The bowels were well opened on the third day and the patient enjoyed a fish diet on the eighth day. An increasing area of dulness was detected on the right side of the chest and on the eighteenth day this reached the middle of the scapula posteriorly; a diagnosis of probable "empyema" was made. The signs at the left base gradually cleared up. On the twentieth day an aspirating needle inserted through the ninth right intercostal space in the posterior axillary line withdrew a pint of very offensive pus mixed with gas; accordingly on the following day a portion of the ninth rib was resected. The general pleural cavity was shut off by adhesions, the dome of the diaphragm being considerably raised, and an incision through the latter revealed a large abscess cavity between the liver and diaphragm, from which another pint of pus was evacuated; a large drainage-tube was inserted and the wound partly closed. The pus yielded a pure culture of bacillus coli. As the patient's temperature still continued to fluctuate, subcutaneous injections of anti-coli serum were given on the twenty-fifth and two following days; the temperature assumed a lower level. On the twenty-ninth day the patient received a subcutaneous injection of "bacillus coli vaccine" prepared in the St. Thomas's Hospital clinical laboratory by Dr. L. S. Dudgeon. The temperature reached the normal on the thirty-first day but commenced to rise again on the thirty-fourth day, with the advent of an urticarial (serum) rash. The abscess cavity drained well, the tube being gradually shortened and replaced by one of smaller calibre on the forty-second day; another injection of vaccine was also administered. The temperature continued to fluctuate, but gradually it assumed a lower level, a free discharge of offensive pus continuing. The patient got up and sat in a chair for a few hours on the fifty-third day and received another injection of vaccine on the fifty-sixth day. A troublesome cough developed and the temperature rising the patient had to take to his bed again. Examination of the chest revealed an area of dulness at the right base, reaching as high as the middle of the scapula; breath sounds were absent over this area, vocal fremitus was much diminished, and vocal resonance was not obtainable. Aspiration through the ninth space in the scapular line revealed the presence of pus. On the following day a portion of the tenth rib was resected and another large subphrenic collection of pus was evacuated and the cavity was drained; no communication between this abscess cavity and the former could be demonstrated. A fourth injection of vaccine was given on the sixty-fourth day; the temperature reached the normal level on the sixty-ninth day and remained settled. From this date the patient's general condition rapidly improved. Some 14 days later he was allowed to get up morning and evening. The drainage-tubes were gradually shortened and the amount of discharge rapidly diminished and lost its offensive character. The bowels were kept well open throughout the treatment of the case.

On Jan. 28th, 1908, some three and a half months after the accident, the patient was sent to a convalescent home. A final note on the case reads as follows: "Abdominal wounds quite sound—anterior sinus of chest almost closed, posterior sinus is formed by a narrow track some five inches in length—there is no trouble with the bowels." The patient was again examined on his return from the convalescent home four weeks later; he had put on weight—both sinuses had quite closed and he experienced no discomfort whatever. Some five months after the accident he was allowed to start light work.

This case presents several points of interest. First, the comparative rarity of the accident. Secondly, the difficulties presented in the diagnosis of a "sub-phrenic collection of pus," the physical signs suggesting the presence of an empyema, rather than of pus below the diaphragm. Thirdly, the beneficial effect of the anti-coli serum and bacillus coli vaccine which showed itself in an attempt to stop the spread of the septic process to a great extent, and in the rapid recovery of the patient and rapid healing of the sinuses after evacuation of the pus.

In conclusion, I must express my thanks to Mr. Ballance for his kindness in allowing me to conduct the treatment of the case and for permission to publish these notes.

St. Thomas's Hospital.

A METHOD OF PERFORMING ABDOMINO-PERINEAL EXCISION FOR CARCINOMA OF THE RECTUM AND OF THE TERMINAL PORTION OF THE PELVIC COLON.

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REMOVAL of the rectum by a combined abdominal and perineal operation was first performed by Czerny in 1884. Since that time several other surgeons, notably Maunsell, Chaput, Gaudier, Challot, Weir, Boechal, Giordino, Quénu, Reverdin, Tuttle, Gant, Mathews, Sir Charles Ball, Wallis, and Aldrich-Blake have employed the method with certain modifications of procedure and with varying success in regard to mortality. So far as I have been able to gather from the literature of the subject, however, the technique of these operators seems to have failed in one important respect—namely, the complete eradication of the *zone of upward spread* of cancer from the rectum, whereby the chance of recurrence of the disease, above the field of operation, can be diminished if not entirely obviated.

Until the close of the year 1906 I had relied solely upon the perineal methods of excision of the rectum, but I found that, even after the most complete and extensive removal possible, recurrence of the disease was a rule to which there were few exceptions. In fact, from a personal experience of 57 such operations, my records showed the disquieting fact that recurrence took place within periods ranging from six months to three years in 54 instances. Moreover, I found that although perfection of technique had reduced the proportion of recurrences in the immediate vicinity of the field of operation, recurrence nevertheless appeared in situations that were beyond the scope of a removal from the perineum. Post-mortem examination showed that these situations were (*a*) the pelvic peritoneum, (*b*) the pelvic mesocolon, and (*c*) the lymph nodes situated over the bifurcation of the left common iliac artery. Bearing these facts in mind I made observations upon the course taken by the upward spread of cancer among patients who had died from inoperable cancer of the rectum and found that the disease invariably extended by continuity of tissue along the parietal attachment of the pelvic mesocolon and in the adjacent parietal peritoneum for about one inch on either side of it as far as the group of lymph nodes situated over the bifurcation of the common iliac artery. In one case the disease extended by continuous spread to the suprarenal capsule of the left kidney. In all the cases thus examined the infiltration of the parietal border of the pelvic mesocolon had caused shrinkage of the pelvic mesocolon itself, whereby the pelvic colon appeared to be bound down, a condition which readily explains the difficulty in obtaining a satisfactory spur when performing colostomy in an advanced case of cancer of the rectum.

From these observations it is obvious that the above-mentioned structures constitute the *zone of the upward spread* of cancer from the rectum, the removal of which is just as imperative as is the thorough clearance of the axilla in cases of cancer of the breast if freedom from recurrence is to be hoped for. The appreciation of this important fact induced me two years ago to abandon the perineal methods of excision of the rectum as inadequate for the purpose of obviating recurrence and to endeavour, by utilising an abdominal method of procedure, to bring the operation of excision of the rectum into line with those methods of performing abdominal apparently wear gloves without disinfecting the hands, looking on the sterilised gloves as a complete safeguard. Rubber gloves no doubt may be depended on so long as they are free from holes, but as they are very liable to be punctured or torn it is somewhat rash to trust to them entirely, and therefore I think that whether gloves are to be worn or not the hands should be as thoroughly disinfected as possible. In fact, in putting on rubber gloves I always fill them with 1 in 2000 sublimate solution and in this way a little of the solution remains in contact with the skin of the hands and continues to disinfect them, a point of some importance should the gloves give way during the course of the operation. As regards this question of wearing gloves I have previously said that the results at the present time are no better than they were by the Listerian method before these extreme precautions were introduced, in fact, could not be better, and therefore gloves are not at all a necessity for those who do not discard the use of antiseptics. But, nevertheless, considering all the possibilities, both of imperfect disinfection of the skin and of possible contamination of the hands during the operation, I regard the use of indiarubber gloves as a valuable addition to the precautions and in the so-called aseptic method they are a necessity. They add security against carelessness in the disinfection of the hands. Besides, apart from carelessness, some surgeon's hands are more susceptible than others to the action of antiseptics and those who are so afflicted are consequently apt to be perfunctory in their antiseptic ablutions, and even where the surgeon does take pains to disinfect his hands the skin under these circumstances becomes rough and is difficult to cleanse thoroughly. Further, if there is any suspicion of having contaminated his gloves during the operation the surgeon need have no hesitation in thoroughly washing in an antiseptic solution, as he might if he were not wearing gloves and his hands were sensitive. Cotton gloves are, I think, a mistake; used alone they do not protect the wound from the hands and used over rubber gloves they prevent the surgeon washing the gloves clean in case they have become contaminated. The only advantage is that they give a better grip.

Formerly instruments were disinfected in 1 in 20 carbolic lotion; now they are universally boiled, and although in most cases the former method is quite effectual boiling is, I think, much more satisfactory, especially in the case of toothed instruments, such as Spencer Wells's forceps, &c. At the same time, boiling in ordinary water tends to blunt sharp instruments, such as knives, scissors, and needles, and in the case of those three I prefer to immerse them for a short time in undiluted carbolic acid and then in 1 in 20 carbolic solution in place of boiling them.

With regard to disinfection by boiling, it must be remembered that boiling water is not instantaneous in its action any more than carbolic acid is. One frequently finds that nurses have the most profound belief in the rapid action of boiling as a disinfectant. An instrument falls on the floor, the nurse picks it up and says that she will sterilise it in a minute; and this is no mere figure of speech: she is actually back in a minute with the instrument, all that she has done being either to dip it into boiling water or to throw it into the steriliser and pick it out almost immediately. This, of course, is much too rapid for disinfection, and indeed the length of time required for properly disinfecting an instrument by boiling raises a difficulty in cases where it has not been put out beforehand and where it is wanted in a hurry during an operation. In that case I believe the quickest and safest plan is to immerse it in undiluted carbolic acid for a minute or two and then to place it in 1 in 20 carbolic lotion till it is required.

Among other things which come in contact with a wound during an operation, and which may convey infection to it, I may specially mention sponges. I think it will be generally admitted that for the purpose of removing blood from wounds marine sponges are superior to swabs, and yet the great majority of surgeons have given up their use. This is, I believe, in the main due to the conviction which seems to have become deeply rooted, that heat is the only dependable method of disinfection, and marine sponges are ruined by heat; and also to the terror which some people have of antiseptic solutions. 1 in 20 carbolic acid will destroy bacteria and their spores in 24 hours, even in an albuminous fluid; if marine sponges are kept in this lotion for a week they may certainly be depended upon to be completely disinfected. This is not a matter of theory but of experiment. For my part I always use marine sponges. They are thoroughly washed and immersed in 1 in 20 carbolic acid for at least a week before use. It is quite easy to wash out the carbolic acid from the sponges subsequently either in a weak sublimate solution or in sterilised salt solution. I have never seen any reason to reject marine sponges, either from the point of view of asepsis or from that of irritation by antiseptics, and as a method of drying a wound there is no comparison between them and swabs. Apart from the greater usefulness of marine sponges, I object to swabs in aseptic cases, because, as they do not absorb fluid readily, there is more rubbing and consequent disturbance of the surface of the wound when swabs are employed, especially if they are used dry; and further, except in specially made swabs, threads are apt to be left behind in the wound, which may form a nidus for the development of bacteria, if any have entered during the operation. The importance of the latter point is by no means inconsiderable. For example, we find in the early experiments on tetanus that infection could not be brought about at all readily unless the bacilli were attached to some inert substance such as a silk thread. If injected subcutaneously in small numbers in suspension in fluid, no effect was produced, while silk threads soaked in a suspension of bacteria and placed beneath the skin led to the desired result. I venture to think that the way in which marine sponges have been thrown aside, and swabs, whether wet or dry, have been substituted, is regrettable and introduces an unnecessary complication into the operation.

We may say, therefore, that as regards the preliminary disinfection, heat, especially in the form of boiling, is the most certain and best method of sterilisation, but we cannot do without chemical antiseptics for the disinfection of the skin, and of various articles such as marine sponges, which are of great use during the operation.

The *second point*—and it is one of the greatest importance—is to avoid soiling of instruments, hands, and consequently of the wound itself during the course of the operation. No doubt bacteria are constantly falling into the wound from the air during the operation, but it is well to diminish the number that may get in as much as possible, while it is important not to introduce masses of organisms, especially of pathogenic ones, as may be done if the hands of the operator touch surrounding objects which are not free from bacteria and are then put into the wound, or in many other ways which an observant surgeon will notice, but which are too numerous to mention. We must therefore so arrange matters that in the course of the operation there shall be as little chance as possible of accidental introduction of masses of bacteria into the wound, whether by the surgeon's hands or instruments, or in any other way.

The first thing that is done in order to diminish this risk is to surround the area of operation widely by aseptic cloths. About this point there seems to be no question in any of the plans adopted; the usual method is to cover the blankets, skin, &c., over a wide area in the vicinity with towels which have been sterilised by superheated steam. Personally, I prefer to sterilise the towels by boiling them. I think it is a much more certain way of carrying out the disinfection, especially when we see the small sterilising machines which are on the market at the present time and which are so much used, and realise that they cannot sterilise materials placed in them, especially when the latter are packed at all tightly. From the point of view, then, of complete sterilisation I much prefer to boil the towels; the only advantage of the dry towels is the question of keeping the patient dry, but as in any case mackintoshes are first applied over the surrounding area, the moisture of the towels need not penetrate to the patient.

Another objection which I have to *dry* sterilised towels is that dust is constantly falling on them during the course of an operation, and if the operation is a prolonged one a comparatively thick layer of dust may in course of time collect on the surface, and may be transported into the wound by instruments which have been laid on the towels or by the fingers of the operator. For this reason, after boiling the towels, I have them immersed in an antiseptic solution, usually 1 in 2000 corrosive sublimate, and the sublimate is not wrung out to any extent before spreading out the towels. The result is that any dust which falls on these towels comes in contact with an antiseptic solution, and as regards non-spore-bearing organisms such as the cocci, which are the chief enemies to be guarded against, disinfection

A NOTE ON THE TREATMENT IN A CASE OF ARTHRITIS DEFORMANS.

BY FREDERICK BOOTH, M.D. ABERD.

THE treatment of arthritis deformans is at the present time so unsatisfactory that I have no doubt anything new which has proved successful even in one case will be of interest to the readers of THE LANCET. As there are several recognised varieties of the disease which are probably produced by different causes it will be necessary before describing the treatment to give a brief outline of the case to which I refer.

The patient, a female, aged 29 years, had previously to the attack always enjoyed good health and was strong, robust, and of a cheerful temperament, and there was no history of gout or rheumatism in the family. In January, 1907, she had a mild attack of influenza followed by slight swelling of both ankle-joints, which was accompanied by considerable pain felt especially during the night. In February swelling and pain occurred around the first metacarpophalangeal joint of the right hand, the symptoms coming on suddenly, lasting for a few days, and then as quickly disappearing, these attacks recurring at first at long intervals but as time went on more frequently, lasting longer, and leaving considerable thickening of the tissues around the joint. Then the other joints, gradually, one after another, became affected in the same way and somewhat in the following order—namely, the shoulder, the knees, the elbows, the hips, the jaws, and the spine, until there was hardly one joint in the body which was not more or less attacked by the disease. At first between the attacks there was very little impairment of movement or sign of the interior of the joint being affected, but in the latter stages effusion, especially in both knee-joints, took place. At an early stage of the disease neuralgia appeared, first in the ulnar and circumflex nerves, and gradually extended over the body, the pain and tenderness, though not as a rule severe, being very persistent. Constipation was marked from the onset and the motions became offensive and slimy, although up to that time the bowels had been quite regular. The temperature, though at first only occasionally raised above normal, became persistently so in October, when it generally ranged between 100° F. in the morning and 102° in the evening. Emaciation and anæmia were only slightly marked until the fever became constant, when both increased with moderate rapidity. The urine throughout the attack was normal.

At the commencement of the illness aspirin gave great relief, but this eventually lost to a great extent its good effect, whilst other drugs or external applications, though sometimes relieving the pains, had no effect whatever in stopping its progress. On Jan. 24th I advised the washing out of the colon daily with a four and a half feet œsophageal tube, using three quarts of warm water in which two tablespoonfuls of Epsom salts were dissolved, the tube being connected with a Higginson's syringe and the water pumped into the intestines as it was gradually inserted, no difficulty being experienced in thus using it. The lower bowel was by this means thoroughly irrigated and the motion which was for the first fortnight offensive and contained a large quantity of mucus gradually improved and became normal. In order to relieve and to disinfect the small intestine a tablespoonful of castor oil was given every morning by the mouth and two compound beta naphthol tabloids B.W. were given three times a day. Nova aspirin was given in 10-grain doses twice a day as the symptoms improved, and later hæmatogen was found to be very beneficial in relieving the anæmia. From the commencement of the washing out of the colon, as above described, the whole of the symptoms improved rapidly, and in a few days the fever and neuralgia had disappeared, the appetite had improved, and the emaciation was less marked. The joints also gradually became less painful and tender and the swelling and effusion slowly subsided. The intestinal lavage was kept up daily until March 14th, then three times a week until May 17th, when the patient went to Buxton, where she is now under the care of Dr. C. W. Buckley, who informs me that the lavage as above described has been gradually reduced to once a week, and the only joint to any extent now affected is the knee, which is improving under subcutaneous injections of fibrolysin.

The above case clearly proves that the disease in this instance was produced from poison generated in the intestinal canal mainly in the large gut. That the small intestine was also infected by the poison was, I think, shown by the fact that when the beta naphthol was not given the motions became more offensive and the improvement for the time was slower. The almost instantaneous disappearance of the neuralgia and rapid diminution of the emaciation were, I think, to be accounted for by the fact that about one-fourth of the water introduced by the tube was retained and this would no doubt be rapidly absorbed and together with the improved appetite would help to fill up the tissues and the salts contained in it would, as I have often found, relieve the neuralgic pains.

St. Anne's-on-the-Sea.

STREPTOCOCCAL ("SEPTIC") THROATS.

BY J. O. HOLLICK, M.B. DURH., M.R.C.S. ENG., L.R.C.P. LOND.,
MEDICAL OFFICER TO THE MIDLAND COUNTIES IDIOT ASYLUM.

IN April, 1908, an outbreak occurred at the Midland Counties Idiot Asylum of a pharyngitis and tonsillitis of an infectious nature, at first thought to be due to the Klebs-Löffler bacillus. Subsequent examination of swabs from the infected throats showed, however, an absence of diphtheria and diphtheroid bacilli but plentiful growth of both streptococci and staphylococci. The examination of swabs was kindly undertaken by Professor R. F. C. Leith, of the pathological department of the University of Birmingham, to whom my best thanks are due for most careful and repeated examinations. The epidemic at first occurred in the nursing staff, a female nurse showing signs of the trouble. It rapidly spread to other nurses on the female side and then to the male nurses, after which several of the male inmates were affected.

The general symptoms are as follows. There is a feeling of malaise, pains in the back and in the neck up to the occiput, and violent headache in a few cases; no vomiting or other abdominal symptoms. The evening temperature often rose to 104° F. and the morning temperature to 100°. With regard to the throat symptoms, there were slight soreness on one or both sides and difficulty of swallowing; the submaxillary and glands adjacent to the angle of the jaw and in the triangles of the neck were slightly enlarged and tender. On inspection one or both tonsils showed creamy-white secretion with angry-looking areola of inflammation extending to the anterior pillar of the fauces and the uvula was often swollen and intensely œdematous. No points of follicular exudation from the tonsils were noticeable. The urine was febrile and in some cases showed a slight trace of albumin, disappearing, however, in from two to three days; no casts or blood were present. The exudation rarely extended beyond the anterior pillars of the fauces to the front nor beyond the posterior pillars behind, but much muco-purulent secretion was observed to exude from the lymphoid follicles over the vault of the pharynx; and signs of nasal obstruction pointing to a general engorgement of the lymphoid tissue around the posterior nares and extending through the nares anteriorly were often evident. The exudate in no case extended over the soft palate or uvula. In from two to four days, according to the severity of the infection, the symptoms and local signs decreased, the glandular swelling and tenderness in the triangles of the neck and at the angle of the jaw remaining for some days or weeks after the clearing up of the throat symptoms. In connexion with this epidemic two cases of cutaneous erysipelas of the foot and leg occurred: both patients had slight abrasions of the skin previously, one of the skin between the toes and one of the skin over the dorsum of the foot. The temperature of both cases at once rose to 103° and 104° respectively. 20 cubic centimetres of antistreptococcic serum (Lister Institute) were administered subcutaneously into the skin over the abdomen. A marked fall of temperature occurred in each case during the next 24 hours, with, however, little abatement of the local signs of cutaneous inflammation; neither case suppurated, but convalescence was tardy owing to extremely slow subsidence of local inflammatory signs. Several of the patients with the throat symptoms and glandular enlargements showed a tendency to relapse if allowed to get up within too short a period of subsidence of apparently wear gloves without disinfecting the hands, looking on the sterilised gloves as a complete safeguard. Rubber gloves no doubt may be depended on so long as they are free from holes, but as they are very liable to be punctured or torn it is somewhat rash to trust to them entirely, and therefore I think that whether gloves are to be worn or not the hands should be as thoroughly disinfected as possible. In fact, in putting on rubber gloves I always fill them with 1 in 2000 sublimate solution and in this way a little of the solution remains in contact with the skin of the hands and continues to disinfect them, a point of some importance should the gloves give way during the course of the operation. As regards this question of wearing gloves I have previously said that the results at the present time are no better than they were by the Listerian method before these extreme precautions were introduced, in fact, could not be better, and therefore gloves are not at all a necessity for those who do not discard the use of antiseptics. But, nevertheless, considering all the possibilities, both of imperfect disinfection of the skin and of possible contamination of the hands during the operation, I regard the use of indiarubber gloves as a valuable addition to the precautions and in the so-called aseptic method they are a necessity. They add security against carelessness in the disinfection of the hands. Besides, apart from carelessness, some surgeon's hands are more susceptible than others to the action of antiseptics and those who are so afflicted are consequently apt to be perfunctory in their antiseptic ablutions, and even where the surgeon does take pains to disinfect his hands the skin under these circumstances becomes rough and is difficult to cleanse thoroughly. Further, if there is any suspicion of having contaminated his gloves during the operation the surgeon need have no hesitation in thoroughly washing in an antiseptic solution, as he might if he were not wearing gloves and his hands were sensitive. Cotton gloves are, I think, a mistake; used alone they do not protect the wound from the hands and used over rubber gloves they prevent the surgeon washing the gloves clean in case they have become contaminated. The only advantage is that they give a better grip.

Formerly instruments were disinfected in 1 in 20 carbolic lotion; now they are universally boiled, and although in most cases the former method is quite effectual boiling is, I think, much more satisfactory, especially in the case of toothed instruments, such as Spencer Wells's forceps, &c. At the same time, boiling in ordinary water tends to blunt sharp instruments, such as knives, scissors, and needles, and in the case of those three I prefer to immerse them for a short time in undiluted carbolic acid and then in 1 in 20 carbolic solution in place of boiling them.

With regard to disinfection by boiling, it must be remembered that boiling water is not instantaneous in its action any more than carbolic acid is. One frequently finds that nurses have the most profound belief in the rapid action of boiling as a disinfectant. An instrument falls on the floor, the nurse picks it up and says that she will sterilise it in a minute; and this is no mere figure of speech: she is actually back in a minute with the instrument, all that she has done being either to dip it into boiling water or to throw it into the steriliser and pick it out almost immediately. This, of course, is much too rapid for disinfection, and indeed the length of time required for properly disinfecting an instrument by boiling raises a difficulty in cases where it has not been put out beforehand and where it is wanted in a hurry during an operation. In that case I believe the quickest and safest plan is to immerse it in undiluted carbolic acid for a minute or two and then to place it in 1 in 20 carbolic lotion till it is required.

Among other things which come in contact with a wound during an operation, and which may convey infection to it, I may specially mention sponges. I think it will be geneally admitted that for the purpose of removing blood from wounds marine sponges are superior to swabs, and yet the great majority of surgeons have given up their use. This is, I believe, in the main due to the conviction which seems to have become deeply rooted, that heat is the only dependable method of disinfection, and marine sponges are ruined by heat; and also to the terror which some people have of antiseptic solutions. 1 in 20 carbolic acid will destroy bacteria and their spores in 24 hours, even in an albuminous fluid; if marine sponges are kept in this lotion for a week they may certainly be depended upon to be completely disinfected. This is not a matter of theory but of experiment. For my part I always use marine sponges. They are thoroughly washed and immersed in 1 in 20 carbolic acid for at least a week before use. It is quite easy to wash out the carbolic acid from the sponges subsequently either in a weak sublimate solution or in sterilised salt solution. I have never seen any reason to reject marine sponges, either from the point of view of asepsis or from that of irritation by antiseptics, and as a method of drying a wound there is no comparison between them and swabs. Apart from the greater usefulness of marine sponges, I object to swabs in aseptic cases, because, as they do not absorb fluid readily, there is more rubbing and consequent disturbance of the surface of the wound when swabs are employed, especially if they are used dry; and further, except in specially made swabs, threads are apt to be left behind in the wound, which may form a nidus for the development of bacteria, if any have entered during the operation. The importance of the latter point is by no means inconsiderable. For example, we find in the early experiments on tetanus that infection could not be brought about at all readily unless the bacilli were attached to some inert substance such as a silk thread. If injected subcutaneously in small numbers in suspension in fluid, no effect was produced, while silk threads soaked in a suspension of bacteria and placed beneath the skin led to the desired result. I venture to think that the way in which marine sponges have been thrown aside, and swabs, whether wet or dry, have been substituted, is regrettable and introduces an unnecessary complication into the operation.

We may say, therefore, that as regards the preliminary disinfection, heat, especially in the form of boiling, is the most certain and best method of sterilisation, but we cannot do without chemical antiseptics for the disinfection of the skin, and of various articles such as marine sponges, which are of great use during the operation.

The *second point*—and it is one of the greatest importance—is to avoid soiling of instruments, hands, and consequently of the wound itself during the course of the operation. No doubt bacteria are constantly falling into the wound from the air during the operation, but it is well to diminish the number that may get in as much as possible, while it is important not to introduce masses of organisms, especially of pathogenic ones, as may be done if the hands of the operator touch surrounding objects which are not free from bacteria and are then put into the wound, or in many other ways which an observant surgeon will notice, but which are too numerous to mention. We must therefore so arrange matters that in the course of the operation there shall be as little chance as possible of accidental introduction of masses of bacteria into the wound, whether by the surgeon's hands or instruments, or in any other way.

The first thing that is done in order to diminish this risk is to surround the area of operation widely by aseptic cloths. About this point there seems to be no question in any of the plans adopted; the usual method is to cover the blankets, skin, &c., over a wide area in the vicinity with towels which have been sterilised by superheated steam. Personally, I prefer to sterilise the towels by boiling them. I think it is a much more certain way of carrying out the disinfection, especially when we see the small sterilising machines which are on the market at the present time and which are so much used, and realise that they cannot sterilise materials placed in them, especially when the latter are packed at all tightly. From the point of view, then, of complete sterilisation I much prefer to boil the towels; the only advantage of the dry towels is the question of keeping the patient dry, but as in any case mackintoshes are first applied over the surrounding area, the moisture of the towels need not penetrate to the patient.

Another objection which I have to *dry* sterilised towels is that dust is constantly falling on them during the course of an operation, and if the operation is a prolonged one a comparatively thick layer of dust may in course of time collect on the surface, and may be transported into the wound by instruments which have been laid on the towels or by the fingers of the operator. For this reason, after boiling the towels, I have them immersed in an antiseptic solution, usually 1 in 2000 corrosive sublimate, and the sublimate is not wrung out to any extent before spreading out the towels. The result is that any dust which falls on these towels comes in contact with an antiseptic solution, and as regards *non-spore-bearing organisms* such as the cocci, which are the chief enemies to be guarded against, disinfection

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

X Ray Examination of the Urinary Tract.

A MEETING of this section was held on Dec. 8th, Mr. WARRINGTON HAWARD, the President, being in the chair.

Dr. W. IRONSIDE BRUCE read a paper on a system of X Ray Examination of the Urinary Tract. He said that, taking the x ray as produced and looking upon it as a source of light emanating from a point referred to as the anode of the tube, the radiogram was a shadow cast upon a photographic plate of those parts of the body that were opaque to the x ray. In dealing with ordinary light shadows might give false impressions of the objects which cast them, and in the case of x ray shadows of the renal region that fact claimed specially to be borne in mind. If these x ray shadows were to be used as a means of recognising any existing abnormality it was surely necessary as a preliminary that an accurate knowledge of the normal x ray appearance presented by this part should be acquired. In order to gain this knowledge it was of the greatest importance that the shadow secured of the part should always be the same. In other words, the anode of the tube should always bear the same relation to the part at the time of irradiation. In his method the anode of the tube was readily and easily placed in an accurate anatomical relation to the part to be examined by means of a very simple mechanical contrivance. In the case of the renal region it was placed immediately below the spine on the second lumbar vertebra. In every case this relation between the anode of the tube and the spine of the second lumbar vertebra was maintained and, since the kidneys and the ureters usually bore a definite relationship to the bones of the part, a radiogram showing up these structures would demonstrate the shadow relationship which they bore to the bones. In order to secure a proper knowledge of these relationships the pelves of the kidneys and the ureters of a post-mortem subject were injected with an emulsion of bismuth. A radiograph was then secured of the renal region of the subject, the anode of the tube being in the usual relation to the second lumbar vertebra. By means of the radiogram thus secured the shadow relationship of the kidneys, right and left, and of the ureters was worked out. The position of the subject was also of great importance. The patient was placed, lying face downwards with his arms by his side, on a canvas-topped couch under which the tube was arranged, and in order to restrict, so far as it was possible to do so, the movements of the diaphragm and consequently of the kidneys, a pad or compressor was placed under the abdomen with the whole weight of the patient resting upon it. The compressor pushed the abdominal contents away from the renal area and allowed the more perfect illumination of these parts. It was often difficult to secure a radiogram of good quality, sometimes on account of the density of the subject and sometimes owing to the vagaries of the patient. The latter were usually overcome by frequent examinations or by administration of an anæsthetic. With regard to the first-named cause it was not always the most obese subjects that were the cause of failure; more often it was the stout subject with considerable muscular development. The use of an abdominal compressor combined with frequent examination and effective evacuations of the intestine, usually resulted, however, in a radiogram of good quality, even in the most obese subject. A radiogram of good quality should show the following points: it should be absolutely symmetrical; the lumbar vertebra should be sharp and distinct in outline; the margin of the psoas muscle easily made out; the twelfth rib well defined; and the outline of the kidney on either side discernible. If such a radiogram were secured there was no reason why a positive or negative diagnosis might not be absolutely relied upon, but in a case where the radiogram was not up to the standard it was the duty of the radiographer to state this fact, so that the diagnosis, positive or negative, might be valued at its true worth. In order to bring renal examinations to a successful conclusion it was essential that the examination should not be carried out in a hurried manner, for not only was it necessary to have the intestine properly emptied but time should be allowed for re-examination, not once but two or three times if necessary. It was often insisted upon that the radiographer should be in possession of all the clinical facts of the case before making his examination. Although a knowledge of the clinical history was desirable, yet it was much better that at the time of examination the only knowledge possessed of the case should be that it was one of supposed calculus in the kidney or ureter. By approaching the case in that manner the radiogram secured could be viewed with an entirely unbiassed mind, and an examination in every case of the whole of the urinary tract became absolutely necessary. A provisional diagnosis having been made radiographically, the clinician could then compare his conclusion with that arrived at by the x ray examination. Thus the value of clinical observations in such cases was considerably increased. Further, it was of the utmost importance that neither the clinical nor the x ray evidence should be put in a place of first importance. The radiographer was wrong who stated that x ray evidence was infallible and, on the other hand, the clinician was surely equally wrong who advocated operation in the face of strong x ray evidence to the contrary. It was always advisable, if possible, to bring one into line with the other. Any increase in the size of the outline of the kidney, when observed in a case of suspected renal calculus, might assist the diagnosis—for example, in the case of a boy who had had attacks of renal colic associated with pus in the urine. Calculus was suspected but on x ray examination the outline of one kidney was markedly increased in size and no opacity was to be made out suggesting the presence of calculus. From an x ray point of view the diagnosis in this case was tuberculous kidney with renal colic from the passage of pus and débris through the ureter. As a matter of fact, such was the condition of affairs on post-mortem examination. If, moreover, there was more than one calculus present in a case this fact might be noted and the position of the calculus or calculi in relation to the pelvis or the cortex of the kidney might be indicated. The condition of the sound kidney, provided the outline of it could be made out, might also be deduced from the size of the shadow cast by it. In conclusion, he trusted that from what he had shown them of the work of the radiographer in connexion with the diagnosis of renal calculus, they would appreciate some of the difficulties with which he was faced and that they would see that he had striven to some purpose to remove this method of investigation from the realm of mere mechanics to a branch of the profession that must be recognised as a permanent and essential factor in the accurate diagnosis of disease of the urinary system.

The paper was discussed by Dr. G. H. ORTON, Mr. W. G. SPENCER, and Dr. N. S. FINZI, after which Dr. BRUCE replied.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

The Treatment of Rheumatism.

A MEETING of this section was held on Dec. 1st, Dr. F. H. BURTON BROWN, the President, being in the chair.

Professor RALPH STOCKMAN read a paper upon the Treatment of Rheumatism. He showed and analysed a large number of charts illustrating the prompt fall of temperature which resulted when the patient came under the influence of salicylate of sodium. When the initial fall was partial or slow, an increase in the amount of the drug would usually cause the temperature to fall completely. He also showed charts illustrating the action of drugs closely allied in pharmacological composition—salicin, salicylate of methyl, &c. In one group of cases of rheumatism the synovial membranes of the joints were alone or principally involved; in a second group of cases, which were more chronic and less amenable to treatment, there was much involvement of the surrounding fibrous structures, the tendons, and fasciæ. In the latter much larger doses might be required.

Dr. D. B. LEES read a paper in which he maintained that the present treatment of acute rheumatism was unsatisfactory and inadequate because, failing completely to arrest the disease, it despaired of any beneficial influence on the heart and was content to alleviate the painful arthritis. He advocated the use of large quantities of salicylate of sodium, with infective material, they act as irritants and are really nothing more or less than the old setons. I would, therefore, strongly beg for a reconsideration of this question of drainage and for the resumption of drainage by tubes instead of gauze, certainly in all cases where sepsis is present. I have repeatedly seen cases of intractable sinuses where all that was required to obtain healing was to leave out the gauze plug and keep the orifice of the sinus open for a few days by means of a small drainage-tube.

Coming now to the *third point*, viz., the question of preventing infection of the wound after the operation is completed, I think that we have here the most important difference between the extremists and the Listerian school. Lister from the first pointed out that an essential part of the treatment was to prevent the possibility of infection of the wound after the completion of the operation. Now infection of the wound after the operation takes place by the growth of bacteria in the blood and serum after they escape from the wound and in the dead epithelium on the surface of the skin, and their subsequent penetration into the wound along stitch tracks, drainage openings, &c. With the view of avoiding this growth, Lister arranged that the discharges from the wound should be received into dressings which contain an antiseptic in such amount that when dissolved by the discharge it will render the latter an unsuitable soil for the growth of bacteria. As was pointed out in a paper read by Lister at the Medical Society of London some years ago, it is not necessary that the amount of antiseptic thus communicated to the discharge should be very great. All that is wanted is to add enough antiseptic to the discharge to inhibit the growth of bacteria, not to produce a solution strong enough to kill them; and by following that principle it is not necessary to put on dressings containing antiseptics of a character or in sufficient amount to irritate the skin. It is true that some skins are more irritable than others, and that a rash may occur in some cases under a very mild antiseptic dressing, but with the antiseptics which are now used this is of comparatively rare occurrence, and where necessary can be avoided by placing a layer of plain sterilised gauze next the skin beneath the antiseptic dressing. It may be noted that in any case the antiseptic in the dressing does not get into the wound; it is merely placed there with the object of preventing bacteria growing in the discharge and reaching the wound.

Nowadays surgeons are using to a large extent dressings which have been heated and which no doubt in many cases are really sterile, but which do not contain any antiseptic. In passing I may remark that the sterility of these dressings is by no means certain in all cases, for one has only to look at the small machines which are often used in private work, and the way in which dressings are tightly packed into them, to realise that no proper sterilisation can have taken place. The action of such a dressing is merely that of a filter against the dust of the air, just like the plug of wool in a cultivation tube. The discharge soaks into the dressing, and till it comes near the surface of the dressing it may remain sterile. That, however, will only be the case if the skin has been really thoroughly sterilised and if no bacteria have fallen on the skin or the dressings before they are applied. But, in any case, as soon as the discharge reaches the surface of the dressing bacteria will grow in it and rapidly spread through it and reach the wound, unless, indeed, the blood has in the meantime become so concentrated by drying that it is no longer a suitable cultivating medium.

When we reflect that an organism dividing three times an hour, which is a fair average, will give rise to something like 33 million bacteria in 12 hours one can have some idea how quickly the organisms may reach a wound once the discharge has come to the surface of a plain sterilised dressing. Although no doubt after 24 or 48 hours these bacteria can no longer penetrate into the wound and cause deep-seated trouble they may quite well spread along the stitches and give rise to the stitch abscesses, which seem to be not at all uncommon in the practice of surgeons who use these dressings. These stitch abscesses have, in my opinion, been erroneously attributed to imperfect sterilisation of the stitch material or to imperfect disinfection of the skin. I say erroneously because, using antiseptic dressings, I have practically no experience of them, and the conclusion which follows from that fact is that it is from the want of antiseptic in the dressings and the consequent growth of bacteria rather than from the other causes mentioned that these stitch troubles arise. To carry out the purpose of this dressing a large mass must be put on, and not the small pieces that one so often sees used. If it fails in its object it does harm instead of good, for it interferes with the drying up of the discharge and, keeping it warm and moist, favours the development of bacteria in it. This plan was tested long ago by Lister and was given up as being unsatisfactory.

If I were to go over to the extreme party and abandon the use of antiseptics—which I have no intention of doing—I should not apply any dressing to the wound at all. If the wound is left open and protected from direct contact with septic materials the blood and serum which ooze out in the first instance will very soon dry up and form a scab which will prevent infection of the interior, and if I were dressing wounds in that way I should build up a mass of aseptic dressings on each side of the wound and then fix a thin layer of wool or gauze over the surface, but not touching the wound, so as to protect it from dust. Where wounds can be completely closed from end to end I think the great majority would do perfectly well if treated in this way, and probably better than if covered with plain sterilised dressings, but where drainage has to be provided, as is, of course, the case in some operations, such as in some extensive breast operations in fat people, in draining joints, &c., the problem is different, and there I think that it is essential that the dressing should contain some antiseptic if one wishes to be certain of the result.

To sum up the criticism which I have to make on the most recent ideas on the treatment of wounds, it is that the pendulum has swung too far in the direction of the avoidance of antiseptics, and that the reasonable use of all the means at our disposal for securing asepticity of wounds will furnish more constant results. The chief point to which I take exception is the employment of dressings which do not contain an antiseptic in sufficient amount to render the discharges which flow through them unsuitable for the growth of bacteria. And a second point which I also think is very important is the absence of antiseptic solutions during the operation in which hands, instruments, &c., may be washed from time to time to insure a continued asepsis. A third point which I think is a retrograde step is the substitution of gauze plugs for drainage-tubes, more especially for the drainage of abscesses and sinuses. Minor points are the use of swabs instead of marine sponges and the avoidance of catgut. This extreme view has, however, done good, especially in the way of directing attention to the value of heat as a disinfectant for various purposes in connexion with operations. There is no doubt that the sterilisation of instruments, towels, &c., by boiling and of dressings by a current of superheated steam adds very distinctly to the certainty of the results. It has also done good by calling attention to the importance of diminishing the amount of dust which may get into wounds at the time of the operation, although some of these precautions have been given an importance which they do not deserve.

It always seems to me—and I say this from a large experience in bacteriological work—that the attempt to treat wounds without any antiseptics is a very unnecessary complication. In the first place, it is ever so much more difficult to secure asepticity of a wound under such circumstances than if one takes advantage of antiseptics, and in the second place it requires a man who is especially skilled and experienced in bacteriological work to bear in mind the various loopholes which have to be guarded against in order to obtain a constant aseptic result. I say that bacteriological experience is necessary because the surgeon has to concentrate his attention on the object of the operation rather than on the aseptic technique, and in order to carry out the object of the operation satisfactorily and at the same time without the risk of sepsis the aseptic technique must be practically automatic. Therefore, if he has to be thinking all the time not only of the object of his operation but of the various loopholes which may arise and which he must most carefully avoid, seeing that he has no antiseptic materials at hand with which to rectify mistakes, one or other point must suffer; either his operation may not be carried out as he would desire it or his aseptic technique is apt to be faulty. I confess that I can see no reason for this great dread of a drop of antiseptic material getting into the wound; I can neither case was that value fully explicable by their present knowledge.—Dr. A. C. GURNEY (Eastbourne) was of opinion that one important therapeutical point not touched on in Dr. Brodribb's paper was the fact that in sea bathing there was a mechanical stimulation of the skin by the impact of the spray or surf and the movement of the water which gave it an important advantage over the brine baths of inland spas in a certain class of cases.—Dr. C. W. BUCKLEY (Buxton) considered that the cause of sea water baths for medicinal purposes would not be advanced by the argument that since sea water contained more dissolved substances than some mineral springs it must be more potent. The constituents to which mineral waters owed their undoubted efficacy had not yet been definitely ascertained.

Mr. W. J. MIDELTON (Bournemouth) read a paper on the Treatment of Rheumatic Affections by Counter-irritation of the Spine, in which he said that he was firmly convinced that continuous counter-irritation in the neighbourhood of the cervical and lumbar enlargements of the spinal cord was a powerful means not only of producing a beneficial effect on the nervous system but also of eliminating germs and toxins. He gave a short history of the method and mentioned other practitioners who had adopted it with success. He had treated 27 cases of polyarticular rheumatoid arthritis in both the early and late stage, three cases of paralysis, and two of hysteria by this method with marked success. He read notes of four of his more recent cases. He showed a patient who had been restored to health and freedom of movement by this means under the care of Dr. S. G. Champion and read notes of other cases treated by him and Mr. A. B. Batley.—Dr. A. P. LUFF (London) stated that the results of his experience of applying blisters to the region of the spine in the treatment of various diseases of the joints did not compare altogether favourably with other methods of treatment.—Mr. W. ARMSTRONG (Buxton) said, holding the view that in all cases of arthritis there was more or less interference with the nerve-nutrition of the joints, he had for the last 12 years given special attention to the treatment of the so-called "joint centres" in the cord. At first the applications were of mustard bran, acetic acid, and other counter-irritants; later the blistering treatment advocated by Mr. Midelton, which he had used thoroughly in 16 cases, all severe examples of definite rheumatoid arthritis, more or less improvement taking place in every instance. For the last four years he had substituted the electric cautery. The applications, which should not make skin lesions, were made to the sides of the cervical enlargement in affections of the upper limbs and of the lumbar enlargement where the lower extremities were involved. He did not put this method forward as an actual specific for arthritis nor did he suggest that it precluded the necessity for careful elimination of all reflex sources of irritation, such as gastric and intestinal intoxications, the various sources of septic poisoning, uterine and general nervous derangements; but he could say that since using this method his results in the treatment of a considerable number of cases of this most intractable disease had shown remarkable and most gratifying improvement.—Dr. BUCKLEY said that he had given the methods under discussion a fair trial and had come to the conclusion that counter-irritation of the skin over the spine, whether by blisters or, as he preferred, by Paquelin's cautery, certainly alleviated pain; but he had found no evidence of any curative effect, nor did he think it likely that a disease which undoubtedly was due to bacterial action could be cured by such means.—Dr. A. MANTLE (Harrogate) said he did not favourably regard the treatment.—Dr. R. LLEWELYN JONES (Bath) spoke in support of the paper.—In his reply Mr. MIDELTON said that before submitting to the treatment by counter-irritation of the spine many of Dr. Champion's and his own patients had conscientiously tried every kind of treatment at home and abroad. Local disease was always looked for and treated if found.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Mammary Carcinoma.

A MEETING of this section was held on Nov. 27th, Mr. JOHN LENTAIGNE, the President, being in the chair.

Mr. EDWARD H. TAYLOR read a paper on Mammary Carcinoma and its Surgical Treatment. There was no region of the body, he thought, where so much had been learnt in recent years of the mode of the spread of cancer as in the breast, nor was there any region where more satisfactory results had been obtained by improved operative measures. What he had to say would have reference to the ordinary scirrhous form of the disease. Cancer first appeared as a small nodule in the breast, which gradually extended until it involved the whole of the breast and the adjacent tissues. There were also the lymphatic extensions, and the extensions which took place by the blood stream. For a long time the extension of cancer to lymphatic glands had been well known, and they instinctively examined for enlarged lymphatic glands in order to gain a correct idea of the extent of the case. The cancer might also extend along the lymphatic vessels in a way which had been described by Mr. W. Sampson Handley of London, and to that gentleman he was indebted for the slides which he would show in illustration of the spread of cancer by the lymphatics.[1] [Slides showing the various methods of extension were exhibited.] As to the treatment of cancer, his experience was that the cases of breast cancer usually met with were not favourable for a complete operation. He regarded as a favourable case one in which the disease was confined to the breast and in which there was no evidence of disease of the skin or of enlarged glands. If they found enlarged glands in the axilla they might regard the case as a late one in which the disease had travelled far, and such were the majority of cases which came to the surgeon. Until they got cases in earlier stages they could not hope for ideal results in treatment. The delay was largely due to the fact that it was very difficult at an early period to say that the case was one of cancer and the signs that they relied upon were really late signs. Another cause of delay was that patients put off seeing the medical practitioner until the symptoms had assumed a serious aspect. They should never hesitate to make an exploration by an incision along the outer periphery of the breast, cutting out a wedge-shaped mass which included the suspected swelling. He did not recommend cutting into the tumour to see if it was cancer. It should be cut out altogether. If the disease had involved the skin, if it was adherent to the chest wall, if the glands of the axilla were extensively enlarged, and if the glands in the supra-clavicular region were enlarged also, he did not believe there was any prospect of a permanent cure by operative measures. [Slides were shown in illustration of the stages of the radical operation.] In the case of limited disease the wound could be closed by suture but in later stages a grafting or autoplastic operation might be necessary. The arm should always be left free so that the patient had a good range of mobility and could gradually ge to use it. A great improvement had occurred in the operative treatment of such cases. Some operators had given thei successes as 40 per cent. or more. He was afraid that h could not lay claim to such satisfactory results. He had ha recurrences in patients more than three years after operation. The knowledge of the extension of breast cancer had been a extremely valuable acquisition to surgeons, and in view o what Mr. Handley had so ably described they shoul impress people with the importance of seeing a medical ma at the earliest possible moment when any tumour appeare in the breast. If they were to get good results in the futur he thought that it would not be by any further extension o the operation but by early and correct diagnosis.

Mr. WILLIAM TAYLOR emphasised the difficulty of diagnosis and recommended strongly that the general practitioner and the gynæcologist, who saw the case earlier tha the surgeon, should be impressed with the fact that at leas five out of six women with a lump in the breast were suffering from cancer. The earlier the age the more active wa the growth in the breast. Recurrence had been found up t 12 years after operation.

Mr. K. E. L. G. GUNN said that his own practice was t remove more skin than Mr. Taylor thought necessary. H only removed the greater pectoral if he could not clean th axilla without its removal.

The PRESIDENT said that they should strive to impress o educational authorities that it was more important for a gi to understand her health than to understand algebra, and one of the lessons a girl ought to be taught was the absolute necessity of attending at once to a lump that appears in the breast, or anywhere else. The danger was that uric acid is poisonous."[3] Other writers support the microbic origin of gout, whilst Sir Lauder Brunton is inclined to agree with Luff, "that the poison of gout might not be uric acid, but probably it was a substance allied to uric acid and probably a derivative of purin."[4] The only evidence of the bacterial theory of gout is that adequate clearage of the intestinal contents diminishes the gouty symptoms.

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[1] THE LANCET, April 8th (p. 909), 15th (p. 983), and 22nd (p. 1047), 5.

Nor must we forget the all-important part played by the liver in the "metabolic commerce," as Sir Lauder Brunton so aptly puts it. Little or no consideration is at present paid by many people to the transformations which uric acid undergoes in the body, although these are quite as well marked as those of sugar, and affected to a great extent by the same organ—viz., the liver.

Whether uric acid is or is not toxic in itself is to my mind rather beside the question. What we know is that the presence of free uric acid in the blood is synchronous with an attack of gout, so much so that the uric acid and the gouty state have been considered synonymous terms. Now it is by no means necessary to assume that it is the cause of gout any more than that sugar in the urine is the cause of diabetes. Both point to a disturbance of metabolism and our treatment must be symptomatic until the true etiology has been discovered. The fact that uric acid is free means that the blood is abnormal and we know that the slightest variation from the normal may work for ill in manifold ways. Perhaps the phagocytes or antibodies are unable to work in this altered medium against the toxins which are the probable starting cause.

Important as it is to endeavour to find the actual cause of gout and to place our patients under those conditions best calculated to ward off a continuance of the attacks, it is more within the scope of this article to give some indications of treatment when the transformation of uric acid has actually occurred and deposition has taken place in the system. There is little doubt that the old-fashioned attack of gout endured by our forefathers is rarer nowadays. I think this may be explained by the fact that we live more carefully and take more exercise. Beer and heavy wines have given place to spirits, mineral waters, and the lighter wines. Meals, though perhaps more varied, are not so heavy. We now eat lighter dishes and more of them. But are we of this generation the gainers? Though our ancestors had their gouty attacks, they generally lived to a good old age. It is a serious question whether our business worries and the struggle for existence, our habits of late hours, whisky drinking, and excessive smoking, are not taking their toll in heart, liver, kidney, and nerve troubles, leading to defective metabolism and the production of the toxins and ferments they bring in their train. The gouty state of to-day is undoubtedly different from the gout of fifty years ago; less acute, but more insidious, more lasting, and more serious in its ultimate result upon health and strength. We have present in the blood a substance which lacks the requisite quantity of thyminic acid to be rendered inert. Having, therefore, discovered and removed, to the best of our ability, any possible cause, we must endeavour to relieve its mischievous effects by limiting its further production and preventing its deposition as a salt in the tissues.

The hygienic, dietetic, and therapeutic considerations in the prevention and treatment of gout should be carefully studied in every case. It is as irrational to feed every patient on nuts and vegetables as on underdone meat and port wine. "What is one man's meat is another man's poison" is an old adage that is remarkably true in the dietetic treatment of gout. The broad lines to work upon are a sufficiency of simple, wholesome, and well-cooked foods of mixed character (avoiding in acute cases the exhibition of those containing an excess of purins), efficient mastication, ample time for meals, and the avoidance during the same of the ingestion of soups and large potations. The amount of sugar and starch should be reduced to a minimum. It ought also to be remembered that salt, which so readily yields up its sodium, should be very sparingly taken. The question of a suitable beverage and its amount is a subject which exercises the mind of every patient one sees. It is quite impossible to draw a hard-and-fast line for every case. Alcohol in any form acts as a poison to some and it may certainly be quite advisable to order it to others. Some patients will not endure the total abstinence from what they look upon as a creature comfort, and in such cases fall back upon our judgment as to what is least harmful. The patient's own observations as to what kind of wine suits him is usually to be relied upon, but the quantity is another matter. "A glass or two" of port or champagne may mean anything up to a bottle, and I am convinced that spirits, wine, or malt liquors taken in any other than small quantities are as guilty as, if not more so than, food in producing evil in the digestive organs. I place spirits first advisedly, because, in my opinion, the profession has supported and maintained the extraordinary fetish of the "whisky and soda" of the present day. It is quite time the public were educated to the fact that a raw spirit, the flavour of which comes from the sherry cask, diluted with mineral water, is far from being a harmless beverage. It can do no good and often does an infinitude of harm. It has certainly done much to destroy the taste of the British public for pure light wines, as the majority of these now sold in England to suit the vitiated palate of the people are pasteurised or loaded, and are badly borne by the gouty. Perfectly pure and sound clarets and moselles are cheap and easily procurable, and little or no harm results from their consumption. An abundance of plain non-irritating fluid during the day is very advisable, and the natural waters of Vichy, Godes Berger, or Contrexéville are excellent. I have been particularly pleased with the results obtained by ordering a pint of skimmed milk in the early morning and the same amount at breakfast. It must be borne in mind that probably better results might follow the exhibition of butter-milk curdled by and containing growths of lactic acid bacteria.[5] Caffeine, the active principle of coffee and tea, is closely allied to uric acid in their organic equivalents (uric acid $C_5H_4N_4O_3$, caffeine $C_5HN_4O_2$) and should be avoided or sparingly consumed. Regular exercise, not spasmodic bursts of activity, is essential. I have often seen an attack of gout, sciatica, or lumbago following a day's hard hunting, when the heart and muscles are not tuned up to endure the strain. The business man living a sedentary, worrying life all the week ends up on Saturday and Sunday with three or four rounds of golf, and a painful elbow or shoulder lasting many weeks is the result. It is next to useless to advise our patients in these days to avoid mental worry and disquietude, and I have been particularly struck with the number of cases that have come to me where business worry is the sole predisposing cause.

The palliative remedies in vogue for the treatment of gout are many and varied. They may be classed under four heads: (1) the so-called uric acid solvents; (2) alteratives; (3) salicylates or their derivatives; and (4) alkalies.

1. During the past ten years a variety of so-called uric acid solvents have come within our reach—salts of lithia, phosphate of sodium, piperazine, pyridine, lysidine, lycetol, citarin, guaiacolate of piperidin, urotropine, uricedin, and urosin. Their action is the supposititious one of rendering soluble the biurate of sodium within the body, but in the absence of any proof that such solution is produced one must remain a sceptic as to their having any action in the elimination of uric acid or its derivatives. I am convinced that to depend upon the so-called uric acid solvent is to lean upon a broken reed. They play no possible part in holding uric acid in solution or preventing the formation of the biurate of sodium. Many irritate the mucous lining of the stomach and intestines and nearly all are depressing in their action.

2. Under the heading of alteratives we have the drugs colchicum, guaiacum, arsenic, and iodide of potassium, each valuable in its own sphere but with no reason for the results, good or bad, that sometimes follow their use. Colchicum has an undoubted action in checking the symptoms of acute gout, especially after the exhibition of a smart mercurial purge. But in the insidious and in the more subacute forms this drug is worse than useless, is a cardiac depressant, and is often badly borne.

3. Another group are the salicylic acid derivatives, salicylate of sodium, aspirin, &c., which undoubtedly possess valuable properties in the rheumatoid form of gout. In many forms the salicylic acid derivatives, especially aspirin, salol, and salicylate of sodium, have a marked beneficial effect, and Sir Lauder Brunton has pointed out the very valuable combination of salicylate of sodium and bromide of potassium in the

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[3] Albutt's System of Medicine, vol. iii., p. 155 et seq.

[4] Transactions of the Medical Society of London, vol. xxx., p. 75.

[5] Brit. Med. Jour., Sept. 19th, p. 847.

Sclerosis.—Mr. H. Lett showed: 1. A case of Osteitis Deformans. The patient was a man, aged 54 years. For six or seven years he had had pains in the tibiæ and he had had to wear caps as his head became too large for his hat. Both tibiæ were affected, as also the femora and right humerus. The characteristic curving of the lower extremities was well marked and there was kyphosis in the upper dorsal region. 2. A case of Atrophy of the Testis following an acute attack of Torsion of the Cord in a man, aged 21 years. The testis was very small and hard, and just above it a smaller lump representing the epididymis could be felt. 3. A case of Tertiary Syphilitic Periostitis of the Fibula in a woman, aged 57 years.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 17th, Dr. T. J. Wood being in the chair.—Mr. F. W. Goyder showed some pathological specimens.—Dr. F. W. Eurich gave a microscopical demonstration.—Dr. W. Mitchell in the course of some remarks on Ionic Medication gave an interesting demonstration of this method of introducing various drugs into the tissues. He thought that this method of treatment was being neglected by the general practitioner and pointed out how simple it was and what good results could be obtained by it.—Mr. James Phillips read a paper entitled "The First Three Weeks of Pregnancy and the Practical Bearing of Recent Investigations on our Knowledge of Ectopic Gestation." He quoted the recent work, from Peters's publication in 1899 to Bryce and Teacher's monograph published in October, 1908, done on the implantation of the ovum, showing that the fertilised ovum when it reached the uterus burrowed into the substance of the decidua and by setting up a coagulation necrosis opened up capillaries and thus established the maternal fœtal circulation. When the ovum was arrested within the Fallopian tube the same burrowing process and production of a necrotic zone round the ovum took place, accounting for the almost invariable termination of these cases by rupture. "The ovum in making its bed digs its own grave." Statistics were quoted showing that rupture into the lumen of the Fallopian tube and the formation of a tubal mole was a much more frequent event than intraperitoneal rupture and the importance of always thinking of tubal pregnancy in every case of sudden pelvic pain was emphasised.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Dec. 2nd, Dr. A. T. Wilkinson, the President, being in the chair.—Dr. W. Milligan made a communication upon Direct Laryngoscopy, Tracheoscopy, Bronchoscopy, and Œsophagoscopy. After a brief historical *résumé* of the history of laryngoscopy he demonstrated Kirstein's method of autoscopy and pointed out its advantages in the examination of young children and in obtaining a good view of the posterior laryngeal wall. Killian's instruments were shown and reference was made to the very valuable work done in his clinic. Brüning's electroscope, telescopic tubes, and extension forceps were also shown, the demonstration being aided by numerous lantern slides and stereoscopic photographs. The position of the patient, the question of anæsthesia, and the position and duties of assistants were mentioned. The value of direct laryngoscopy as a method of diagnosis and of treatment was then discussed, illustrative cases being quoted. Tracheoscopy and bronchoscopy, superior and inferior, were referred to and various useful instruments were shown. The history of œsophagoscopy was briefly touched upon and its value in the diagnosis of many obscure lesions of the food passage was insisted upon. The following cases were demonstrated: (1) Laryngeal Fibroma; (2) a patient operated upon for Laryngeal Fibro-papilloma; (3) Laryngeal Stenosis (Syphilitic); (4) Laryngeal Lupus; (5) Hysterical Spasm of the Œsophagus; and (6) Œsophageal Ulcer (Traumatic).

HOW DISEASE IS SPREAD.—A striking instance of how disease is spread was reported at the last meeting of the Shaftesbury (Dorset) rural district council by the medical officer of health (Mr. T. F. Hanly) who stated that he had been notified of a child suffering from diphtheria at the village of Huntingford. The case subsequently proved fatal. Mr. Hanly on visiting the house of the patient found that the father was at his usual occupation of milking cows.

Reviews and Notices of Books.

Oxford Medical Publications. Selections from the Writings, Medical and Neurological, of Sir WILLIAM BROADBENT, Bart., K.C.V.O. Edited by WALTER BROADBENT, M.D. Cantab., M.R.C.P. Lond. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 444. Price 15s. net.

WHEN the medical history of the latter part of the nineteenth century comes to be written there can be little doubt that the work of the late Sir William Broadbent will occupy a high place in the roll of honour. A minute and accurate observer, a man of rare and varied experience, and of wide outlook, he was a great physician and one who has left a large impress, not only on the students who came under his personal influence, but also upon the medical thought and progress of his time. Fortunately, his teaching has been preserved in the many lectures, contributions, brochures, and books which he produced, the list of the titles of which occupies nearly nine pages of this book before us. By collecting together into one volume some of the more important and characteristic of his lectures and publications his son, Dr. Walter Broadbent, has laid the profession under a debt of gratitude and has produced a worthy monument to his father's memory.

The various papers are on widely diverse subjects and were published at different periods of Sir William Broadbent's career. Some, as the editor informs us, are included in the present volume for their historical interest, others for the valuable information which they afford to the medical man of to-day, but in any case there is not one that we would have done without. The most striking feature of these writings considered as a whole is the thoroughly sound and practical common-sense which permeates them, illumined not infrequently by flashes of real inspiration. Not one of the least of the charms of these various papers is the clear and simple explanations given of many common symptoms and physical signs. In many of them some special case or series of cases is used as the text upon which to hang a general account of some disease or rare condition, and the accounts of these cases are invariably given in such language as to bring vividly before us the symptoms and physical signs, while the way in which they are utilised show that Sir William Broadbent was not only an extraordinarily acute observer but also a master in diagnosis. In regard to treatment, the book teems with practical hints and it can be read with great profit as a stimulating and instructive exercise by all who appreciate the value of exact and careful clinical observation of cases.

The first paper given in this volume is the last completed paper published shortly before the death of the author on the Examination of the Heart. It consists of a critical examination of the significance and value of the individual symptoms and physical signs observed in the various forms of cardiac disease. This paper is of interest, since it summarises the general principles applied by Sir William Broadbent in the diagnosis of cardiac lesions, a subject which he made so peculiarly his own and did so much to advance by his personal investigations. A number of the other papers are also devoted to consideration of cardio-vascular disease—such, for example, as those on the Conduct of the Heart in the face of Difficulties, on Adherent Pericardium, on Angina Pectoris and Pseudo-angina, on the Clinical Significance and Therapeutical Indications of Variations in the Blood Pressure, and on Aneurysm of the Aorta, all of which abound in useful practical suggestions.

An interesting paper on Venesection, reprinted from Vol. I. of THE LANCET of 1883, is strikingly up to date in its *résumé* of the practical application of that useful therapeutic measure me *to inject him for lumbago*, and here again the result was most satisfactory. I have given it with equally good results in four other cases, three of sciatica and one of neuritis of the ulnar nerve. In none of these did any unpleasant results follow except the usual numbing pain, quickly passing off, which follows any intra-muscular injection other than cocaine or morphine. Taking into consideration the chemical affinity of thyminic acid it is legitimate to assume that its local action would greatly lessen the deposition of the biurate of sodium upon the inflamed tissue or joint. I have since had sterilised tubes prepared by Messrs. Allen and Hanburys, *containing* two grains of thyminic acid and one-quarter grain of novocain, and find that the addition of the latter greatly mitigates the after pain of the injection. It is, of course, premature with so few cases to dogmatise upon its favourable action in this form, but it is natural to feel somewhat sanguine that its extended use may be equally successful. If this be the case a very valuable means of local treatment for these distressing symptoms will be within our reach.

Turning to the clinical results of the treatment of the gouty state by thyminic acid, I am convinced that we possess a very valuable and powerful agent, especially in the prevention of recurrent attacks of acute gout and in the cure or amelioration of the more chronic forms, and of those many ailments that we know now are marked by the excessive formation of uric acid within the system. It is in the prevention of attacks of acute gout, in the obesity so often allied with the gouty state, in gouty eczema, asthma, glycosuria, and stomachic derangements that thyminic acid attains its maximum of usefulness. A small dose (4 grains) taken daily after meals for a prolonged period, say of three months, and then every alternate week, will in most cases entirely *avert the onset of acute symptoms*, and I have a record of many patients who for the past three or four years have entirely escaped attacks that were formerly of constant occurrence.

When an acute attack of arthritic gout is actually in evidence I must confess that the action of thyminic acid has not been invariably successful, and I *prescribe mercurials* and a few doses of colchicum or colchicine with aspirin; then as the symptoms defervesce I order somewhat large doses of thyminic acid in conjunction with local treatment by the ray light bath, and the pain and swelling quickly subside.

Many of my patients who have broken their sequence of gouty attacks and have become free from even minor symptoms have discovered the efficacy of a few four-grain tablets of thyminic acid in obviating the evil effects of occasional indulgence in the pleasures of the table, for many people suffer acutely the day following a lapse from the prescribed regimen. Even a glass or two of champagne or port or alcohol of any kind will often cause great discomfort. Although I deprecate these lapses, yet it is consoling to note that a means to avert evil consequences is at hand. It is a decided proof of the efficacy of the drug that it renders inert any excess of uric acid which in some peculiar way alcohol in any form often produces. I have often been asked how many grains ought to be taken to obviate the ill-effects of some gargantuan banquet to which my *patient has been* invited. This question is as impossible to answer as it is sadly subversive of dietetic discipline.

During the past five years I have kept a careful record of the gouty cases that I have treated with thyminic acid. In my preceding remarks I have made it clear that the most striking results have been obtained in those who suffer from the more subacute and chronic varieties, whether connected with joints, tendons, muscles, skin, or nerves. The greatest benefit has also *accrued to that very large class* of cases where the apparent trouble is of gastric, hepatic, or intestinal origin. In obesity, which so often accompanies and is often the only symptom of the gouty state, the results are most gratifying. A gradual reduction of weight occurs without loss of strength. Nor need the patient be starved or nauseated by incongruous foods. In acute cases where we have to deal with an inflamed joint and accompanying pyrexia it is as well to combine the thyminic acid with colchicum or aspirin until the acute stage is passed. The days or weeks of intense depression, irritability, and want of energy so often observed are shortened by its continued administration and a recurrence of the attack averted.

In my former paper I gave a *description of some* cases I had up to that time treated with thyminic acid. Since then the treatment has been equally successful and many professional men have communicated to me the excellent results obtained by them. It would be a heavy task to give details of every case and invidious to select a few. I append an *analysis of cases taken at random* which I have divided into (1) acute and (2) subacute.

I.—*Cases of Acute Gout.*

CASE 1.—A man, aged 62 years. Previous history: Had repeated attacks of acute gout in the feet and knees up to five years ago when he began to take thyminic acid; was free from symptoms until last autumn, four weeks after returning from a course at Aix-les-Bains. Present attack (Oct. 2nd, 1908): *Began suddenly in left* great toe and spread rapidly along sheaths of tendons and involved knee; three days afterwards the right toe also was swollen and tender. Treatment: 8 grains thyminic acid every *four hours*; ray light bath *to* feet. Colchicine was also given for 48 hours. Remarks: There was rapid improvement; in nine days the attacks had passed off. He did not "take a course" this year and has been free since.

CASE 2.—A man, aged 59 years. Previous history: A parkkeeper; had always *enjoyed good health. Present attack (July 20th, 1908):* Acute sciatica had developed in right leg 14 days before; had tried the usual remedies; quite incapacitated for work. Treatment: Two intra-*muscular injections of thyminic acid followed* by 24 grains in tablets daily. Remarks: Relieved after first injection; cured after second. Has been well since.

CASE 3.—A man, aged 33 years. Previous history: Has had four attacks of acute gout, three in the feet, one in the right knee; usually incapacitated for three weeks. Present attack (May 9th, 1907): Typical attack [illegible] llen; very painful. Treatment: 8 grains [illegible] hours, with colchicine the first 24 hours; [illegible] knee. Remarks: The swelling and pain quickly [illegible] ppeared by the ninth day. Regularly takes thyminic acid and has been well since.

CASE 4.—A man, aged 44 years. Previous history: Had never previously had an acute attack but had several subacute attacks of lumbago and *gastric* catarrh. Present attack (April, 1907): Acute pharyngitis with glossitis; pyrexia. Treatment: 8 grains thyminic acid every four hours with colchisal. Remarks: Relief quickly followed and he was well on the fourth day. He has since taken 4 grains thyminic acid three times a day and has enjoyed good health.

CASE 5.—A man, aged 43 years. *Previous history*: Has passed large quantities of *"gravel" for some* years and has had repeated attacks of acute gout. Present attack (Feb. 10th, 1908): Acute arthritic attack of right ankle and joints of the foot and toes. Treatment: 8 grains thyminic acid every four hours; ray light bath locally; occasional doses of colchicine. Thyminic acid was continued in 8-grain doses. Remarks: The acute symptoms subsided in five days, the foot remaining swollen for three weeks. The "gravel" continually reappears but lessens or disappears entirely when the thyminic acid is resumed.

CASE 6.—A man, aged 43 years. Previous history: Has had several previous attacks. Present attack (October, 1907): Acute attack in right toe with gouty inflammation of the foot tendons and the tendo Achillis. Treatment: Thyminic acid and colchicine and ray light baths. Remarks: The inflammatory symptoms rapidly subsided; well on fifth day. Continued taking thyminic acid and has been well since.

II.—*Cases of Subacute Gout.*

CASE 1.—A man, aged 50 years. Previous history: Had previously had sciatica and various *minor symptoms* of the gouty state; careless as regards diet and alcohol; tophi and enlarged finger joints. Present attack (Feb. 8th, 1908): *Neuritis of the shoulder, arm,* and hand; loss *of* power; pain and wasting of muscles. Treatment: Thyminic acid in 8 grain doses; high-frequency electricity. Remarks: The symptoms gradually improved and in three weeks a complete cure had resulted. Thyminic acid continued for three months; has been well since.

CASE 2.—A man, aged 47 years. Previous history: Had previously had herpes zoster preputialis. Present attack (May 8th, 1908): Neuritis, shoulder to elbow, lasting three weeks. Treatment: Intramuscular injections of thyminic acid = 2 grains. Remarks: Two were given with complete success.

CASE 3.—A man, aged 46 years. *Previous history:* A "*gouty*" subject; a sufferer from "acquired gout." Present attack: Lumbago lasting 14 days. Treatment: *Intramuscular injections* of thyminic acid = 2 grains. Remarks: Two injections gave permanent relief.

CASE 4.—A man, aged 60 years. Previous history: A sufferer from *acquired gout of 10 years' duration, generally attacking* feet and legs; glycosuria; albuminuria. Treatment: Has taken thyminic acid with intervals for two and a half years. Remarks: Is now quite free from symptoms; glycosuria quite disappeared; small trace of albumin. Can walk and take exercise freely.

CASE 5.—A man, aged 42 years. Previous history: *A somewhat* careless liver, probably inherited gout; obese; height, 5 feet 9 inches. Present attack: Sept. 15th, 1907; weight, 16 stones 12 pounds. May 5th, 1908; weight, 13 stones 7 pounds. Treatment: Thyminic acid ordered in doses of 8 grains thrice daily. Remarks: Continues well in health; hunts regularly.

CASE 6.—A man, aged 62 years. *Previous history:* Had been a martyr to gout; at Droitwich, where he was "taking a course" in the winter, was laid up with an acute attack in the knees and ankles; confined to his bed for three months. Present attack (March, 1903): Pains and stiffness in the knees and ankles; quite unable to walk. Treatment: Thyminic acid in 8 grain doses with high-frequency electricity and ray light *baths. Remarks: In three weeks* could walk with comfort and is now able to shoot and play golf.

CASE 7.—A man, aged 50 years. Previous history: Has had several attacks of sciatica and a gouty knee with neuritis. Present attack: Has been quite free since taking thyminic acid 4 grains thrice daily. Can walk with comfort and play golf.

CASE 8.—A woman, aged 75 years. Previous history: Has suffered with inherited gout for many years; enlarged joints of fingers; unable to walk; recurrent attacks of acute eczema. Present attack: Has taken thyminic acid in doses of 4 grains for two years with very marked relief. Can now walk with comfort and has had no eczema for 18 months.

CASE 9.—A man, aged 40 years. Previous history: Acquired gout suffers with gouty neurasthenia attacks every three to four week sleeplessness, instability, anorexia; becomes quite unmanageabl in children from every point of view, prophylaxis and treatment naturally occupying the most important positions.

As there are so many contributions to this volume it is only possible for us to allude to a few, though most of the articles are interesting and instructive. Dr. J. S. Fowler (Edinburgh) writes on the Milk Problem and Tuberculosis in Infancy and Childhood. He is of opinion that tuberculous milk "is responsible for a quarter, more or less," of the tuberculosis of childhood. This estimate is probably too low but he very properly urges that stringent measures are demanded for the proper prevention of infection. He considers these measures under three headings: (1) legislative; (2) commercial; and (3) domestic. He maintains that the defect of existing legislation is that it is so largely optional, and we agree with him when he says that its adoption ought to be universal and compulsory. He recommends that all milk given to children should be sterilised by boiling and criticises the objections which have been raised against this procedure. He insists that but few children suffer in any way from taking sterilised milk and that the advantages far outweigh the disadvantages.

Eight chapters are occupied in the consideration of tuberculosis among children in different countries. Particularly interesting are the remarks by Professor R. Calmette (Lille) on the methods which are adopted in France for the prevention and cure of tuberculosis in children. There are in that country two classes of sanatoriums which have the above aims: the one deals with cases of pulmonary tuberculosis and the other is concerned with tuberculosis of bones, joints, and glands. The first class consists commonly of woodland sanatoriums; the other class is represented by seaside sanatoriums. Of the latter kind 24 are scattered along the English Channel, the Atlantic seaboard, and the Mediterranean coast, these stations having amongst them 3923 beds. The seaside treatment is pursued with the best results.

Amongst other articles in this book may be mentioned the following: Bovine Tuberculosis in Children, by Dr. Nathan Raw; Intrathoracic Tuberculosis in Infants and Children, by Dr. R. A. Young; Alpine Climates for Tuberculous and Tuberculously Disposed Children, by Dr. W. R. Huggard; and the Hygiene of the Nursery in Relation to Tuberculosis, by Mrs. M. A. D. Scharlieb, M.D., M.S.

Dr. Kelynack may be congratulated on having edited a work containing a large amount of information which can only be found scattered through many books, journals, or proceedings of scientific societies. The volume is of moderate size and the various contributions are essentially of a practical nature, mere theory having been eliminated.

LIBRARY TABLE.

The Lament of the Sweated. By JAMES SAMUELSON, of the Middle Temple, Barrister-at-Law. London: P. S. King and Son. 1908. Pp. 68. Price 1*s.* net.—In these pages Mr. Samuelson discusses the report of the 1907 Select Committee on Home Work. We deal with the same report in a leading article and need say little more except that those who are concerned at a terrible social evil but have not opportunity to gain knowledge of it at first hand will find in this little book a straightforward and sympathetic statement of the chief questions involved, together with a summary of the Committee's recommendations and of the measures which other countries have adopted to prevent the sweating of home workers. Mr. Samuelson's chief contribution is his advocacy of sanitary communal workrooms and crèches, to be erected by municipal or private benevolence. His book deserves a wide circle of readers but should it run into a second edition we hope that he will see his way to delete or to modify greatly his first chapter on "Dives." The fashion-page description of elaborate ball-dresses with which he seeks to "pile on the agony" of the contrast between the idle rich and the starving poor may well lose him the attention at the outset of many who take up the book. We must add that the author of its prefatory verses, who has tried to follow in the footsteps of Tom Hood, has stumbled into an unfortunate bathos as the reward of his rashness.

Legal Responsibility of the Drunkard. By H. NORMAN BARNETT, F.R.C.S. Edin., Surgeon, Cripples' Home, Belfast. With an Introduction by Sir ANDREW REED, K.C.B., C.V.O., Barrister-at-Law, late Inspector-General of Royal Irish Constabulary. London: Baillière, Tindall, and Cox. 1908. Pp. 64. Price 2*s.* 6*d.* net.—In this little treatise Mr. Barnett maintains that the civil and criminal actions of the chronic drunkard are not sufficiently recognised in courts of law as those of persons not of sound mind. He observes in his preface that "there is a growing feeling in legal circles that the drunkard should not be treated in quite the same way as another criminal. Recent medical research has clearly proved that this feeling is well founded." The pages which follow, however, contain a summary, not without interest, of the medical aspects of alcoholism but no very precise suggestion as to how these are to be established with a view to diminishing the criminal liability of the drunkard and to depriving him of his civil rights. We agree with the proposition that the medical rather than the legal profession must diagnose between the curable and incurable criminal; but we should also observe, with reference to the "legal circles" referred to above, that only a very small section of the legal profession, consisting of by no means its most influential members, is interested to any great extent in crime and criminals, and that in civil as well as criminal matters the jury which weighs the conflicting evidence of medical and other witnesses when mental soundness or unsoundness is the question at issue, is composed of persons without medical or legal training. Mr. Barnett in his concluding words suggests, unconsciously perhaps, at least one practical difficulty for which he hardly seems to propose a remedy. After explaining signs by which the chronic drunkard may be recognised he tells us that if we have one or more of these present with corroboratory evidence of a drinking habit, "*we* may conclude *whatever evidence may be produced to the contrary* [the italics are ours] that we are dealing with a drunkard suffering from mental degeneration and not fully responsible for his actions nor capable of using his full rights as a citizen." It is the "evidence to the contrary" and the fact that it is weighed not by experts but by a judge and jury which render unsatisfactory the status of persons mentally degenerate from other causes as well as from chronic alcoholism.

Who's Who, 1909. Pp. 2112. Price 10*s.* net. *Who's Who Year Book, 1909.* Pp. 154. Price 1*s.* net. *The Writers' and Artists' Year Book, 1909.* Pp. 118. Price 1*s.* net. *The Englishwoman's Year Book, 1909.* Pp. 372. Price 2*s.* 6*d.* net. London: Adam and Charles Black.—These four useful year books have made their appearance in good time for the coming year. The first and most important of them—namely, "Who's Who," has increased in size from 2040 to 2112 pages. The book's scope is too well known to need description and it would be as hopeless a task to review it as it would to review the "Peerage," but we may add that it would be a much more interesting task. For although a certain number of quite unimportant persons are bound to find their way by active or passive pushing into so comprehensive a manual, taken as a whole it is a really admirable catalogue of those who hold authority in every walk of life by right of brain-power and executive ability, as well as of those who were born in high observer. Another symptom common to this and some forms of middle-ear disease should here be mentioned—viz., the well-known phenomenon of hearing better in a noise, the theories as to the cause of which do not here concern us. Such results (other pathological conditions of the conducting apparatus being excluded) point to the more or less impaired mobility of the footplate of the stapes in the oval window in the immediate vicinity of which, as already stated, is the most common site for the disease.

Many cases, however, are found which do not conform to these results, the cause for which is probably dependent on the coexistence of other foci of the disease in the bony capsule of the labyrinth. Thus, for instance, the upper tone limit may be markedly shortened as well as the lower owing to the disease implicating the basal turn of the cochlea, a condition of affairs that one would really expect to find more frequently when the proximity of this structure to the margins of the oval window is remembered. Again, the disease may commence, though rarely, in other parts of the bony capsule, leaving the immediate neighbourhood of the oval window free, when the upper tone limit may be curtailed whilst the lower remains unaltered. In such cases the bone conduction may not be lengthened and may even be actually shortened, when a differential diagnosis will have to be made between otosclerosis and other affections of the auditory nerve.

Thus as regards the diagnosis we have three main classes to consider—the uncomplicated cases, those associated with other diseases of the middle ear and Eustachian tube, and those which have to be differentiated from other lesions of the auditory nerve itself. In early uncomplicated cases we have little else to depend on for diagnosis but the results of accurate functional tests and the absence of obstructive or catarrhal lesions in the tubes and middle ear—should in addition the membrane present a pinkish haze this is almost pathognomonic of the disease: In cases associated with catarrhal and post-inflammatory conditions in these situations the very slight improvement or even deterioration of the hearing after their treatment is very strongly suggestive of otosclerosis. When the disease involves portions of the bony capsule other than the margins of the oval window and the mobility of the stapedio-vestibular joint is unimpaired it is impossible at once to distinguish the symptoms to which it gives rise from those due to other diseases of the internal ear. The subsequent involvement of the conductive apparatus will, however, help to establish the diagnosis. In well-established uncomplicated cases of otosclerosis the diagnosis is generally quite straightforward.

Some observers have made use of a large series of tuning-forks in working out the functional tests in order to locate the site and to estimate the distribution of the disease in the bony capsule of the labyrinth. However, except perhaps from an academic point of view, such extensive data effect no object, whilst sufficiently accurate knowledge can be obtained with the use of three tuning-forks, "C^4," "C 64," and "E," together with testing the hearing with a standard watch, an acoumeter, or Galton's whistle. Mention ought also to be made of Gellé's test, the response to which, if positive, is very strong evidence against the presence of otosclerosis—at any rate in its most usual situation—because it points to mobility of the stapedio-vestibular joint and the functional integrity of the same.

Treatment.—As already stated, it is inconceivable, in the present state of our knowledge, that any local treatment can effect a cure or even permanent improvement in a disease of this nature, and such indeed is the conclusion to which one is driven after a careful review of the work done and of the efforts made in this direction. Many ingenious operations have been suggested and carried out, but although isolated instances are reported where temporary improvement has occurred, relapse and eventually further deterioration seem to be the usual result. Most operators freely admit the inefficacy and inadvisability of such attempts at operative interference. Removal of the stapes would at first sight seem reasonable as a possible means of removing the cause of obstruction in the region of the oval window, and with this end in view that operation has been performed. Small trephine openings have also been made into the vestibule through the inner wall of the tympanum with the object of allowing an unimpeded transmission of sound waves to the termination of the auditory nerve. Neither of these procedures, however, has been followed by any appreciable success, but indeed more often they have led to increased deafness. This is not surprising when we reflect that the resulting cicatrices must, if anything, constitute a lesion more obstructive to the passage of sound waves than the pre-existing bony barrier. Finally, various attempts have been made towards the remobilisation of the stapedio-vestibular joint, but they have served only to stimulate a firmer ankylosis of that articulation. Injections of fluids and vapours *viâ* the Eustachian tube have been practised *ad nauseam*, but, as such a statement indicates, with no beneficial effects. Rapidly recurring variations of air pressure in the external auditory meatus, by which some claim to have obtained improvement, have for their object a remobilisation of the joints of the ossicular chain, and in particular of the stapedio-vestibular joint.

Theoretically it seems most improbable that any such oto-massage can influence the process of disease in the latter situation even in its earlier stages, and when ankylosis has occurred, a beneficial effect from this procedure appears inconceivable. Practically, too, the results are most disappointing. In watching these cases in a large clinic I have been unable to find any patients who were really improved by this form of treatment. Indeed, more often than not, any local procedures, even repeated politzerisations, will only aggravate the deafness, the associated tinnitus, and general discomfort.

Attempts at local treatment are therefore strictly contra-indicated, and in uncomplicated cases all manipulative or operative procedures in the nose and naso-pharynx should be studiously avoided. Indeed, even as regards treatment of other parts of the body, when a choice is offered, the least drastic measures should be adopted, since as above stated, mental stress or physical strain tends to aggravate the symptoms. We have thus to rely on such general treatment as is available. This resolves itself into an effort to relieve the symptoms and, if possible, prevent the further progress of the local lesions.

Although the deafness would seem to be the greater calamity, these patients are often very much more worried by the tinnitus, so much so that it is not uncommon for them to say that they would not mind the former disability if only the latter could be arrested. Unfortunately, severe tinnitus points to extensive involvement of the bony capsule of the labyrinth and makes the outlook both as regards progress and relief the more unfavourable.

In the first place, an outline of the nature of the complaint should be given to the patients so that they may realise the position of affairs and thus be saved repeated and unproductive consultations. They should then be advised to put themselves under the care of their usual medical attendant for a course of treatment extending over several months with the object of so improving their general condition that a further unfavourable progress may be prevented. Such treatment should consist in a very strict adherence to the general rules of health coupled with the exhibition of such medicinal aids as will conduce to the maintenance of all the functions of the body in the best possible state. The efficient and healthy action of the alimentary tract and digestive apparatus must be insured, and any other concurrent maladies, such as anæmia and its results, should be treated, and special attention should also be paid to sufficient exercise, fresh air, judicious clothing, and diet, whilst that climate or locality which best suits the patient's general health should be strongly advised. Avoidance of worry and overwork, in so far as it may be possible, should be also enjoined, as they doubtless act unfavourably on the course of the disease.

Since in some cases every successive confinement appears to have a prejudicial influence on the symptoms limitation of children has been recommended. Although it is probable that pregnancy and the puerperium, like other heavy demands on the system, have a causal relation to the incidence and progress of the disease, the advisability of this suggestion is open to many objections. It is quite conceivable that to deny a patient the satisfaction of her maternal instincts may after all do much more harm than if matters are allowed to take their natural course. It is, however, most important to insist on the necessity of a thoroughly able anæsthetist and skilled accoucheur whose efforts will combine to reduce shock and hæmorrhage to the lowest possible minimum.

For the acute exacerbations of the symptoms, which from time to time occur during the course of the disease, some relief may be gained by the application of blisters to the of Dr. A. R. Neligan's Notes on Persia which are written with the authority of a legation physician, and a paper on Big Game Shooting by Dr. Percy Rendall who proves himself no less a *shikhari* than a naturalist. Mr. Herbert W. Page's long experience of railway litigation makes his contribution to the *St. Mary's Hospital Gazette* (November) a valuable one, dealing as it does with Functional Disease *versus* Organic Disease Following Accidents. The leading contribution to the *St. Thomas's Hospital Gazette* (November) is an interesting paper by Dr. T. D. Acland on Egypt and the Soudan. The information which he gives concerning the medical education and clinical work done under the British occupation of Egypt affords an ample justification for that measure.

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) TABLETS FOR THE ESTIMATION OF SUGAR IN URINE; AND (2) TABLETS FOR THE ESTIMATION OF ALBUMIN.

(E. MERCK, DARMSTADT, LONDON OFFICE, 16, JEWRY-STREET, E.C.)

1. THE estimation of sugar in urine is made extremely simple and nevertheless accurate by means of these reagent tablets. Tablet A contains the copper salt and tablet B the necessary amount of alkali. The reducing value of two tablets dissolved in water is equal to 0·01 gramme of glucose, so that should the urine to be tested contain 1 per cent. of sugar 1 cubic centimetre suffices to reduce completely the copper contained in tablet A. The analytical method of procedure is simple. One copper and one alkali tablet are dissolved in 2·5 cubic centimetres of water and to this, after heating to boiling, 2·0 cubic centimetres of urine are added and the mixture is boiled. It is then filtered through a good filter and should the filtrate be yellow or brown the urine contains more than 0·5 per cent. of sugar. If the filtrate should be green or blue then less than this amount is indicated. The test is repeated, less or more urine being used until the exact quantity is found to reduce the copper completely in the tablet. In the case of a urine containing a large percentage of sugar it is desirable to dilute the urine to a definite volume before proceeding to the analysis. We found the method to be exact when operating on standard solutions of glucose containing 0·5 per cent. and 0·2 per cent. respectively of sugar. 2. The tablets for the detection of albumin in urine also answered satisfactorily. Of these we received three kinds—namely, Esbach's reagent, Riegler's reagent (beta-naphthalene sulphonic acid), and a test called A and B, in which two different tablets are employed containing citric acid and potassium ferrocyanide respectively. The advantage of Riegler's reagent is that while it precipitates albumin, albumose, and peptone, the last two disappear on boiling. The Esbach reagent can be used for the determination of albumin by measuring the volume of the precipitate in an Esmarch tube.

TOOTH SOAPS AND POWDER.

(EDWARD COOK AND CO., LIMITED, SOAP WORKS, BOW, LONDON, E)

These preparations present certain novelties and are designed to meet the cult of the aseptic mouth. "Biscuit," for instance, is a pleasantly scented soap tablet of chocolate colour which is most useful for the cleansing and washing of dental plates. According to our examination, it contains a fine impalpable powder which serves as a burnisher, besides which are present an antiseptic and, of course, a detergent. It is very agreeable to use and answers its purpose satisfactorily. "Hygeso," according to our analysis, contains an antacid in addition to the soap which is the basis and a deodorant. Like the last preparation it is very pleasant to use and leaves a sense of cleanly condition in the mouth. Lastly, "Royalist" is a powder containing a well-known antiseptic absorbed in fine chalk. It is free from sharp gritty particles.

SCOTCH WHISKY.

(JOHN SOMERVILLE AND CO., LIMITED, CRAIGMILLAR, EDINBURGH.)

This whisky is guaranteed to be ten years old and we can well believe the statement, judging from the flavour of the spirit which is mild and mellow. It is, in fact, very soft and smooth to the palate, the absence of raw and acrid constituents thus being indicated. Furthermore, the results of the analysis implied the genuineness of the spirit in regard to its origin, that is to say, from malt. The results of analyses were as follows: alcohol, by volume 48·75 per cent.; extractives, 0·12 per cent.; and mineral matter, 0·02 per cent. Amongst the secondary products were ethers 77 parts and furfural 3 parts per 100,000 parts of alcohol present. In view of this analysis we believe this whisky to be genuinely described, and it is therefore suitable, when permitted, for dietetic requirements.

LEGUMINE BISCUITS (VOEBT).

(WILCOX, JOZEAU, AND CO., 49, HAYMARKET, LONDON, S W)

One important novelty in regard to these biscuits is that they are made with legumine, or vegetable albumin, and another interesting feature about them is that the starch has been partially converted into dextrin by means of diastase. The biscuits, therefore, should be easily digestible. Our analysis gave the following results: moisture, 9·20 per cent.; mineral matter, 11·70 per cent.; protein, 13·59 per cent.; and carbohydrate, 65·51 per cent. The biscuits seem well adapted for weak digestions, as in cases of persons suffering from dyspepsia or other gastric troubles. Further, they contain a very decided proportion of phosphorus in an organic form—that is to say, as glycero-phosphate. They have also been suggested for use in diabetes but owing to the carbohydrates present they should not be used for this purpose except under the supervision of a medical man in order that a watch may be kept over the tolerance of the patient in regard to a diet containing substances easily converted into sugar.

MAGI MINERAL WATER.

(CALEDONIA SPRINGS CO., LIMITED, 133, JERMYN STREET, ST. JAMES'S, LONDON, S.W.)

This water, bottled at the springs at Caledonia, Ontario, Canada, shows an interesting composition. The springs are situated midway between Montreal and Ottawa and are under the control and supervision of the Canadian and Pacific Railway Company. The water is somewhat highly mineralised, the chief salt present being sodium chloride, which, according to our analysis, amounts to 479·000 grains per gallon out of a total amount of salts of 513·000 grains per gallon. The water is also alkaline, due to the presence of carbonates of the alkalies and alkaline earths. It further contains a notable quantity of the bromides and iodides of sodium. The water clearly belongs to the class known as alkaline carbonated, and saline, which have been used in the treatment of gastric and intestinal catarrh, rheumatism, and gout. According to the analysis of Professor A. S. Eve of McGill University the water is decidedly radio-active. The water is somewhat saline to the taste but is pleasantly sparkling.

VI-TONICA.

(SLACK AND COX, HYDE ROAD, MANCHESTER)

It is quite justifiable to call Vi-Tonica a temperance beverage since, according to our analysis, there is no appreciable amount of alcohol present. The extractives amounted to 8·72 per cent. which consist chiefly of sugar. Quinine and phosphates were readily found, the employment should be very small, just visible to the naked eye, otherwise the too abundant vapour of the metalloid will mask the reaction completely. Take care also in heating the copper wire not to heat the top of the tube, or the mercurial vapour, not being able to sublime on the warm glass, will escape into the cotton-wool plug. To obtain a still more delicate reaction gold in grains should be used instead of copper, proceeding in identically the same way as described.

From the study of what I have observed with Dr. Fortuna I formulate the following conclusions. 1. The mercurial reaction in the urine of the healthy is much more evident than in the syphilitic, in which sometimes there is no result at all; which means that the elimination of mercury in the urine of the syphilitic is always much slower than in the healthy. 2. The mercurial reaction is *nil*, or nearly so, in cases of syphilis recently contracted, especially when symptoms are apparent; and the reaction is only slightly evident, and never so well as in normal cases, in the syphilitics in whom two or three years have elapsed since the appearance of the ulcer. 3. Finally, in cases of long standing, of, say, 10 or 12 years, the mercurial reaction is as evident as in normal cases. (*Mercurial reaction is positive.*)

Now, to come to the consideration of the matter in order to explain these facts we must be content with a hypothesis. In the first place, in the subject of syphilis, the mercury introduced perhaps unites itself in a special organic combination with the virus, for which, being a specific remedy, it must have a special affinity, and in this condition it does not pass, or passes only with difficulty, the renal filter, and at the same time does not have any offensive action on the organism. Thus in this fashion it would be easy to understand the old empiric advice to wait before commencing the general cure until the secondary symptoms have appeared and remain in view for some time. Lesser, who had occasion to analyse the phenomena from this point of view, had the conviction that the morbid evolution is milder and more regular if the general treatment is commenced rather later and not before the secondary symptoms.

From what I have observed myself in my patients I participate in the opinion of Lesser and firmly believe that a too early treatment is unadvisable, because the action of the antigen being paralysed by the mercury the production is stopped of the special antibodies which would be the natural defence of the organism provided for the true destruction of the virus. When the virus is already in subjection to the specific antibodies (in old syphilis), or is absent, or the mercury has been given in excess, the mercury passes freely through in the urine.

On the other hand, the rapid elimination in the pseudo-syphilitic is probably due to a vital tendency of the organism to expel whatever is noxious to it. For whatever concerns the intolerance to mercury observed in the pseudo-syphilitic, at least in the beginning of the treatment, I believe it lasts only until the specific antibodies of the mercurial antigen have not come to paralyse its poisonous action. It is Boeri, one of the first in his fine work on the immunity against non-bacterial poisons, who has experimentally demonstrated this new form of immunity acquired by the organism, and here to put in parenthesis it must be remembered what Salmon said about the therapy: "That sometimes in the course of the therapy of syphilis one sees a first treatment followed by a rapid improvement, and a second, third, and fourth series of cures to become less and less beneficial, and it is convenient for this to alternate the mercury with atoxyl and *vice versâ*." I personally believe that it is most probable that the antitoxic reaction which proceeds in the organism against these special poisons neutralises their therapeutic action.

The scientific work of late years on the sero-diagnosis of syphilis has given good results. Thus Wassermann's reaction has especially met with the favour of the bacteriologists and of the clinicians. "It is more frequently both positive when the disease is flourishing in every period, including that of primitive ulcer; it is particularly intense in the secondary manifestations, and it may also be intensely positive in hereditary syphilis; it may also be positive in latent forms, but in this condition the percentage of negative results is larger" (Micheli Borelli); but Wassermann's reaction is not at hand for all practitioners who are not trained to this kind of research.

On the contrary, the mercurial reaction as here described is absolutely simple in technique. It may render good service not only in doubtful cases of syphilis and in obscure exanthema but also in retrospective diagnosis, as when one wants to know if an individual who presents no symptoms of acquired syphilis has been at some past time a victim of the infection. This, however, on condition that not too long has elapsed since the date of the suspected infection.

I have not yet had occasion to test the mercurial reaction in tabes or progressive paralysis not hereditary syphilis, but I anticipate that in the case of tabes and of paralysis it must give positive results, these diseases being almost certainly not of syphilitic nature but simply of syphilitic origin.

I am glad to announce to my colleagues for investigation these new observations on syphilis, and I hope that further research will confirm their usefulness.

Shaftesbury-avenue, W.C.

A CASE OF RUPTURED SMALL INTESTINE;

OPERATION; SUBSEQUENT TRANS-PLEURAL DRAINAGE OF TWO SUB-DIAPHRAGMATIC ABSCESSES; RECOVERY.

By LIONEL E. C. NORBURY, M.B., B.S. LOND., F.R.C.S. ENG.,
SURGICAL REGISTRAR, ST. THOMAS'S HOSPITAL, LONDON, S.E.

THE patient, aged 28 years, was admitted to St. Thomas's Hospital on Oct. 15th, 1907, under the care of Mr. C. A. Ballance, with a history of having fallen some 30 to 40 feet from a crane which was being employed for unloading a barge—it could not be ascertained which portion of his body came in contact with the barge; a period of unconsciousness followed, but consciousness had returned on admission. The patient appeared pale and collapsed; general severe abdominal pain was complained of; the pulse-rate was 80 per minute, the respirations were 32, and the temperature was 97·4° F. No bruising of the abdominal wall was visible; the abdomen moved poorly on respiration. A localised area of dulness was detected in the left flank; no shifting dulness and no obliteration of liver dulness could be made out. The urine was withdrawn by catheter but it contained no blood. One and a half hours later the pulse-rate was 72 per minute, the area of dulness had increased in extent towards the splenic region, and the abdominal pain was still severe but there was no vomiting. Six hours later the pulse-rate had risen to 92, and at the end of nine hours it had reached 104 per minute. The area of dulness had increased and extended from just below the left costal margin as far as Poupart's ligament on its outer half and to some extent backwards into the loin; abdominal pain was still a marked feature. The temperature had gradually risen to 99·4°. There was no abdominal distension.

From these signs and symptoms a diagnosis of probable rupture of the intestine was made and an exploratory operation was undertaken some ten hours after the accident. The abdomen was opened by a four-inch vertical incision just to the left of the mid-line and having its centre opposite the umbilicus, the fibres of the rectus were separated, and on opening the peritoneum a moderate amount of thin turbid fluid was evacuated but no gas. A condition of acute peritonitis was present, the walls of the intestine being markedly injected and sticky lymph everywhere present, but chiefly so in the left half of the abdomen; there was no fæcal odour. The small intestine was rapidly passed in view and a rupture some one and a half inches in length was discovered in the long axis of the bowel and opposite its mesenteric attachment. This was closed by a double row of continuous silk sutures, the first taking up all the coats and the second only the sero-muscular coats. A small tear in the mesentery opposite the rupture was also sutured with silk. Bruising of adjacent coils of intestine and of the omentum was also present. The exact level of the lesion was not definitely ascertained, but it apparently involved the jejunum or upper portion of the ileum. A second smaller incision through the right rectus just above Poupart's ligament was next made, a drainage-tube was passed int
pelvis, and the peritoneal cavity was thoroughly
with normal saline solution. The abdominal wall wa
in layers, the pelvic cavity being drained by a tu
through the lower incision. Intravenous infusion w

THE LANCET.

LONDON: SATURDAY, DECEMBER 19, 1908.

Medicine and Imperial Expansion.

THE ominous unrest in our great Indian dependency gives a relevance all its own to the remark of one of the most sagacious of Viceroys, Lord LAWRENCE, who, on quitting his post, made the public declaration that "our Eastern Empire owes more to medico-missionaries like Dr. HUSBAND than to its regular officials." The distinguished physician whose career elicited this remark died on Nov. 21st at his post after 38 years of labour as unremitting as it was well-directed. Bearing an honoured name in the practical defence of Jennerian vaccination Dr. HUSBAND was commissioned by the United Presbyterian Church of Scotland to carry on the medical department of its Christianising work in 1870, and, chiefly in Ajmir, picturesquely situated in Central Rajputana, the highest tableland of Hindostan proper, he so exerted himself in behalf of the corporeal no less than the spiritual wants of the natives that he shared with his colleagues, Dr. J. SHEPHERD of Udaipur and Rev. J. SOMMERVILLE of Jodhpur, the title of "King" in his province. Having come to know the people "in their habit as they lived," their joys and sorrows, their predilections and their aspirations, he found a way to their minds and souls denied to all but the most sympathetically suasive of missionaries—conciliating not only their admiration and respect but their affection and devotion, till his popularity with all classes and creeds gained him the highest seat in the municipality—nay, even the *entrée* into their *vie intime*. Such confidence had they in his philanthropy and practical good sense that they courted his advice in their domestic affairs, in their business concerns, and in the education of their sons and daughters.

The late QUEEN and EMPRESS, on the occasion of her jubilee in 1897, acknowledged his services, civic as well as professional, by making him a Companion of the Most Eminent Order of the Indian Empire. His efforts for the advancement of every Hindoo interest knew no limits, and not only in the hospital and in the dispensary but in the hostel and the orphanage, in the workshop and in the printing office, he strove to extend and to enrich the army of breadwinners, content—nay, zealous—to fulfil their destiny as citizens and as loyal subjects of the British Crown. In exceptional visitations—those of famine, for example—he is credited with having saved thousands of lives. *O si sic omnes.* Such men are the true pioneers and consolidators of empire, justifying the noble eulogy pronounced on them by the Bishop of BIRMINGHAM at Edgbaston on the day of Dr. HUSBAND'S death, and giving cogency to his statement that "the India Office was profoundly convinced that unless we could get a basis for human brotherhood and common sympathy between Englishmen and the people of India, neither our Empire nor our civilisation could last."

The Bishop of Zanzibar, Dr. J. E. HINE, who is both an M.D. of London and a D.D. of the University of Oxford, had indeed anticipated his Right Reverend brother of Birmingham in the address with which he opened the Medical Missions section of the Pan-Anglican Congress last summer, emphasising as he did the primary importance of the care of the injured and the ailing in their private homes and in the hospital, and showing how the "loving care of the body" must always precede the instruction, secular or religious, of the evangelist. Even the nurse, he went on to say, "reached quarters which would otherwise be inaccessible." The practical corollary to be deduced from this and similar testimony is, as THE LANCET has time and again insisted upon, the promotion of medical study and research in our outlying "spheres of influence" by the institution of chairs of medicine, tropical and sub-tropical, such as have been endowed under the best auspices in more than one British school. The competition of rival colonising powers comes in as an incentive to such a movement—the French, for example, as was pointed out at the Pan-Anglican Congress, having done splendid work in the island of Madagascar, thanks to the provision which they have made for the medical training of their missionaries. The time will come when, instead of the medico-missionary work being left to one and the same individual, the two qualifications, that of physician and surgeon on the one hand and evangelist on the other, will be kept separate, to the greater efficiency of either functionary in his special sphere. Of this happy division of labour—unity in duality—the Bishop of ZANZIBAR gave most interesting illustration, still further driving home the conclusion that Great Britain's control of her dependencies and colonies will be effective and lasting in the degree in which she secures to the natives that care of the body, in health and disease, which must precede all subsequent effort towards their reclamation to civilised life and brotherly citizenship.

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Sweated Industries and Sanitation.

DURING the summer session a Select Committee of Parliamentary representatives of all shades of political opinion sat at Westminster to take evidence and to report upon the many issues, economic, hygienic, and humanitarian, which affect those engaged in industrial work in their own homes. The committee had before it Mr. RAMSAY MACDONALD'S Home Work Regulation Bill and was asked to consider Mr. ARTHUR HENDERSON'S Sweated Industries Bill which it has reported without amendment. The minutes of evidence issued with the committee's report on the general order of reference make gloomy reading when we consider that 65 of the most progressive years in the country's history have elapsed since the conscience of the nation was awakened to the degrading industrial slavery existing in its wealthiest cities by the publication of the "Song of the Shirt." Since that year legislation has done a great deal to promote the physical welfare of the working classes, especially of those who gain their living in workshops and factories and by dangerous trades, but the lot of the home worker—the most defenceless should be very small, just visible to the naked eye, otherwise the too abundant vapour of the metalloid will mask the reaction completely. Take care also in heating the copper wire not to heat the top of the tube, or the mercurial vapour, not being able to sublime on the warm glass, will escape into the cotton-wool plug. To obtain a still more delicate reaction gold in grains should be used instead of copper, proceeding in identically the same way as described.

From the study of what I have observed with Dr. Fortuna I formulate the following conclusions. 1. The mercurial reaction in the urine of the healthy is much more evident than in the syphilitic, in which sometimes there is no result at all; which means that the elimination of mercury in the urine of the syphilitic is always much slower than in the healthy. 2. The mercurial reaction is *nil*, or nearly so, in cases of syphilis recently contracted, especially when symptoms are apparent; and the reaction is only slightly evident, and never so well as in normal cases, in the syphilitics in whom two or three years have elapsed since the appearance of the ulcer. 3. Finally, in cases of long standing, of, say, 10 or 12 years, the mercurial reaction is as evident as in normal cases. (Mercurial reaction is positive.)

Now, to come to the consideration of the matter in order to explain these facts we must be content with a hypothesis. In the first place, in the subject of syphilis, the mercury introduced perhaps unites itself in a special organic combination with the virus, for which, being a specific remedy, it must have a special affinity, and in this condition it does not pass, or passes only with difficulty, the renal filter, and at the same time does not have any offensive action on the organism. Thus in this fashion it would be easy to understand the old empiric advice to wait before commencing the general cure until the secondary symptoms have appeared and remain in view for some time. Lesser, who had occasion to analyse the phenomena from this point of view, had the conviction that the morbid evolution is milder and more regular if the general treatment is commenced rather later and not before the secondary symptoms.

From what I have observed myself in my patients I participate in the opinion of Lesser and firmly believe that a too early treatment is unadvisable, because the action of the antigen being paralysed by the mercury the production is stopped of the special antibodies which would be the natural defence of the organism provided for the true destruction of the virus. When the virus is already in subjection to the specific antibodies (in old syphilis), or is absent, or the mercury has been given in excess, the mercury passes freely through in the urine.

On the other hand, the rapid elimination in the pseudo-syphilitic is probably due to a vital tendency of the organism to expel whatever is noxious to it. For whatever concerns the intolerance to mercury observed in the pseudo-syphilitic, at least in the beginning of the treatment, I believe it lasts only until the specific antibodies of the mercurial antigen have not come to paralyse its poisonous action. It is Boeri, one of the first in his fine work on the immunity against non-bacterial poisons, who has experimentally demonstrated this new form of immunity acquired by the organism, and here to put in parenthesis it must be remembered what Salmon said about the therapy: "That sometimes in the course of the therapy of syphilis one sees a first treatment followed by a rapid improvement, and a second, third, and fourth series of cures to become less and less beneficial, and it is convenient for this to alternate the mercury with atoxyl and *vice versâ*." I personally believe that it is most probable that the antitoxic reaction which proceeds in the organism against these special poisons neutralises their therapeutic action.

The scientific work of late years on the sero-diagnosis of syphilis has given good results. Thus Wassermann's reaction has especially met with the favour of the bacteriologists and of the clinicians. "It is more frequently both positive when the disease is flourishing in every period, including that of primitive ulcer; it is particularly intense in the secondary manifestations, and it may also be intensely positive in hereditary syphilis; it may also be positive in latent forms, but in this condition the percentage of negative results is larger" (Micheli Borelli); but Wassermann's reaction is not at hand for all practitioners who are not trained to this kind of research.

On the contrary, the mercurial reaction as here described is absolutely simple in technique. It may render good service not only in doubtful cases of syphilis and in obscure exanthema but also in retrospective diagnosis, as when one wants to know if an individual who presents no symptoms of acquired syphilis has been at some past time a victim of the infection. This, however, on condition that not too long has elapsed since the date of the suspected infection.

I have not yet had occasion to test the mercurial reaction in tabes or progressive paralysis not hereditary syphilis, but I anticipate that in the case of tabes and of paralysis it must give positive results, these diseases being almost certainly not of syphilitic nature but simply of syphilitic origin.

I am glad to announce to my colleagues for investigation these new observations on syphilis, and I hope that further research will confirm their usefulness.

Shaftesbury-avenue, W.C.

A CASE OF RUPTURED SMALL INTESTINE;

OPERATION; SUBSEQUENT TRANS-PLEURAL DRAINAGE OF TWO SUB-DIAPHRAGMATIC ABSCESSES; RECOVERY.

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THE patient, aged 28 years, was admitted to St. Thomas's Hospital on Oct. 15th, 1907, under the care of Mr. C. A. Ballance, with a history of having fallen some 30 to 40 feet from a crane which was being employed for unloading a barge—it could not be ascertained which portion of his body came in contact with the barge; a period of unconsciousness followed, but consciousness had returned on admission. The patient appeared pale and collapsed; general severe abdominal pain was complained of; the pulse-rate was 80 per minute, the respirations were 32, and the temperature was 97·4° F. No bruising of the abdominal wall was visible; the abdomen moved poorly on respiration. A localised area of dulness was detected in the left flank; no shifting dulness and no obliteration of liver dulness could be made out. The urine was withdrawn by catheter but it contained no blood. One and a half hours later the pulse-rate was 72 per minute, the area of dulness had increased in extent towards the splenic region, and the abdominal pain was still severe but there was no vomiting. Six hours later the pulse-rate had risen to 92, and at the end of nine hours it had reached 104 per minute. The area of dulness had increased and extended from just below the left costal margin as far as Poupart's ligament on its outer half and to some extent backwards into the loin; abdominal pain was still a marked feature. The temperature had gradually risen to 99·4°. There was no abdominal distension.

From these signs and symptoms a diagnosis of probable rupture of the intestine was made and an exploratory operation was undertaken some ten hours after the accident. The abdomen was opened by a four-inch vertical incision just to the left of the mid-line and having its centre opposite the umbilicus, the fibres of the rectus were separated, and on opening the peritoneum a moderate amount of thin turbid fluid was evacuated but no gas. A condition of acute peritonitis was present, the walls of the intestine being markedly injected and sticky lymph everywhere present, but chiefly so in the left half of the abdomen; there was no fæcal odour. The small intestine was rapidly passed in view and a rupture some one and a half inches in length was discovered in the long axis of the bowel and opposite its mesenteric attachment. This was closed by a double row of continuous silk sutures, the first taking up all the coats and the second only the sero-muscular coats. A small tear in the mesentery opposite the rupture was also sutured with silk. Bruising of adjacent coils of intestine and of the omentum was also present. The exact level of the lesion was not definitely ascertained, but it apparently involved the jejunum or upper portion of the ileum. A second smaller incision through the right rectus just above Poupart's ligament was next made, a drainage-tube was passed into [illegible] pelvis, and the peritoneal cavity was thoroughly i[illegible] with normal saline solution. The abdominal wall [illegible] in layers, the pelvic cavity being drained by [illegible] through the lower incision. Intravenous infus[illegible] the work.'" A very important suggestion made by the committee is that the imposition by law of obligations upon owners of factories and workshops tends to encourage employers to resort to home work in order to avoid these obligations and the visits of inspectors. The committee's investigation of the existing law with regard to home work retells an old story, that local authorities do not make sufficient use of the imperfect sanitary powers which they possess already. These powers fall under the general public health law concerning dwellings and certain special provisions of the Factory and Workshop Act of 1901, the chief of which prohibits any person to give out work to be done in premises which are injurious to the health of the persons employed therein. Persons giving out work are obliged to supply twice a year to the local authority a list of the outworkers whom they employ. These lists are usually incomplete and incorrect. Other Acts, such as the Truck Act of 1896, made for the protection of workers' wages, are often frustrated in their application to home workers and the committee is satisfied that the existing law has failed to produce any amelioration in their condition and that legislation of a far-reaching character is required.

The report then summarises some of the laws existing in other countries for the protection of home workers and proceeds to make its recommendations which we must record with little comment. These include the following suggestions:—

(2.) That legislation should at first be tentative and experimental, and be limited in its scope to home workers engaged in the tailoring, shirtmaking, underclothing, and baby linen trades, and in the finishing processes of machine-made lace. The Home Secretary should be empowered after inquiry made, to establish Wages Boards for any other trades.

(3.) That Wages Boards representing both workers and employers should be established in selected trades to fix minimum time and piece rates of payment for home workers in those trades.

(4.) That it should be an offence to pay or offer lower rates of payment to home workers in those trades than the minimum rates which had been fixed for that district by the Wages Board.

(6.) That all home workers who are employed by other persons in producing or preparing articles for sale should be required to register their name, address, and class of work at, and receive a certificate of such registration from, the offices of the local authority, and that the keeping of accurate outworkers' lists by employers should be strictly enforced.

(7.) That it should be an offence for any person to employ any home worker to produce or prepare any articles for sale by another person unless the worker produce a certificate of registration.

(8.) That the provisions of Section 9 of the Public Health Act, 1875, with regard to factories and workshops which are not kept clean or are ill-ventilated or overcrowded should be extended to rooms in which home work is done, and power should be given to sanitary and factory inspectors to inspect them and secure the enforcement of the law.

(9.) That the full protection of the Truck Act should be secured to home workers.

Recommendation (6) was apparently the outcome of Dr. DUDFIELD'S evidence given in 1907, and together with (7) and (8) it will probably receive the support of many medical officers of health. It will be seen that no suggestion is made of abolishing home work by establishing communal workrooms and crèches, which will occur to many as a possible and radical method of reform and which is advocated in Mr. J. SAMUELSON'S little book "The Lament of the Sweated" which we review in another column. Although this may seem an ideal solution, the time is hardly ripe for it yet, but it is over-ripe for the extension to home workers of the sanitary advantages secured to factory and workshop hands. Advantages would accrue not only to the workers but to the purchasers of their produce, for the present system which allows of clothes and other articles intended for sale to be heaped up on the beds and tables of a den used for both eating and sleeping by the wretched toiler who calls it "home," must surely lead to the dissemination of disease when the goods are distributed to the public. On this point the committee might well have sought more direct evidence. It strengthens us in asking the Government to give the recommendations of the Select Committee on Home Work its early and thorough consideration. In the mean time health officers should urge by all means in their power on their local authorities the enforcement of such powers as the committee has reminded them that they possess. The trade interests involved in certain districts doubtless clash with the sanitary interests of the community in this as in many other matters, and it affords an additional argument for demanding that the security of tenure of medical officers of health should cease to be dependent on private interest and caprice.

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Medical Education in France.

WE have received the annual *Numéro des Etudiants et des Praticiens* published by the French weekly medical journal *Le Progrès Médical.* It is on the same general lines as the Students' Number of THE LANCET and it supplies a very interesting and complete summary of the educational facilities afforded to the student and the practitioner of medicine in France. In addition it supplies valuable information regarding the regulations for the various examinations in the different universities and general advice to the practitioner regarding the laws governing medical education and practice, and is in effect a very complete presentation of all that concerns the official aspect of the medical curriculum and the profession of medicine. It opens with an address to the student in which he is advised to avail himself of the courses of instruction provided by the Faculty of Medicine of his university, and to seek to acquire the habit of observation. The necessity for practical work is strongly emphasised and the student is enjoined to go to the hospital daily from the time that he commences the study of medicine, and to endeavour to form his own opinions in regard to cases. The importance of a due perspective in regard to his work is also most strongly insisted on.

The actual subject matter of this special number is divided into four parts, the first of which is devoted to a general account of the universities and schools of medicine and to the general arrangements for medical students and practitioners. There are 15 universities in France and one in Algiers, but only seven of these—viz., Bordeaux, Lille. Lyons, Montpellier, Nancy, Paris, and Toulouse—possess a Faculty of Medicine. There are, however, in addition 17 schools of medicine, divided into two classes—schools for the complete curriculum, comprising Marseilles, Nantes, Rennes, and Algiers, and preparatory schools at Amiens.

hysterectomy known as the Wertheim and the Krönig-Wertheim.

The study of the spread of cancer from the rectum has led me to formulate certain essentials in the technique of the operation which must be strictly adhered to if satisfactory results are to be obtained—namely: (1) that an abdominal anus is a necessity; (2) that the whole of the pelvic colon, with the exception of the part from which the colostomy is made, must be removed because its blood-supply is contained in the zone of upward spread; (3) that the whole of the pelvic mesocolon below the point where it crosses the common iliac artery, together with a strip of peritoneum at least an inch wide on either side of it, must be cleared away; (4) that the group of lymph nodes situated over the bifurcation of the common iliac artery are in all instances to be removed; and lastly (5), that the perineal portion of the operation should be carried out as widely as possible so that the lateral and downward zones of spread may be effectively extirpated.

The Operation.

This is one of the most formidable operations in surgery, entailing, as it does, the removal of practically the whole of the pelvic colon as well as the rectum. I have now performed it 12 times with a mortality of 41·6 per cent. Nine of the patients were males, of whom four died, and three were females, of whom one died. The surviving seven patients are all at present free from recurrence, the first three having been operated upon in January, March, and May of 1907 respectively.

Preparation of the patient.—In all cases in which there is marked stenosis of the bowel, a preliminary left iliac colostomy should be performed at least two weeks before the operation. If there be no abdominal distension and if the lumen of the bowel be not much encroached upon the colon should be thoroughly emptied of its contents by the aid of enemata and mild purgation.

Method of operating.—The patient having been placed in an exaggerated Trendelenburg posture, a median incision is made from the umbilicus to the symphysis pubis and a self-retaining abdominal claw retractor is placed in position. The pelvic colon is then drawn out into the wound and a left iliac colostomy, if one does not already exist, is established in the usual situation through a second incision. I usually do this by simply pushing a loop of the uppermost part of the pelvic colon through an incision in the abdominal wall and fixing it in position in the ordinary way. Some operators advocate first dividing the bowel and then establishing the colostomy from the proximal end only, but I think that by so doing there is a greater tendency to protrusion afterwards. As soon as the knuckle of colon has been fixed in position in the manner indicated, the pelvic colon is divided transversely about two inches below it and both ends are closed firmly by means of purse-string sutures. The closure of the distal end should be done carefully, so as to avoid leakage from that part of the bowel during the subsequent steps of the operation. The peritoneal covering of the pelvic mesocolon is then divided transversely backwards on either side to the point where the pelvic mesocolon crosses the common iliac artery, the incisions extending into the parietal peritoneum for the distance of about one inch. The inferior mesenteric artery is then ligatured below the point where it gives off its uppermost branch to the pelvic colon. When this has been done the pelvic mesocolon itself is divided completely as far backwards as its parietal attachment, the inferior mesenteric artery being divided below the point of ligature. The upper and remaining portion of the pelvic mesocolon is now turned upwards for the distance of an inch or more and all the cellular tissue containing the group of lymph nodes situated over the bifurcation of the left common iliac artery dissected carefully away. All bleeding vessels in the cut edge of the pelvic mesocolon are caught and tied. The remainder of the operation is now practically bloodless and should be rapidly proceeded with. The peritoneum is next divided by incisions which extend downwards into the pelvis, one on either side of the parietal attachment of the pelvic mesocolon and at least one inch distant from it, until the recto-vesical pouch is reached, when they are carried round the lateral aspects of the pelvic wall to meet again in front just behind the base of the bladder. In the female the left broad ligament should be detached, together with the left ovary and tube. This having been done, the pelvic mesocolon together with the adjacent strip of peritoneum on either side of it is detached from the hollow of the sacrum. By keeping close to the anterior sacral ligaments, the cellular tissue containing the lymph nodes in that situation is detached with the pelvic mesocolon in one piece. This separation is continued downwards in the middle line as far as the sacro-coccygeal articulation. A similar method of blunt dissection is then carried out anteriorly, by which means the bladder is detached as far as the prostate gland. Attention is now paid to the separation of the lateral aspects of the rectum and it is here that great care must be exercised to avoid injuring the left ureter, which adheres closely to the peritoneum as it skirts the wall of the pelvis. When the ureter has been defined it should be carefully freed as far as the base of the bladder. On the right side the ureter need not be seen. The dissection is then carried downwards on either side and the lateral ligaments of the rectum are divided with scissors. In these structures the middle hæmorrhoidal arteries are found but seldom require a ligature. This lateral dissection is carried down to the upper surface of the levatores ani. When the rectum has thus been freed on all sides as far as the points indicated, the whole of the detached structures are crowded down into the pelvis and covered with sterilised gauze. Provided that the divided end of the colon has been firmly closed considerable pressure may be made upon it from above without fear of leakage. The edges of the pelvic peritoneum are now sutured so as to re-establish the pelvic floor. This having been done, the pelvis is thoroughly flushed with saline solution and the abdominal wound closed. The patient is now turned over and placed in the right lateral and semi-prone position so that the perineal portion of the operation can be proceeded with. A purse-string suture having been inserted round the anus to prevent escape of its contents, a transverse incision is made at the level of the sacro-coccygeal joint and from the centre of this a median incision is carried down to within an inch of the anus. From the lowermost extremity of the latter a semicircular incision is made round the anus on either side, meeting anteriorly at the central point of the perineum. These last incisions should include as wide an area of skin as possible so as to insure excision of the zone of downward spread. After reflecting the skin on either side to the requisite extent, the coccyx is removed and the interval between the levatores ani defined. These muscles should be divided as far outwards as their origin from the "white line" so as to include the lateral zone of spread. The remainder of the fascia propria of the rectum is then detached from the lower part of the sacrum when the pelvic colon and the rectum, which lie loose in the hollow of the sacrum, can be drawn out of the wound. The lower part of the rectum is then dissected from the prostate or the vagina, as the case may be, care being taken to remove the cellular tissue in its vicinity as freely as possible. The resulting chasm is then freely irrigated with saline solution and all bleeding vessels are tied. Finally, the skin margins are brought together with sutures and a large drainage-tube is inserted in the anterior and the posterior extremities of the median incision. The patient is now turned upon his back and as the final step of the operation a small opening is made into the extruded bowel to allow of the escape of flatus.

The operation thus performed takes from an hour and a quarter to an hour and a half and, so far as my experience goes, the patient suffers from no more shock than after an ordinary perineal excision.

The mortality after the operation appears to be high, but it must be remembered that the disease for which it is performed claims a mortality of 100 per cent. if left alone and of over 90 per cent. from recurrence when operated upon by the perineal methods. The causes of death in my cases have been: one from hypostatic congestion of the lungs, one from strangulation of a knuckle of small intestine which had become herniated through a rent in the peritoneal pelvic floor, one from gangrene of the stump of the pelvic colon below the colostomy, and two from peritonitis. With the exception of the first named I regard all these causes of death as preventable with further experience of the operation and with improved technique, and therefore hope that in a future series of cases I shall be able to show a lower degree of mortality than 41·6 per cent.

Upper Wimpole street, W.

difficult of those many problems which confront us to-day. The solution of them, not only in this country but in every modern civilised country, lies at the very root of the modern industrial system. It involves questions of child labour, of the labour of parents, of the labour of women in mills and factories, of proper housing, and of provision of playgrounds. To solve the problems will require a system of national self-denial and of a real public spirit which at present seems to be absent. But the first step to the solution of any problem is the wish to solve it and it is cheering to find that the National League has at least got so far on its toilsome journey.

A LONDON WORTHY AND TALL BUILDINGS.

THE Clarendon Press has issued recently a reprint of "The Survey of London," made long ago by John Stow, the famous Tudor tailor. It forms an archæological document of exceptional interest to all who feel any curiosity concerning the development of the greatest city that the world has ever seen. Mr. Charles Whibley bases an article in the December number of the *National Review* on this fascinating volume and calls attention to Stow's great antipathy to tall buildings. He lived in an age when the timber houses which were destined to be swept away by the Great Fire were replacing many of the older stone buildings. This pleased Stow the more in that men were not tempted to rear their wooden structures high up into the air. Not only did he inveigh against the iniquity of those who built presumptuously, but he quoted two "awful examples" of the fate which would surely overtake them. Alderman Angell Dune, who set a high brick tower upon his house, was struck with blindness and unable to gaze upon his handiwork, and Richard Wethell was punished for the same offence by becoming "in short time so tormented with goutes in his joynts, of the handes and legges, that he could neither feed himself, nor goe further than he was led, much lesse was he able to climbe, and take the pleasures of the height of his Tower." The object of these lofty houses seems to have been a display of importance. At that period they were certainly not erected with the aggressive motive which inspired the architecture of so many mediæval Italian towns and which was, of course, the desire of every family of consequence to possess a vantage ground from which its members could shoot down upon their neighbours' houses in times of civil feud. Bologna and San Gimignano, to name only two towns, have many beautiful examples of such towers still standing. Neither can their motives have been those which have led to the erection of such "skyscrapers" as disfigure New York city of to-day. Although many Americans of æsthetic sense would perhaps gladly inspire the streets of their metropolis with something of the Tudor spirit, and share the pious assurance of John Stow that the sins of all modern children of Babel will be visited upon their bodies, there can be no doubt that the tall city building has come to stay. Modern economy of ground-space in cities and concentration of business interests make this fact apparent, and London street architecture is fast responding to its insistent commercial necessity. In a recent annotation we called attention to the fact that a man who lives at the top of a high building has the advantage of exceptionally pure air to breathe. But there are many interests to consider in a community and the blessing of the Londoner on the house-top is the bane of his brothers in the street. We cannot put the case in better language than in that of Mr. Whibley's article: "London is a true city of the North, and cannot endure tall houses, which shut out the light and cast long shadows. Nothing should interrupt the rays of the sun, always too few, which fall upon its streets. ...... (London's) citizens are free to heap up mountains of brick and mortar, of stone and iron. ...... in order that they may swell an over-full pocket, the poor wayfarer must walk up and down like a pigmy at the bottom of a sightless airless tank." He might almost have written of certain streets "a septic tank," for the living bacterial population of narrow thoroughfares which are never exposed to the antiseptic rays of the sun must be inconceivably great. We can only hope that the widening of streets will in some measure keep pace with the upward growth of the buildings which bound them, and that our building laws may forbid in perpetuity the appearance in any British town of such a skyline as appears to be inseparable from the great business centres of America. If a John Stow redivivus were to cross the Atlantic we fear that even the full-flavoured breadth of the Tudor vocabulary would fail to do justice to his emotions on approaching New York.

REGISTERED MEDICAL WOMEN AND THE POLITICAL FRANCHISE.

ON Nov. 2nd a committee of the Association of Registered Medical Women of the United Kingdom wrote to the Prime Minister asking for an opportunity of laying before him certain facts in favour of the extension of the political suffrage to women. The request was supported by the results of an inquiry which showed that of all the registered medical women resident in the United Kingdom 538 were in favour and 15 against the extension. The 16 signatories to this communication included Mrs. Garrett Anderson, M.D., Dr. Sophia Jex-Blake, Dr. Julia Cock, Dr. Jane H. Walker, Mrs. Mary Scharlieb, M.D., Mrs. Florence N. Boyd, M.D., and Dr. Louisa B. Aldrich-Blake. Mr. Asquith, in his reply, expressed his interest in the figures submitted to him and requested the association to make its representations in writing, as he regretted that pressure of public business would prevent him from receiving a deputation of medical women. On Dec. 10th the same ladies, with the addition of three others, forwarded a memorandum to Mr. Asquith in support of their claims. We are unable to print the document in full in this issue but summarise its arguments, which, we may mention, are expressed in studiously temperate language. The association claims that: 1. Legislation not infrequently deals with matters directly concerning medical practitioners, and the interests of all such practitioners should be protected by the vote. 2. Medical women are a tax-paying and self-supporting body and afford a striking example of taxation without representation, which is opposed to the first principles of English liberty. 3. Many medical women are graduates of a university and as such are entitled to the university franchise, a privilege from which they have been excluded by an arbitrary decision. 4. Members of the medical profession are called on to perform services of an arduous and responsible nature to their fellows and to give skilled advice to the State but receive no recognition of these services. The voteless position of women practitioners is especially anomalous, as they possess legal power to deprive men of their right to vote by signing certificates of insanity. 5. Work amongst all classes has given medical women an especial insight into the disabilities from which their sisters suffer through lack of political representation. The unhygienic conditions of poor women and children and the problems presented by criminal and intemperate women and by prostitution are closely associated with the economic conditions of female labour. 6. Women should have a direct voice in legislation upon these matters and also upon questions of education, religion, guardianship of children, housing of the poor, and all issues of public health and morals. 7. The possession of the vote would temperature; the relapses in these cases, however, were never so severe as the primary manifestations, 48 hours in bed again bringing the temperature to normal.

With regard to treatment, all these cases were isolated at once on rise of temperature, however slight, or on complaint of soreness of throat, and owing to this precaution in a colony of 160 people only 15 were affected with the malady. Formalin tablets were vapourised daily and freely in all dormitories and day rooms while the inmates were out of doors. Formamint lozenges were sucked (three a day) by all not affected, and by those affected a lozenge every three hours, while frequent swabbing of the tonsils and pharynx with "izal" solution (suitably diluted) was resorted to. All cups, spoons, &c., used by the affected inmates were sterilised in formalin solution after use. In addition to the swabbing, spraying of the pharynx and nares with the formalin spray was also carried out. I might mention that the place where this outbreak occurred is situated in a healthy part of the country 800 feet above sea level, where drainage and other sanitary arrangements are carried out on the most approved and modern lines. There are no poultry or cattle, &c., kept near the premises.

No sooner had this epidemic abated than one of a similar but more severe nature occurred in my practice here at a private preparatory school, consisting of 40 pupils with staff of masters, head master's family, servants, &c., numbering upwards of 60 people in all. The building is healthily situated, 400 feet above sea level, in the country, and remote from any other dwelling. The sanitation of the whole building had just been completed at a cost of £200, with drainage into a "septic tank" some distance from the building. A few fowls, horses, pigs, cows, &c., are kept near the premises, but there is allowed no offensive accumulation of excreta from these sources. The analysis of drinking-water was satisfactory. The pupils live an out-of-door life as much as possible and practically at this time of the year (May and June) are only indoors at lessons, meals, and to sleep. The building is constructed with the view to the admittance of as much light and fresh air as possible; all windows open widely and are kept open as much as existing conditions of weather permit. There was a history, before the commencement of the epidemic, of one boy returning to school who had had sore throat which had imperfectly cleared up. In from two to three weeks later a boy was seized with convulsions. I saw him soon after the abatement of the seizure. His temperature was 103° F.; he complained of no sore throat, but his cervical glands were enlarged and tender. He was isolated at once. On seeing him next day he had a creamy secretion over both tonsils but not extending on to the palate, uvula, or faucial pillars. There was much angry congestion over the latter, and he now complained of much difficulty and pain on swallowing.

Four other boys on this day were put to bed with rise of temperature, tenderness over the cervical glands, headache, malaise, and some pain on swallowing on one or both sides. One of these showed much more cervical glandular enlargement and had a more suspicious look about his fauces and tonsils than the rest. Moreover, he had signs of much nasal obstruction and he was isolated. A swab from his throat showed Klebs-Löffler bacilli. He was treated with 4000 units of antitoxin, swabbed with izal, sucked formamint lozenges, and the usual treatment was carried out by both night and day nurses. He proved to be a severe case of diphtheria of the fauces and nares, with marked heart and kidney trouble, and succumbed 14 days after onset of symptoms to cardiac failure.

Swabs from other throats showed Hofmann's diplococci and streptococci but no diphtheria bacilli. Boys fell down like ninepins, whole classes going sick one by one, all with similar symptoms and local signs. One boy, and only one, had middle-ear trouble ending in suppuration, with no mastoid complication. Repeated swabs were taken for examination. The specific bacillus was only found in one other case of the 30 affected, and in this boy local throat signs were slight, but he was isolated and had no ill after-effects; in fact, his malady was of so slight an importance to him that he never really complained of feeling ill. He had no abnormal gland swelling and no nose trouble. A feature of this epidemic and one that was so very striking that the veriest tyro on throat affections could not have failed to notice it, was the comparative slightness of the internal (tonsillar and pharyngeal) signs in the older boys of from 12 to 14 years of age, with in some cases no secretion or exudation, and the mildness of their constitutional symptoms; while the younger boys of from 10 to 12 years of age had sharp febrile disturbance, with much pain in the throat and glands and took much longer time to convalesce, whilst the subsequent anæmia was often very marked. Some showed signs of heart dilatation, some had none. Most had tenderness with swelling of the glands at the angle of the jaw and around the sterno-mastoid. In some cases slight, in others very marked, glandular enlargement was noticeable, taking many weeks to subside to the normal. Some, again, had albuminuria, mostly of a very transient nature, only lasting from three to four days. Some had none, and in no non-diphtheritic case was there a true nephritis or endocarditis. One boy in whom a tonsillotomy had been done a year or so previously acquired the disease and had a very sharp attack. Several of the cases developed dilated hearts with apex beat well out in the mid-axillary line. This complication, however, cleared up with prolonged rest. Appetite was good, almost ravenous, even though much secretion and faucial swelling were present; headache was persistent in a few cases, little or absent in most. There was no doubt about the izal swabbings and sucking of formamint doing good in checking the amount of secretion and local pain on swallowing. Several cases had to return to bed after getting up in the dormitory for a short time after the temperature had been normal for several days and secretion had disappeared. This was in most cases due to a secondary adenitis in the cervical glands, even in those who had had previously but slight gland trouble, yet the relapse was often more severe than the primary adenitis and much more obstinate in clearing up. No case went on to suppuration. In several the pharyngeal tonsil and adjacent lymphoid tissue showed signs of congestion for from two to three weeks after disappearance of throat discomfort and the nares were in a few cases slow to resume their normal appearances. Some made rapid strides in convalescence, others remained anæmic for from three to four weeks, and in one case, after the boy had been sent home and had been resting in open air for three weeks after the attack, news was received of his having to take to bed again with rise of temperature and return of his former gland symptoms.

This all points to the persistence of the infection even after a period of apparent normal health; the streptococcus, no doubt, can linger on in the remote parts of the fauces, nares, Eustachian tubes, and query in the cervical glands even after all symptoms of the affection are past and done with. Hæmatogen and maltine with iron ("bynophosphates") seemed to do most good as an after tonic, and the incidence of warm sunshine in the latter part of June seemed to put a check to the spread of the infection. A notable feature of the epidemic was a slight pharyngitis experienced by the adult people (masters and servants) of the school with no serious constitutional disturbance; this was not fanciful but real, as I had an opportunity of examining the fauces of those affected.

My reasons for reporting these two epidemics are, firstly, the now well-understood possibility of a "diphtheritic" supervening on or accompanying a "diphtheroid" infection; and, secondly, of a streptococcal infection (with staphylococcal) going hand-in-hand with both and gaining sometimes the upper hand, and so minimising the risks run had the former reigned alone supreme, and that none the less is a streptococcal throat infection to be treated lightly, owing to the persistent and clinging properties of the micro-organism resulting in much adenitis and subsequent constitutional disturbance and anæmia.

I had almost hoped for a case of scarlet fever to crop up during the course of this epidemic to add further evidence to the well-known "possibilities" of micro-organisms of the streptococcal group. My expectations were ultimately realised, for in a family of six children residing in an isolated country cottage five developed streptococcal throats, all females, while the sixth child, a boy, aged six years, developed true scarlet fever in a very typical form: he desquamated freely and in eight weeks had finished peeling and was in good health. From the three epidemics, then, described above, in three separate households, streptococci were found to be present in the throat swabs in all three instances, and the possible and various results of streptococcal infection were well illustrated in the production of a tonsillitis, an erysipelas, and scarlet fever.

Knowle, Warwickshire.

excess of the general mortality; this occurs at all ages and is most marked in Saxony at almost every age, is less marked in the Gotha experience, but only occurs after age 40 in Würtemberg.

MORTALITY OF MEDICAL MEN COMPARED TO NORMAL (= 100).

Ages.	Gotha insured.	Saxony.	Wurtemberg.
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There is but little difference between the mortality of town and country practitioners, the place of residence having much less influence than the conditions of the profession. Westergaard found the same fact in his investigations among Danish medical men. Karup and Gollmer consider the excessive mortality to be due to professional risks—e.g., exposure to typhoid fever, unfavourable conditions of weather and temperature, and the incessant activity of the profession. Looking at the mortality from individual causes, practising physicians show the excess chiefly in respiratory diseases (including pulmonary tuberculosis), in apoplexy, and in typhoid fever. The mortality from tubercle is 106·7 per cent. of the expected mortality, that from infectious diseases no less than 131 per cent. Among minor points brought out are the two following:—Radestock's continuation of Geissler's Saxon investigations indicates a slight rise in the expectation of life for medical men; the Gotha figures show that the mortality of medical lecturers in the universities closely resembles that of medical men generally."

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John Milton is generally supposed to have suffered from amaurosis, of which the old name was *gutta serena*. In the great autobiographical opening to Book III. of "Paradise Lost" the blind poet, apostrophising Light, plays on the Latin name in well-known lines:

> "Thee I revisit safe,
> And feel thy sov'reign vital lamp; but thou
> Revisit'st not these eyes, that roll in vain
> To find thy piercing ray, and find no dawn;
> So thick a drop serene hath quench'd their orbs,
> Or dim suffusion veil'd."

According to others, among whom was his late biographer, Leslie Stephen, Milton's complete loss of eyesight was due to glaucoma. To judge from the passage above quoted, the poet himself was not entirely convinced of the nature of his disease, though he gloried in the fact that he had incurred it in the service of his country. The lines seem to express alternative etiologies. The darkness fell upon him soon after his completion of the "Defensio Populi Anglicani" in 1654. "Paradise Lost," therefore, was the *magnum opus* of a blind man. Now, though such an affliction as complete loss of the use of a sense might be supposed to militate against the highest kind of achievement in art, it is a question whether in Milton's case such loss did not enhance his performance. According to Jonathan Richardson, who wrote when Miltonic tradition was still quite fresh, the poet dictated his poem in snatches between 1658 and 1662—ten lines to a chance caller, 20 lines to his daughter Anne whom he would wake up in his grim paternal fashion to act as his amanuensis during the hours of a sleepless night. According to a tradition traced to the third Mrs. Milton the poet dictated his poem, in batches of some 300 lines at a time, after rising in the early morning. These batches were composed during night vigils. Whichever tradition we accept, the fact remains that Milton's great epic was recited and dictated; it was the work of a *trouvère* of supreme genius; it owed nothing in the first instance to the restraining influences of the pen. Hence the Miltonic harmonies, the stresses, cæsuras, crowded syllables, pauses, which lend the poem its peculiar majesty and charm. Blindness for once may be said to have been beneficent when we consider the manner in which "Paradise Lost" was composed. Milton's insomnia deserves a word in passing. He was a man with memories when he began the composition of his poem at the age of 50 years, and these with his gout and his active mind may well have kept him awake or awakened him in the small hours. But his regimen was a starveling one, his dinner often consisting of olives. And he went to bed at nine like a man of great age.

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The PRESIDENT, Mr. W. J. MIDELTON, Dr. F. J. POYNTON, Dr. W. H. WILLCOX, Dr. J. GRAY DUNCANSON, Dr. H. C. CAMERON, and Professor W. E. DIXON joined in the discussion which followed.

MEDICAL SOCIETY OF LONDON.

Athletics in Relation to Disease.

A MEETING of this society was held on Dec. 14th, Mr. C. B. LOCKWOOD, the President, being in the chair.

Mr. R. H. A. WHITELOCKE (Oxford) read a paper on Athletics in Relation to Disease. In the course of his remarks he said that when the twisting or wrenching violence was sufficient to overstretch the ligaments of a joint but not to tear them, so that the only symptoms were pain and impaired movement, the condition was known as "strain." When laceration resulted and there was bleeding into the tissues, and added to the pain and loss of function they had swelling, the term "sprain" was used. Sprains were divided into articular and muscular. Articular sprains might be simple or they might be complicated by fracture or gross injury to nerves or by semi-luxations in the joints. When the sprain was complicated by an injury to the bone entering directly into the joint it was called a sprain-fracture or fracture-sprain. If in addition to the sprain of a joint there was a fracture of one of the bones in the immediate neighbourhood but not involving the joint itself the expression sprain with fracture might be used. That classification for clinical purposes was a convenient one, especially when treatment was considered. In the simplest variety known as strain the patient came complaining of pain and loss of power. The pain might be very intense. The first desideratum of treatment was relief of pain, and nothing succeeded so well as rest to the injured part, and that was best obtained by means of strapping. Various forms of plaster were used for that; the best, he thought, were leucoplast and wash-leather plaster. Massage over the plaster would expedite the cure in the later stages. When, however, there was swelling coming on immediately it was due to hæmorrhage; when later, by some hours, it was due to serous effusion and was known as deferred swelling. The first requirement was that the effusion should be prevented or checked, and when it did exist to assist by every means its reabsorption. Electric pressure was as useful for these cases as it was in contusions and should be applied as soon as possible. If the surgeon was fortunate in seeing the case early he might be able to limit the bleeding considerably and might certainly prevent in a great measure the serous effusion coming on later. Speaking generally, every hour saved before treatment was begun meant a saving of days in the total period of treatment. Fixed apparatuses and rigid splints should never be used. Joints were designed for movement and should never therefore be treated like fractured bones. A joint which was left alone untreated would in the long run do even better than one that was kept in splints for a considerable time. Examples of that were often to be found in the sprains in the lower animals. The system of placing sprained joints and retaining them in splints for considerable periods was to his mind responsible for the fact that thousands of well-to-do and well-educated people as well as poorer folk flocked daily to the bone-setters and other irresponsible and unregistered practitioners. The bone-setter who moved everything by rule-of-thumb would seem to be even more successful by his haphazard methods if they were to judge by his present-day almost universal popularity. Yet both systems, the fixed and the movable, or the orthodox and unorthodox, would seem to be wanting in something. A scientific discrimination was absolutely necessary if success was commonly to follow treatment, for each case must be judged according to its merits. The once prevalent idea that every injured joint required rest was dying hard, just as it was to be hoped that the more modern idea that everything should be moved would find its limitations, for to subject every injury to early massage and movement would be found to be no less injurious. And more particularly was that true when they took sprain-fractures into consideration, and those sprains which were complicated with gross injuries to nerves. Early massage and movements might do much harm by increasing bony callus and thereby producing stiffness of the joints in cases where there was fracture, and the recent and now almost universal employment of the x rays had taught them that a great many injuries formerly regarded as simple sprain were in reality sprain-fracture.

Dr. W. COLLIER (Oxford) said that he always advised an undergraduate to let his athletic career be a short one, as his early athletic struggles developed well-marked hypertrophy of the left ventricle and there was always a danger that if he continued his efforts over too long a period he ran a very decided risk of inducing a dilatation of the aorta which might end in incompetence of the aortic valves.

Sir LAUDER BRUNTON said that they did not yet know how far albuminuria caused by over-exertion might ultimately lead to kidney damage but he did not think that that was likely to be of much importance because the organ that was most likely to suffer first was the heart and alterations in it would probably prevent the indulgence of athletics to any great extent before the kidney itself had suffered. It was, however, clear that athletics without previous training might be very injurious, and that over-strain, especially in growing boys, might lead to cardiac weakness which might ruin their future lives. It was therefore very advisable that all those who took part in athletics, whatever their age or their sex might be, should be subjected to careful medical examination unless they were willing to take the risk of doing themselves great damage. Such examination was all the more important if athletics, gymnastics, and physical training were introduced as part of the curriculum in all schools.

Dr. SAMUEL WEST pointed out that if massage of a sprained joint caused pain that persisted, then such treatment was doing harm.

Dr. F. DE HAVILLAND HALL described how dilatation of the heart might occur in cycling, horse-riding, and in athletic competitions.

Dr. A. F. VOELCKER considered that they must distinguish in athletics the different forms according to their gravity from a medical point of view.

The PRESIDENT described a case in which the patient fractured the right humerus when throwing a cricket-ball, and Mr. WHITELOCKE replied.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

The Therapeutic Uses of Sea Water.—Treatment of Rheumatic Affections by Counter-irritation of the Spine.

A MEETING of this society was held on Dec. 9th, Mr. ERNEST SOLLY (Harrogate), the President, being in the chair.

Dr. ARTHUR W. BRODRIBB (Hastings) read a paper entitled "The Therapeutic Uses of Sea Water." In explaining the choice of his subject he commented on the lack of enterprise of the South Coast towns in not making a greater use of sea water for therapeutic purposes, and said that it was done very largely abroad, particularly for scrofulous diseases and diseases of the female generative organs. He was of opinion that sea water might be applied as douches, sprays, and brine baths, after dilution or concentration for the benefit of other diseases, such as rheumatism, joint exudations, glandular enlargements, some skin diseases, and particularly for diseases of the respiratory tract, the last owing to climatic advantages.—Dr. A. F. STREET (Westgate) said that the argument as to the undoubted utility of treatment by the water of inland spas applied quite as forcibly to that by sea water, with or without the addition of seaweed. It was not right to question the value of the latter any more than that of the former, merely because ir-excess of the general mortality; this occurs at all ages and is most marked in Saxony at almost every age, is less marked in the Gotha experience, but only occurs after age 40 in Würtemberg.

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Mr. E. H. TAYLOR, in reply, said that he brought forward the communication to emphasise the importance of carrying out the most complete operation, even where the disease was of quite small dimensions, and to emphasise the importance of early diagnosis.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 3rd, Mr. R. F. Jowers, the President, being in the chair.—Dr. Walter Broadbent showed a girl, aged 14 years, with severe Mitral Regurgitation, in whose case there was no history of rheumatic fever, chorea, or scarlet fever, but only of growing pains and pain in the feet for which she had recently been given flat-foot pads. He had brought up the case to show the necessity of examining the heart in children with "growing pains." He also showed a Stomach with Congenital Hypertrophic Stenosis of the Pylorus from a child six weeks old. The child weighed 11 pounds at birth; it was nursed by the mother. On the third day it began vomiting, and this continued up to its death. The bowels were obstinately constipated. When admitted to hospital it weighed 3½ pounds; the pylorus could not be felt and no peristalsis of the stomach was visible. It was considered too feeble for operation and died very shortly.—Dr. J. F. Gordon Dill read notes of, and showed specimens from, a case of Primary Carcinoma of the Thyroid Gland in a man aged 55 years. The man had been quite well up to a month before death, when he began to have difficulty in breathing. Two weeks later he noticed a lump in his neck, and the dyspnœa became worse with difficulty in swallowing also. The man died shortly after admission to hospital, and a tumour of the size of a Tangerine orange was found in the right lobe of the thyroid, bulging between the trachea and the œsophagus.—The President showed a Serous Cyst of the size of a bantam's egg, removed from the erector spinæ of a man who had complained of a painful lump in the small of the back for a year.—Mr. H. H. E. Scatliff read notes of a case of Atypical Leukæmia. The patient went to him for sudden hæmorrhage under the conjunctiva. He had also enlarged glands in the neck and œdema of the legs. He was very anæmic and the blood showed 2,736,000 red cells and 6300 white, but the leucocytes were found to be 96 per cent. small lymphocytes. The man became rapidly worse, having severe hæmatemesis, and died a fortnight after he was first seen.—Dr. F. G. Bushnell showed specimens of the Blood under the microscope and read a paper on this form of leukæmia, sometimes called leukanæmia. He said it was the third case that he had examined at Brighton; the total leucocytes were not increased in number but they consisted almost entirely of lymphocytes; the liver and spleen and glands were enlarged, and they and all the viscera contained large numbers of lymphocytes. The course of the disease was a severe progressive anæmia akin to pernicious.—Dr. C. F. Bailey read a paper on High-Frequency Currents and their Medical Application. He said that high frequency currents caused a microscopic battering of every cell in the body, changing too quickly to cause contraction of muscle or sensation but capable of causing inhibition, anæsthesia, and blanching of the skin. He used the effleuve mainly and found it useful in pruritus and some forms of eczema, also in neuritis and myositis, and in migraine. Auto-condensation lowered vascular tension, while spinal effleuve tended to increase it and was useful in neurasthenia.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Dec. 9th, Professor William Stephenson, the President, being in the chair.—A paper by Dr. T. M. Callender on Thyroid Extract as a Preventive of Dystocia from Large Child was read by the secretary. Dr. Callender attended a woman in her first confinement who was short and stout with a justo-minor pelvis. The child presented the right occipito-posterior position and had to be delivered with forceps with considerable difficulty. The child weighed 8½ pounds and was still-born. The patient suffered severely from coccydynia, the coccyx having been dislocated during labour and its removal was required a few months later. She afterwards became very stout and this was treated by thyroid extract and diet with good results. Having again become pregnant and as she dreaded the possibility of losing another child Dr. Callender administered thyroid extract five grains a day from the third month to interfere with the development of the child. The thyroid extract was taken almost continuously to full time, when she was delivered easily of a healthy child which weighed 6½ pounds, being two pounds less than the previous one. Dr. Callender had also given the same treatment in another case; the mother had had two very difficult labours due to the large size of the children, in one labour requiring craniotomy. Ten grains of thyroid extract were given daily and the result was a comparatively easy labour and a small child.—The President, Dr. H. Oliphant Nicholson, and Dr. J. W. Ballantyne discussed the paper.—Dr. Ballantyne read a paper on Pre-maternity Hospital Practice. He reviewed a quarter's series of cases in the Hamilton Ward for the treatment of morbid pregnancies in the Royal Maternity Hospital, Edinburgh. These included 30 cases, consisting of five of eclampsia, three of albuminuria, four of accidental hæmorrhage, three of placenta prævia, four of threatened abortion, two of retroversion of the gravid uterus, one of habitual fœtal death, two of phlebitis in pregnancy, one of heart disease in pregnancy, one of gingivitis, one of severe chorea gravidarum, one of gonorrhœal arthritis in pregnancy, one of contracted pelvis and vaginal cicatrisation, and one of twins with hydramnios of both sacs. There was only one maternal death, that of the chorea gravidarum. The number of cases shows that there exists a rapidly increasing demand among medical men for a hospital or nursing home where cases of morbid pregnancy can be suitably treated. It is also noted that many of the most serious cases occur in the first half of pregnancy. The observation and treatment of these conditions will develop an important branch of obstetrics both on medical and surgical lines. He advocated a separate building and staff for these cases but connected by corridor with the maternity hospital.—The President, Dr. A. H. F. Barbour, Dr. F. W. N. Haultain, Dr. J. Haig Ferguson, and Dr. J. Ritchie made remarks on the paper, and Dr. Ballantyne replied.

HUNTERIAN SOCIETY.—A meeting of this society was held on Dec. 9th, Dr. Arthur T. Davies, the President, being in the chair.—Dr. O. K. Williamson showed a case of Aortic Stenosis in a boy, aged eight years. Examination showed marked hypertrophy of the left ventricle, together with a harsh systolic murmur over the aortic area. Slight choreic movements were also to be observed.—Mr. Hugh M. Rigby showed: 1. A case of Popliteal Aneurysm cured by the Matas Operation. When first seen the aneurysm was of the size of a tennis ball. Symptoms had been noticed for three months and the swelling, which had grown rapidly, for four weeks. Œdema of the leg was present and pulsation was delayed in the arteries of the foot. At the operation the sac was laid open and two arterial openings were found 1½ inches apart. These were occluded by chromic gut continuous sutures. The rest of the sac was obliterated by buried chromic gut sutures. The wound healed well and there was no recurrence. The leg was still somewhat œdematous. Pulsation could not be felt in the arteries of the foot. 2. A case of Anterior Dislocation of the Foot treated by excision of the astragalus. As the result of operation the patient could walk without support and had fair movement at the ankle-joint. Before the operation the foot was held in the partly extended position and no movement was possible at the ankle-joint. 3. A case of Duct Carcinoma of the Breast, secondary deposits in the left humerus with spontaneous fracture two and a half years later. The right breast was removed for duct carcinoma in April, 1906. This had been noticed for five years. The axillary glands were not involved. The growth showed extensive mucoid degeneration. No local recurrence had taken place. Three weeks ago, after a slight effort, pain was felt in the left shoulder. A fracture was discovered in the upper part of the humerus with much swelling which a radiograph showed to be due to the presence of a new growth.—Dr. J. W. Bernstein showed: 1. A case of Polyarthritis in a woman with extreme deformity of the fingers. 2. A case of Disseminated apparent absence of facilities for the transfer of tuberculous patients from London hospitals to country institutions at a time when such patients most need it. Referring to this committee's report, the Prince of Wales remarked that if the applications received by the committee this year were to be taken as a measure of the supply of beds in the country for the consumptive poor of London, he could not help feeling that the supply was inadequate. One step towards meeting this need had already been taken by the formation of the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis. The Benenden Sanatorium is the first outcome of this movement and His Royal Highness thought that such an effort on the part of the workers themselves to deal with this great question deserved the encouragement and support of the Fund. It should be mentioned that the London Parochial Charities have again given their annual grant of £1000 for convalescent homes and the League of Mercy will probably be able to add to the Fund £18,000.

THE IMPORTATION OF FOREIGN MEAT.

THE Local Government Board has recently issued a circular in which it is pointed out that the public health regulations in regard to foreign meat, referred to in a leading article in THE LANCET of Feb 1st, 1908, will take effect on and after Jan. 1st, 1909. It will then be the duty of the medical officer of health in every case in which notice under these regulations is received by him from the officers of Customs to decide whether meat which has been detained by those officers falls within the classes specified. If so, he is required to give a notice forbidding the removal of the meat for any purpose other than exportation. If an importer to whom a notice of the kind has been given desires not to export the meat but to use it for some purpose other than sale for human consumption, the procedure to be adopted to enable him to do so is provided in the regulations. These regulations refer to boneless meat, "boxed" meat, boxed pork, tripes, tongues, and kidneys, which, according to the category in which they are placed (Class I. or II.), are dealt with correspondingly.

A WISE SUGGESTION.

THE enormous bequests of the late Mr. Henry Isaac Barnato have included a legacy of a quarter of a million pounds to his trustees for the purpose of founding a hospital or other charitable institution in memory of his late brother, Mr. Barnett Barnato, and his late nephew, Mr. Woolf Joel. The application of this fund is to be vested in the sole hands of the trustees. A correspondent in the *Daily Telegraph* has pointed out that if this magnificent sum is to form the endowment as well as the building fund of a hospital the Weir bequest controversy of large *versus* small hospitals will be revived. In a subsequent issue of the same paper Mrs. Watt Smyth makes the suggestion that the money should be spent in constructing and endowing a bungalow hospital settlement in hygienic country surroundings for the open-air treatment of school children found by medical inspection to be suffering from pulmonary tuberculosis. She gives evidence to show that this disease will be diagnosed in an appreciable number of children attending elementary schools, and accepting her estimate of 1 per cent. (which was obtained in a London school of which Mrs. Watt Smyth is a manager) it is obvious that their treatment will shortly become a serious problem. For the sake of the suffering children themselves, as well as of their schoolfellows and their families, it is very desirable that they shall be treated in a special hospital settlement and we commend Mrs. Watt Smyth's timely suggestion to the careful consideration of the administrators of the Barnato trust.

FLIES AS A NUISANCE.

A REPORT by Dr. W. H. Hamer presented to the London County Council on the extent to which fly nuisance is produced in London by accumulations of offensive matter was ordered to be printed in October and is of great interest. A similar inquiry was undertaken in 1907, the results of which were printed in January of 1908. Upon this we commented in our issue of March 21st, p. 876. The present report is upon the same lines as the former, being illustrated with curves and diagrams. In 1908 the places of observation were 141 surrounding nine sets of premises—namely, "four depôts, at three of which stable manure or house refuse, or both, were manipulated; two stable premises, a cowshed, a glue and size manufacturer's premises, and a jam factory." In 1907 the places of observation numbered 163 surrounding 12 centres of practically the same nature as in 1908, except for the addition of a cattle market. The various kinds of flies were in both years nearly all—i.e., nine-tenths—Musca domestica; there were also a few bluebottles and a fair number of the Homolomyia canicularis which closely resembles Musca domestica but is smaller. There was one curious difference, however, in the two years. In 1907 no instance of Stomoxys calcitrans, a biting fly, was found, while in 1908 at one station (No. 7), a cowshed, the stomoxys was found in large quantities. A few were also found at No. 6 station which was stables. As regards the question of the carriage of the infection of diarrhœa by flies Dr. Hamer says:—

> Comparison of the curves for 1908 and 1907 brings to light, moreover, a striking fact regarding the behaviour of the fly and diarrhœa curves in the two years. From the middle of August to the end of the first week of October, 1907, the number of flies was practically stationary. Again from September 4th to October 5th, 1908, the number of flies was also practically stationary. Further, judging by the total number of flies caught, in relation to the number of places of observation in 1907 and 1908, practically the same extent of prevalence of flies (in the parts of London concerned) was maintained during these two stationary periods of the two years in question. Yet during the stationary period of 1907 diarrhœa was steadily increasing, while during the stationary period of 1908 diarrhœa was steadily declining. In order to explain this phenomenon on the fly hypothesis, it becomes, therefore, as has been already surmised, necessary to assume that in determining variations in amount of diarrhœa, importance attaches not so much to the number of carriers of diarrhœa organisms, as to the extent of distribution of the organism itself. If this be admitted, however, it is (on the assumption that flies cause diarrhœa) clear that precise correspondence of the carrier curve—i.e., the fly curve—and the diarrhœa curve cannot be expected to occur.

And Sir Shirley F. Murphy in his introduction says:—

> The report also refers to the question of diarrhœa. No final decision can be given, but in the present state of knowledge it appears desirable to maintain a critical attitude as regards acceptance of the view that the fly acts as a carrier of the diarrhœa organism.

MENINGEAL HÆMORRHAGE IN ACUTE RHEUMATISM.

AT a meeting of the Société Médicale des Hôpitaux of Paris on Nov. 13th M. Moutard Martin and M. Pierre Weil reported a case of a very rare complication of acute rheumatism—meningeal hæmorrhage. A woman, aged 36 years, was admitted into hospital on Oct. 26th, 1907, for a third attack of rheumatism. She had always been delicate. In 1905 she had acute rheumatism and again in July, 1907. Her present attack began on Oct. 20th with a chill and sore throat. The shoulder-, elbow-, and wrist-joints were attacked and there were intense headache and vomiting. On admission the temperature was 100·4° F. and the joints mentioned were red, hot, swollen, and very tender. The heart was normal and the urine did not contain albumin. Under sodium salicylate the pains diminished and became limited to the right wrist and the temperature fell to 99·5°. On Nov. 18th the wrist was still swollen and painful and the temperature was about 99·5°. On the 22nd the patient was and was an early contribution to its return to favour after the desuetude into which it had fallen as a reaction from its excessive use in earlier times. Some remarkable cases are instanced of its value in chronic renal disease and in convulsions due to high arterial tension without disease of the kidneys. Several papers deal with disease of the respiratory organs; among them we may mention those on Pneumonia; on Interlobar Empyema; on Some Points in the Clinical History of Effusion into the Pleural Cavity; and on a case of Hydatids of the Right Lung Simulating Pneumothorax. It is difficult to realise that the paper on pleural effusion was written so long ago as 1881. An interesting point which is emphasised by Sir William Broadbent is that in cases where the signs indicate incomplete collapse of the lung—i.e., where loud bronchial breathing is heard all over the affected side—paracentesis is usually not necessary, since there is often not a great quantity of fluid and the cases recover spontaneously. The case of hydatid of the lung simulating pneumothorax is reprinted from the second volume of THE LANCET of 1878 and is an interesting illustration of the lucid and critical manner in which Sir William Broadbent recorded his cases and applied the pathological data obtained at the necropsy to the explanation of the clinical phenomena observed during life.

Within the short compass of a review it is impossible to mention all the subjects included in this volume owing to the wide range which they cover but we may refer to a few more of them. An address on Dilatation of the Stomach contains a useful account of the treatment of that condition. A clinical lecture on Sleeplessness, delivered in 1900 and recorded in our columns, is an interesting study of some of the protean forms of that distressing condition and abounds in common-sense hints as to treatment.

A considerable section of the book is devoted to Sir William Broadbent's papers on neurological subjects and, as is most fitting, the first of these is the remarkable paper published in 1866 in which the theory, now known by the name of its distinguished author, was first propounded of the existence of commissural connexions between the nuclei governing the action of bilaterally associated muscles. This paper is one of the most striking in the whole book and should be read by all who are interested in the history of neurology as an example of clear reasoning and thoughtful suggestion. Several papers deal with the subject of Aphasia, another with that of Epilepsy. The latter was delivered in the form of a lecture and gives an interesting account of that condition and its treatment. The Lettsomian lectures for 1874 on Syphilitic Affections of the Nervous System bring the volume to a close.

We can cordially commend this book to our readers, not only for its historical interest but also for the really valuable information in which it abounds. Dr. Walter Broadbent is to be congratulated on the choice which he has made from his father's writings, and the book which he has produced will certainly become a medical classic.

A Manual of Natural Therapy. By THOMAS D. LUKE, M.D. R.U.I., F.R.C.S. Edin. With 30 plates and 125 illustrations. Bristol: John Wright and Sons, Limited. 1908. Pp. 303. Price 7*s.* 6*d.* net.

THIS volume is intended to give an account of the use of water, heat, light, massage, electricity, and diet in the treatment of disease. The author, in his preface, modestly states that in the preparation of the work no attempt has been made to give a complete or exhaustive account of any of the departments dealt with, but he has endeavoured to embody the chief points of interest and importance briefly and succinctly, in such a manner as to awaken interest and to lead to further study and consideration of the methods treated of on the part of the reader. Dr. Luke would have acted more wisely had he modified some of his expressions of opinion on the use of drugs. For instance, the following remarks cannot altogether be taken as exact statements of the present conditions existing in hospitals: "Going round a medical ward one cannot help being struck by the absence of long prescriptions, once so common, on the patient's bed-card. These are now seldom seen. There is the chart with respiration and pulse-rate, the temperature, blood-count, &c., and possibly away in the corner, in very small writing, 'Hæmatogen ʒi. t.i.d.,' or 'Nuclein gr.ii.,' or 'Thyroidectin gr.v.' On all the bed-cards the British Pharmacopœia takes a minor place." Then, again, an imaginary picture is drawn of what Dr. Luke would apparently wish his readers to believe takes place in most medical wards: "At one bed we see a man, with a pallid, puffy face, lying in a bed vapour bath; at another an electrician is galvanising a case of exophthalmic goitre from 'the main'; and as we leave the ward we notice a fair-haired Norseman enter, and we are told that he is the masseur, who pays a daily visit." Dr. Luke mentions the exceptions to the patients usually seen in the medical wards of a general hospital and seems to hint that such cases are much more common than is really the case.

Accepting "natural therapy" at its true worth we can give all praise to Dr. Luke's work as affording a good description of the various methods and appliances necessary for the numerous processes which may be carried out at the recognised spas or in private houses or institutions. The *rationale* of the use of mechanical means is explained in a scientific manner and the indications for the use of baths, heat, cold, massage, or electricity are fully and carefully considered. It is perhaps doubtful whether the proper and suitable application of hydrotherapy, thermotherapy, "massotherapy," and electricity is fully appreciated by the general mass of practitioners and a volume of this nature will be welcomed.

The book is of moderate size and the manner in which it is written renders it easy to read and to understand. The illustrations are numerous and good and add considerably to the value of the letterpress. Those of our readers who wish to increase their knowledge of mechanical therapeutics cannot do better than consult its pages.

Tuberculosis in Infancy and Childhood, its Pathology, Prevention, and Treatment. By Various Writers. Edited by T. N. KELYNACK, M.D. Vict., M.R.C.P. Lond., Physician to the Infants Hospital, Westminster; Physician to Mount Vernon Hospital for Consumption and Diseases of the Chest. London: Baillière, Tindall, and Cox. 1908. Pp. 376. Price 12*s.* 6*d.*

THE *British Journal of Tuberculosis* for July, 1907, formed a special number devoted to the consideration of Tuberculosis in Infancy and Childhood, and contained signed articles by well-known authorities dealing with various aspects of the question. This volume is an expansion of the series of articles contained in that journal. The list of contributors is a long one, containing 38 names of English, American, and continental observers.

In his introductory remarks Dr. Kelynack draws attention to some of the problems of tuberculosis which are still under discussion. He rightly expresses surprise that in the conduct of the antituberculosis campaign measures for the systematic study, organised prophylaxis, and adequate treatment of tuberculosis in early life should hitherto have received but little attention. This has been more particularly the case in this country than in some continental countries, especially France, where sanatoriums for "consumptive children" are numerous. A work of the kind now before us is therefore welcome, as it treats of tuberculosis

THE SEX-CENTENARY DINNER OF THE WORSHIPFUL COMPANY OF BARBERS OF LONDON.

THE sex-centenary dinner of the Worshipful Company of Barbers of London was held on Tuesday evening, Dec. 15th, at Grocers' Hall, the Grocers' Company having placed their famous premises at the disposal of the Barbers for the important occasion. The Master, Sir JOHN TWEEDY, F.R.C.S., presided, and, as might be expected in the circumstances, there was an important medical element among the numerous guests. Those present included Sir R. Douglas Powell (President of the Royal College of Physicians of London), Mr. Henry Morris (President of the Royal College of Surgeons of England), Sir Frederick Treves, Sir William J. Collins, M.P. (Vice Chancellor of the University of London), Mr. Howard Marsh (Master of Downing College, Cambridge), Dr. W. Collingridge (medical officer of health of the City of London), Mr. F. Gordon Browne (Master of the Society of Apothecaries), Sir Thomas Smith (Sergeant-Surgeon to the King), Inspector-General J. Porter (Director-General of the Royal Navy Medical Service), Surgeon-General Sir Alfred Keogh (Director-General of the Army Medical Service), Sir T. Clifford Allbutt (Regius Professor of Physic at the University of Cambridge), Sir W. S. Church (President of the Royal Society of Medicine), Mr. C. B. Lockwood (President of the Medical Society of London), Sir Henry Norbury, Sir Jonathan Hutchinson, Sir James Reid, Sir W. Watson Cheyne, Mr. Thomas Bryant, Dr. D. Ferrier, Mr. A. A. Bowlby, Mr. H. T. Butlin, Mr. W. Arbuthnot Lane, Mr. A. Pearce Gould, Dr. F. T. Roberts, Alderman Sir T. B. Crosby, Mr. H. H. Clutton, Mr. Edmund Owen, Mr. C. W. Mansell Moullin, Mr. W. Bruce Clarke, Dr. J. F. Payne, Mr. A. W. Mayo Robson, Mr. J. H. Morgan, Mr. R. J. Godlee, Dr. S. West, Mr. G. H. Makins, Dr. Dawson Williams (Editor of the *British Medical Journal*), and Dr. Squire Sprigge (THE LANCET). The laymen included the Bishop of Oxford, Sir Robert Ball, Sir Thomas Sutherland, Sir R. Macgregor Stewart (Lieutenant of the Tower), Sir Forrest Fulton (Recorder of London), Mr. E. J. Gregory, R.A., Mr. Anthony Hope Hawkins, the Masters of the Grocers', Mercers', Ironmongers', and Skinners' Companies, Sir John Furley, Mr. F. C. Lingard (clerk to the Company of Barbers), and the Wardens of the Company.

After the usual loyal toasts the MASTER proposed "The Corporation of London and the City Guilds" in an eloquent speech in which he traced the growth in strength and power of the guilds and showed how London and her guilds had always fought the battle of England for freedom and progress. Sir John Tweedy made special and eloquent allusion to the fact that the Areopagitica, that magnificent vindication of the freedom of the press, was written in the City of London, and that, later, it was one of the Members of Parliament for the City whose brave action, supported by his constituency, first made possible the publication in the press of proceedings in Parliament. Sir John Tweedy's speech was punctuated throughout with applause and was felt by all to be a great performance. The toast having been replied to in suitable terms by Mr. Alderman and Sheriff HANSON in the absence of the Lord Mayor of London, the MASTER then proposed the toast of "The Medical Profession," selecting especially the work of preventive medicine for favourable notice. The toast was replied to by Sir R. DOUGLAS POWELL and Mr. HENRY MORRIS.

Mr. D'ARCY POWER then proposed the toast of "The Worshipful Company of Barbers" in an excellent speech in which he traced the connexion between surgery and barbery. He said: I rise with considerable diffidence to propose this toast, indeed my diffidence might have proved insurmountable if I had not thought that it was a duty owing to the position I hold which made it imperative for me to do so. As surgeon to St. Bartholomew's Hospital and lecturer there on surgery conjointly with my friend, Mr. Bruce Clarke, I hold a position which was held by some of the most renowned surgeons in the annals of this Company of Barbers whose honoured guests we are this evening: Thomas Vicary, your first master, Clowes, Gale, Woodall, Charles Bernard, and Percivall Pott. I am not going to weary you with any long discourse on the historical aspects of surgery in relation to the barbers, but I should like to say at once that I believe we as surgeons owe our present position and the esteem in which we are held very largely to the action of the Barbers' Company in the remote past. I mean, of course, pure surgery, consulting and operating, such as is practised by the majority of my professional brethren who are here this evening. To prove this and to show how much we owe to the barbers we must consider shortly what we were, how we were helped, and what we became. For our purposes London may be taken to represent England, because what was true of London was equally true, so far as we know, of the larger and older towns in the provinces, Oxford, Bristol, Exeter, York, Newcastle, all had a few surgeons and after a time a barber surgeons guild. In London, then, from the beginning of civic history there were two groups of men, barbers who shaved, did minor operations and were general practitioners, and surgeons who undertook what we should now call pure surgery, though there is no doubt that they often meddled in physic, just as in many country towns to this day the surgeon to the county hospital will treat a case of pneumonia if he is summoned to attend it. But, broadly speaking, the barbers were tradesmen keeping shops; the surgeons, being the more expert, having a wider outlook, and often having a scientific mind, more nearly approached the standard of a profession. These pure surgeons were not very numerous and for the most part they attained their superior dexterity in the wars which were so numerous when England was only a small part of a large continental kingdom. The barbers were more numerous but the surgeons made up in influence what they lacked in numbers. Wounds and their prolonged treatment necessarily brought the surgeon into very intimate relationship with the great nobles who led our forces in wartime and you will remember that when armour was worn and tournaments were frequent it was the leaders who suffered much more than the common people. It often happened, therefore, in the rough and tumble of camp life that the nobleman became the personal friend of his surgeon, especially if the surgeon were a good fellow and had been successful in his cure, so that when peace came and they were all at home again the surgeon had a powerful friend at court who was able and willing to do him many a good turn. It thus happened that the surgeon was a person of influence at a time when many unconstitutional acts went by favour. The barbers, on the other hand, stayed at home, became good citizens, amassed fortunes for themselves, and in so doing became first-rate men of business. The surgeons necessarily had the defects of their good qualities. They led a roaming and joyous existence, intervals of hard work or disaster being mingled with periods of ease and the riot of plunder. In nothing is this better seen than in the question of fees. The barber worked steadily with the help of his apprentices, put the proceeds into the till, and ventured them in trade. The surgeon received his pay when he could get it. Nominally, in 1415, for instance, it was twelvepence a day, but he probably only got the money when the King or his leader happened to be in funds and as often as not it was in arrear and very often he never got it at all. He was paid in kind for personal services, sometimes, as we learn, an ambling horse and a diamond ring worth 30 crowns, at another time a tun of wine and more when finished, and at another time "an honest present." Very rarely do we meet with a surgeon who was capable of making a bargain. I only know of one, and he lived a generation after Richard the Barbour, whose memory we are assembled here this evening to honour. John of Ardern, who was a North-countryman living in London in 1360, says that for the cure of a fistula, "when it is curable, ask of a worthy man and a great an hundred marks or forty pound with robes and fees of an hundred shillings term of life by year. Of less men forty pounds or forty marks ask he without fees. And take he not less than an hundred shillings for never in all my life took I less than an hundred shillings for cure of that sickness." His business capacity is further shown in the advice which he gives about fees, for he says: "Ask boldly more or less, but ever beware of scarce asking, for overscarce asking setteth at nought both the market and the thing." But places. People who take pleasure in reading of the recreations of public men will find that they still range from mountaineering and music to serendipity (which means, we believe, buying and selling curios). We read that one Roman spirit finds its ease in "public duties"—a recreation which we trust will be noted widely. We will say, as we have said before, that "Who's Who" is well-nigh indispensable in a newspaper office, for it gives that accurate information about the careers of all sorts of public people to which all journalists require convenient access. The few biographies of eminent foreign men are very welcome, although their number obviously must be limited. "Who's Who Year Book" contains *inter alia* lists of public office holders, including the staffs of the London general hospitals, and a condensed "peerage." "The Englishwoman's Year Book" claims, with good reason, that "no woman who takes any part in public or social life can afford to be without it, especially in view of the great Renaissance of women." It includes complete and practical accounts of the trades and professions open to women and the means of entering them. Lists of women's clubs, girls' schools, public offices held by women, and much other matter are included. The "General Prospects" section heading the chapter on "Medicine, Pharmacy, and Dentistry" is an abstract of Dr. Mary Thorne's address on "Medical Women and their Prospects" at the Conference of Women-Workers held at Westminster this year. "The Writers' and Artists' Year Book" contains lists with details of English journals and magazines, literary and art publishers, printers, and agents, and other matter including a guide to authors on the correction of proofs.

Diaries for 1909:—We have received Messrs. Walker and Co.'s annual batch of pocket diaries for 1909, with two larger scribbling diaries for desk use. Most of the pocket diaries are printed so as to allow of a week's entries at each opening, but some allot a whole page to each day. The former, which are more generally convenient, are made in several sizes and are bound in cloth, leather, and skin of various kinds. Some of the covers are fitted inside with pockets for stamps and cards. The diaries include pages ruled for a monthly cash account on a system which, as we can testify from experience, is clearly and simply arranged. Diaries Nos. 4 and 7, bound in pigskin or Russian leather, strike us as being particularly attractive. Small waistcoat pocket diaries are included amongst the batch. Any size of diary issued by Messrs. Walker can be obtained in any of their bindings. An insurance coupon against various accidents is a feature common to these publications and to the handy "Letts's Diaries" issued by Messrs. Cassell and Co., who have sent us samples and ask us to state that they are the sole publishers of these little books. One of them is a cloth bound pocket medical diary that is really suited for the pocket, being much thinner and neater than most of such publications. A bulkier form of it is issued in a leather binding. Messrs. John Wright and Sons (Bristol) have also sent us their "Physicians' and Surgeons' and Consultants' Visiting List (Form A) for 1909" (sixteenth edition). This book is well known to many of our readers. By a system of interposing half leaves between the pages it enables an entry for a visit on every day in the month to be made in a different square against a patient's name, the record for the whole month being shown at one opening. We recommend this diary as practical and useful.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No. 1, November. London: Longmans, Green, and Co.—This volume is opened by the report of the committee the Royal Society of Medicine upon the resuscitation of the apparently drowned which we reviewed in an annotation on Dec. 5th. Following this report the proceedings of the Section for the Study of Disease in Children make their first appearance, the contributions including clinical reports of cases by Dr. F. W. Higgs, Dr. J. P. Parkinson, Dr. C. W. Chapman, Dr. E. Cautley, Mr. D. C. L. Fitzwilliams, and Dr. G. Carpenter, president of the section, who describes two cases of microcephaly. Dr. F. J. Poynton, with Dr. W. Jeffrey, reports two cases of post-basic meningitis with recovery after injection of Ruppel's serum and one fatal case treated similarly. Dr. Poynton also describes with Dr. R. H. Miller specimens from a case of cleido-cranial dysostosis. In the Clinical Section cases are reported by Mr. W. S. Handley, Dr. A. Stanley Green, Mr. R. G. Hann, with Dr. H. Lambert Lack, Dr. Poynton, Mr. Percy Flemming, and Mr. Raymond Johnson. The Dermatological Section is occupied by cases by Dr. H. G. Adamson, Mr. T. J. P. Hartigan, Mr. W. Stuart-Low, Dr. E. Graham Little, Sir Malcolm Morris with Dr. S. E. Dore, Mr. G. Pernet, and Dr. J. H. Sequeira. The Electro-Therapeutical Section prints the report by the president, Mr. W. D. Butcher, on the Fourth International Congress of Medical Electrology and Radiology at Amsterdam. The Epidemiological Section is occupied with an important paper on Season and Disease, by Dr O. H. Peters, with the discussion which it evoked. The Medical Section publishes Captain R. McCarrison's careful observations on Endemic Cretinism in the Chitral and Gilgit Valleys, which our readers will remember. The Neurological Section opens with a study of Two Anomalous Cases of Syringomyelia, by Dr. Gordon M. Holmes and Dr. R. F. Kennedy. Other cases by Dr. F. E. Batten illustrate the sequel to a Cerebellar Atrophy and Diffuse Sarcomatosis of the Brain and Spinal Cord. Dr. S. A. K. Wilson describes the pathological condition in two cases of Tabetic Amyotrophy. The Obstetrical and Gynæcological Section contains a paper (including some remarkable illustrations) on Dystocia due to Distension of the Urinary Bladder of the Fœtus, with remarks on Renal Secretion in Utero, by Dr. J. E. Spicer. Other case records are by Mr. Alban H. G. Doran, Dr. Cuthbert Lockyer, Dr. A. H. N. Lewers, and Mrs. Scharlieb, M.D. The Odontological Section reports a Mechanical Device for Amalgamating Alloys, communicated by Mr. W. F. Mellersh and an abstract of Mr. W. Wright's paper on the Teeth of Early Man. In the Pathological Section Mr. P. N. Panton describes an Investigation into some Aspects of the Action of Arsenic on the Blood (especially as regards Phagocytosis), the Bone Marrow, and Certain Viscera. Mr. R. L. Knaggs and Dr. O. C. Grüner report a rare case of Bone Disease, and Dr. J. Burton Cleland contribute a note on Melanotic Deposits in Cattle and Sheep. The Surgical Section contains one long paper on Traumatic Rupture of the Intestine by Mr. James Berry and Mr. P. L. Giuseppi. It is compiled with great care and contains a valuable analysis of 132 cases that have occurred in ten London hospitals from 1893 to 1907. The Therapeutical and Pharmacological Section publishes Dr. Nestor Tirard's address on the Scope and Object of the British Pharmacopœia.

The Hospital Gazettes.—The chief contributions to the November number of the *Guy's Hospital Gazette* have been further instalments of "Notes by a Roving Guy's Man," dealing with continental clinics in a breezy but informative manner. *The London Hospital Gazette* (December) again shows its interest in natural history by giving precedence to an article by "P. H. B." on the Sea Birds' Home—to wit, the Island of Handa—and by an account of the vegetable colonisation of coral atolls from "F. W. J." *St. Bartholomew's Hospital Journal* (December) contains a continuation closing contracture and an anodal closing contracture was the coefficient of polarity. Under pathological conditions these coefficients were disturbed, but with a return to health the relationship was restored. These were very clearly explained and demonstrated and should prove of great value in diagnosis and prognosis.

Dr. VERAJUTH (Zürich) read a paper on Psycho-galvanic Reflex Phenomena. By means of an electrode in each hand and a Deprez galvanometer in shunt any psychical excitation caused a deviation, but for demonstration purposes it was advisable to pass a mild constant current from hand to hand, when instead of a deviation there was an alteration of the existing deflection. He attributed this change in resistance to the sweat glands which were readily influenced by psychic emotion.

Dr. DUYVENSZ (Amsterdam) demonstrated his method of examination of teeth by means of a faradic sledge coil. One electrode was held by the patient, and the coil being set in action the other electrode, of specially convenient form, was applied to the suspected tooth. The secondary was then pushed over the primary until the first suspicions of pain were experienced by the patient. The position of the secondary was noted and a similar examination was made of the corresponding tooth of the opposite side. In this manner the most accurate examination could be made and the method was applicable to other parts of the body.

It was not until he had got fairly under way with his paper on the Electric Resistance of the Human Body that the Congress discovered that Professor LEDUC (Nantes) had a surprise in store for them. After relating the difficulties in ascertaining this and the great discrepancy in the results obtained, which were supposed to be due to polarisation at the electrodes, he first by some simple experiments proved how little influence moisture, anæmia, congestion, or temperature had on the resistance of the skin. He then went on to show that the only really effective part of a flat electrode was its circumference, and it was this and not the surface area which determined the resistance between any two points. That is to say, that for all the use that the central part of such an electrode was it might as well be removed, leaving a ring or hollow square or parallelogram. By means of lantern slides coated with gelatin and potassium ferrocyanide and iron electrodes he demonstrated exactly what took place with ring and plate electrodes, the change of colour showing this very clearly. Underneath the plate electrodes there was practically no change in colour and the changes in resistance were inversely as the circumference of the electrodes.

Later, after papers by Dr. ZANIETOWSKY on Electric Baths and Iono-therapy, in which it was shown that baths were not suited for the introduction of ions into the body, Professor LEDUC had a splendid opportunity of driving home his contention that the periphery is the only active part of an electrode and that in a bath it is only at the surface of the water that any appreciable amount of current enters the body. This will be all the more easily believed by anyone who has had a galvanic bath since the characteristic pricking sensation of the constant current is only felt, or most strongly felt, where the surface of the liquid touches the skin. Altogether it looks as if it would be necessary to modify many of our methods considerably if we are to get the best obtainable results in electro-therapy.

Dr. SIRERA SALSE (Barcelona) read a paper on Electro-therapy in the Treatment of Traumatism and demonstrated its value by giving an account of a series of control experiments on rabbits with microscopic examination.

Dr. BELLEMANIÈRE showed and explained the use of a special extensible electrode which he uses for the treatment of urethral stricture.

High-Frequency Currents.

Dr. DE NOBELE (Gaud) gave a discourse on the action of fulguration on tissues. In this the intense shower of sparks from the resonator of a very powerful high-frequency apparatus is directed on to the growth by means of a special electrode, in which carbonic acid gas from a cylinder is used to cool the spark and to prevent actual burning. He considers that malignant growths should be first removed as far as possible by the surgeon and fulguration applied very thoroughly to the base of the wound. In the course of the paper he produced evidence of the histological changes and the depth of action as well as the influence of the cooled electrode and the process of cicatrisation.

Dr. LIBOTTI (Brussels) gave evidence of the good effect of high-frequency currents in arterio-sclerosis.

Probably the most interesting paper on this subject was by Dr. BAUDEL on the Treatment of Neuritis by High Frequency and a very lively discussion followed, in which Dr. MOUTIER, Dr. ZANIETOWSKY, Dr. STEPANOF, and Dr. NOBELE took part.

Radio-diagnosis.

In this branch it is pleasing to note that though no one from this country took part our cousins, the Americans, were easily first as regards improvement in methods and general technique.

Dr. LESTER LEONARD (Philadelphia) gave an address on the Value of Practically Instantaneous Exposures in the Diagnosis of Disease in the Thorax and Abdomen. For this work he has a special new apparatus, invented by Snook of Philadelphia, which enables him to pass as much as 60 milliampères through the x ray tube. By this he has reduced the time of the normal exposure for the abdomen to about one-fifth of a second. In some of his radiographs the peristaltic waves of the stomach and intestine were very clearly shown. His thoracic plates were very rich in detail, showing the presence of, among other things, enlarged bronchial glands, which could not possibly be detected by any other means.

A very excellent series of skiagrams was also shown by Dr. HULST (Michigan). He has had constructed a huge static machine consisting of some 50 large plates arranged on a vertical shaft and driven by an electric motor, the two shafts being directly connected. This gives him a practically continuous current in contradistinction to the apparatus of Dr. Lester Leonard which gives a uni-directional pulsating current. Both these workers have eliminated inverse discharge from their circuits, which is an untold advantage. Dr. Hulst can get a good radiograph of the abdomen in one second, but he prefers to use a softer tube and gives a five-second exposure—a greater wealth of detail being obtained in this way.

The work of Professor WENCKEBACH (Groningen) deserves special mention. He is a strong believer in the stereoscopic method in that it gives real perspective and plasticity. Wenckebach is of the opinion that every consulting physician should train himself in x ray work as the time has now come when this can be no longer delayed. Also that the stereoscopic method shows much more detail and the true relationship of the various parts and is practically the only one that can be used for demonstration and the instruction of students. He had on view a whole room-full of most excellent stereo-radiographs. They were made on extra large plates and beautifully illuminated, so that with one of the several reflecting stereoscopes provided the series could be examined with a maximum of convenience and pleasure.

Papers on the Diagnosis of Renal Calculus were read by Dr. VAN DER GOOT (Gravenage) and Dr. HAENISCH (Hamburg). Short exposures, soft tubes, and large currents seem to be the methods now finding most favour.

The radiography of the vertebral column came in for much attention. A paper by Dr. GOCHT (Halle) had reference to the value of radiography in the diagnosis of spondylitis tuberculosa, in which the clinical symptoms give so little evidence of the extent of the mischief.

Dr. CONRAD (Antwerp) pleaded for more care in the examination of plates made of the lumbo-sacral region after accidents and gave instances where mere casual examination had failed to detect the presence of injury to the bones.

Dr. BERTOLOTTI (Turin) advocated sagittal skiagraphy of the cervical vertebræ when the question of caries arose. He showed the atrophy of bone and enlargement of the inter-vertebral foramen in such cases which were due to atrophy of the articular processes.

Professor BECLÈRD demonstrated the importance of examining the cupola of the diaphragm in disease of the liver, and Dr. KOHLER (Wiesbaden) described the method of radiographing the lower border of the liver, which at times gives useful information. He places the tube above with the anticathode at the level of the sixth dorsal vertebra, which brings out the border very sharply.

Dr. KIENBOCK (Vienna), as a result of some observations, was led to examine the heart in several cases after severe exertion. Instead of finding some dilatation he found a degree of temporary contraction. This was the more noticeable in the case of swimmers. His explanation is that of increased intra-thoracic pressure preventing the flow of venous blood to the heart.

of these being, no doubt, the foundation for its claim to tonic properties. We found present also as a provision against fermentation some salicylic acid but the amount was small and considerably less than that recommended to be permitted by the Departmental Committee on Preservatives. The flavour and the general characters of the beverage will no doubt appeal successfully to many persons but on the first point we have not formed a favourable opinion.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Dec. 10th, Mr. HENRY MORRIS, the President, being in the chair.

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship, stating that at the recent examination 97 candidates presented themselves, of whom 37 were approved and 60 rejected.

In accordance with a report from the Court of Examiners it was resolved to issue Diplomas of Fellowship to 28 successful candidates.

It was resolved to issue diplomas in Dental Surgery to 33 successful candidates.

A report was received from the committee on the annual report of the Council. In accordance with the recommendations of that committee, it was resolved to adopt the following replies to the resolutions carried at the annual meeting. The first resolution was :—

> That this meeting thanks the Council for having for the first time in its history taken a poll of the Members of the College, but regrets that the Council found itself unable to abide by the result. This meeting also trusts that the Council will shortly take a further poll of the Fellows and Members on the question of the direct representation of Members, as requested by the last annual meeting.

The Council's reply was :—

> The Council regret that their views and those of the majority of the Members who replied to the circular addressed to them regarding the admission of women to examination for the diplomas of the College are not in accord. With regard to the suggestion that the Council should take a further poll of the Fellows and Members on the question of the direct representation of Members, the Council adhere to their decision as set forth in the last annual report.

The second resolution was :—

> That this meeting is of opinion that women when admitted to the diplomas of the College should have equal rights with men.

The reply was :—

> The Council have from the first signified their intention of proceeding under the Medical Act of 1876, whereby no woman admitted a Fellow or Member would be entitled to take any part in the government, management, or proceedings of the College. The Council see no reason for departing from the course which they decided upon after due and careful consideration.

The third resolution was :—

> That the President and Council of the Royal College of Surgeons be respectfully asked to use their moral influence to obtain some more sufficient title for those who have passed the examinations for the Conjoint Diploma, remembering the importance attached to degrees to the detriment of holders of the said diploma granted by this ancient corporation in conjunction with the Royal College of Physicians of London.

The Council's reply was :—

> The Council once more express the opinion that it is impracticable to obtain a legal right to the title of Doctor of Medicine for any person who does not hold the degree of M.D. The Council would refer those who supported the resolution to the last annual report for information as to the steps which they have been, and are, taking with a view to providing medical students of London with greater facilities for obtaining degrees in medicine.

Mr. W. G. Spencer was elected a member of the Court of Examiners.

Mr. Edmund Owen was appointed a member of the Court of the University of Liverpool for three years.

A report was received from the delegates of the Royal Colleges of Physicians and Surgeons appointed to consider a scheme for a system of conjoint examinations with the University of London.

A letter was read from the President reporting the proceedings of the General Medical Council at its recent session, and the best thanks of the Council were given to the President for his services as the representative of the College on the General Medical Council.

A letter was read from the Registrar of the General Medical Council inquiring by direction of that Council how far the College had given effect to the recommendation of that Council of June, 1907, "by requiring students to produce evidence of having received practical instruction in the administration of anæsthetics." It was resolved to send the following reply :—

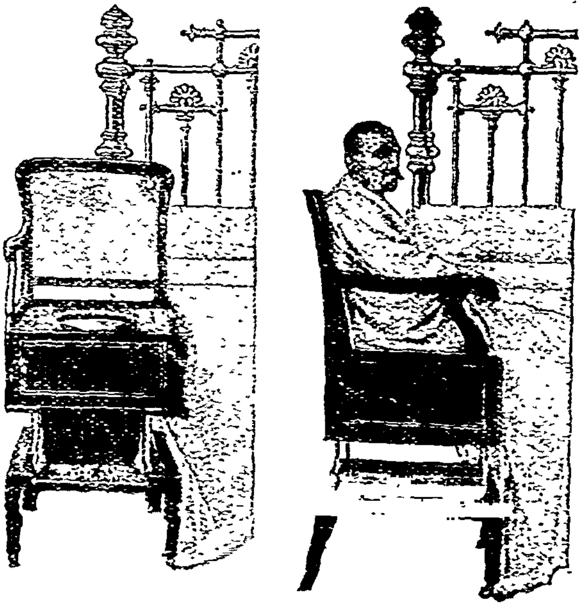
> That the General Medical Council be informed that the desirability of making practical instruction in the administration of anæsthetics a compulsory part of the medical curriculum was recognised by the Council of the Royal College of Surgeons of England in 1901, and that in December of that year, in conjunction with the Royal College of Physicians of London, a regulation was adopted requiring every candidate before admission to the Final Examination to produce a certificate of having received at a recognised medical school and hospital instruction in the administration of anæsthetics to the satisfaction of his teachers, and that, moreover, questions on the subject are from time to time put to candidates by the examiners of the College. That the Council trust that the General Medical Council will be successful in the present endeavour to induce other examining bodies to adopt a regulation which has long been in force at the English Royal Colleges of Physicians and Surgeons.

The PRESIDENT reported the delivery of the Bradshaw lecture by Sir W. Watson Cheyne, Bart., on Dec. 4th, the subject of the lecture being the Treatment of Wounds. The best thanks of the Council were given to Sir W. Watson Cheyne for his lecture and he was requested to publish it.

New Inventions.

A NEW RISING SEAT COMMODE.

IN attending a case recently in which the patient was so averse to the use of the bed pan that aperient medicines had to be constantly given, it occurred to me that if the commode in common use could be made adjustable to the height of *any* bed, the patient could with very little assistance shift himself on and off it with comparative ease, the difficulty of *lifting* a heavy patient back to bed from the ordinary commode being thus overcome. This suggestion of mine has been skilfully carried out by Messrs. J. and A. Carter, of 26, New Cavendish-street, W., and many other useful additional features added. The arms of this chair turn down, leaving the seat flush with the height of any bed, and a firm strong footboard is fitted, so that the patient can slide off either side of the bed on to the seat and occupy a natural position, or can sit on the commode with the legs remaining in bed. A false caned seat slides over the orifice when the commode is required for use as an ordinary chair. The mechanism of the rising seat is easily operated by nurse or attendant, by whom this commode will be found, I think, of considerable use.



H. W. ARMSTEAD, M.D. Lond., F.R.C.S. Eng.

Queensborough-terrace, Hyde Park, W.

head, two-thirds of the body, and the legs on both sides down to the knees. The state of her hands suggested that she had burned them in tearing off her clothing. The tongue was protruding and the condition of the lungs showed that death had been caused by suffocation in addition to the effect of the burns. There were no signs that the suffocation had been produced by external violence and the parts of the body burnt pointed to her clothing having caught fire when she was standing. There was no sign of outrage and nothing to suggest that any drug had been administered. The rest of the evidence in the case added very little to the jury's knowledge of the cause of the death of the deceased, as was shown by their verdict that she was suffocated or burned to death but that there was not sufficient evidence to say how she came by her burns. If, however, there was nothing either to point to foul play or to prove that an accident took place, there was enough to show that the mystery which still exists was one which demanded inquiry of the most complete nature possible. According to the evidence of the brothers at Lumb Farm, after they had gone to bed their sister did not follow their example but at some time or other in the night went out, locked the door, and pushed back the key under it, as she had done on previous occasions. This, if true, would negative the suggestion that she set herself accidentally alight in the house and ran out, or that she left it for a temporary purpose carrying a candle and matches, the former of which was found by a gate 44 yards from the house and the latter nine yards farther off in the pigsty close to the body of the deceased. There was a suggestion that paraffin had caused the rapid ignition of her clothing or of her hair on a night which, a witness said, was wet, misty, and windy, but although there was some evidence of her washing her hair occasionally with paraffin there was none that she had done so that evening and the paraffin lamp in the farmhouse had apparently not been lighted. There was no evidence that she was unhappy or that she had any particular male friend or any enemy, and her leaving the house for the night would not have been very unusual as sometimes she went over to Park Farm and slept there. There was evidence which pointed to the death having taken place soon after the brothers had gone to bed, as Nelson, the farmer mentioned above, and his daughter said in the witness-box that they had noticed a bright light in the direction of Lumb Farm when they went out to feed cattle before going to bed. Among the garments that the deceased was wearing a flannelette petticoat was mentioned. The balance of probability in view of the evidence given at the inquest points to an accident owing to the deceased going to an outhouse with a candle and matches, if the brothers were mistaken and if the key found by them had in fact fallen from a door closed but not locked. What actually took place must, however, almost necessarily remain a mystery, and the record of the subsequent proceedings occasioned by the futile first inquest will remain as a warning to coroners who endeavour to dispense with medical evidence. The proceedings which led to the second inquest were taken under Section 6 of the Coroner's Act 1887, which commences as follows:—

> Subsection (1). Where Her Majesty's High Court of Justice upon application made by or under the authority of the Attorney-General is satisfied either (*a*) That a coroner refuses or neglects to hold an inquest which ought to be held; or (*b*) where an inquest has been held by a coroner that by reason of fraud, rejection of evidence, irregularity of proceedings, insufficiency of inquiry or otherwise it is necessary or desirable, in the interests of justice, that another inquest should be held, the court may order an inquest to be held touching the said death, and may, if the court think it just, order the said coroner to pay such costs of, and incidental to, the application as to the court may seem just, and where an inquest has been already held may quash the inquisition on that inquest.

The two following subsections enable the court to order that a coroner other than the one against whom the application is made shall hold the inquest ordered and also directs that at such an inquest it shall not be necessary to view the body unless the court order otherwise. In the case under comment the court made no order as to costs, and the expense occasioned by two inquests instead of one and that of bringing about the holding of the second one will apparently have to be borne by the county in which the inquests took place. As county councils are sometimes stated to be responsible for a desire on the part of coroners to economise in the matter of the fees of medical witnesses, county councils as well as coroners may find the proceedings following the death of Elizabeth Whitaker instructive.

The Peculiar People and the Duties of Midwives.

An inquest was held recently at Canning Town on th body of Emily Sophia Ballard, a married woman and member of the sect known as the Peculiar People, who wa found upon the medical evidence to have died from puerpera septicæmia and peritonitis, a rider being added to the effec that the midwife should be dealt with under the Midwive Act. The coroner upon this directed the midwife not t practise until she heard from the central authority Mrs. Ballard, who had borne other children before, wa delivered on Nov. 22nd, being then under the care of registered midwife. According to her husband's evidence everything went well until Dec. 3rd when his wife becam very ill and he seems to have offered her medical assistanc which she absolutely refused. An elder of the sect was however, called in and on the following Sunday, Dec. 6th, prayer meeting was held on her behalf. On the next day Dec. 7th, she died. The midwife gave evidence that sh attended the deceased for six days only, and that if she ha thought that her patient's condition demanded the intervention of a medical man she would have taken it upo herself to call one in. No doubt the local supervising authority will take notice of the jury's expressed opinion, but, whatever it or the Central Midwives Board may decide after full inquiry into the facts, a midwife attending a patient who is of the Peculiar People will not have much power to avert serious results when complications occur. The duty imposed on her under the Midwives Act when certain specified complications arise is to "decline to attend alone" and to "advise that a registered medical practitioner be sent for." In the case commented upon it will be seen that the midwife, if her statement was correct, ceased to attend the case some days before the husband noticed that his wife was "very ill." With regard to the responsibility of the near relatives of the deceased in a case of this kind, it is not easy, or indeed possible, to convict them of manslaughter of a person who, being of full age and in possession of her usual faculties, resolutely declines to have medical assistance. Even the recommendation made by the midwife and her refusal to continue in charge of a case can hardly affect the matter when the death of the mother only has been the result. If the advice to call in a medical man were due to conditions in the newly born child demanding his assistance, no doubt evidence of the warning given by the midwife would aggravate the charge against the parent or parents, but, as all know, the punishment usually inflicted upon members of this strange and unreasonable sect in our courts of law is not very heavy and does not seem to deter them or their brethren from similar conduct upon other occasions.

The Poisoning Case at Antrim.

At the Ulster Assizes the trial recently took place of a woman named Elizabeth Kirkwood Doherty who was indicted for the murder of her husband. The case was opened by the Solicitor-General for Ireland who told the jury that he would satisfy them that no human hand but that of the prisoner was laid upon an egg which contained the poison from the moment when it was broken into a pan until it reached the deceased who ate it for his supper. The husband had died on the following morning, and a daughter of the couple, aged three years, died a week later, having apparently had strychnine administered to her in milk. This second death had been followed by the exhumation of the body of the man and the charge against his wife. The suggestion made by counsel for the defence was that the poison had fallen through the rafters of the kitchen from a loft above and so got into the egg. The husband appears to have expressed before he died the opinion that this had been the case, and counsel, in addressing the jury, laid stress upon his having done so. Presumably the jury were impressed by the possibility of the unusual accident described having happened, for the prisoner was found "Not guilty" and was discharged.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN IN SOMERSET.—At a meeting of the Somerset County Education Committee, held at Bridgwater last week, it was decided to appoint a full-time assistant medical inspector of schools who should have had a special training in ophthalmic work.

of all bread-winners—has undergone no improvement beyond those incidental to the very incomplete reforms accomplished in the housing of the people. The lethargy of successive governments was not due to lack of protest, for during the last half of the nineteenth century the case of the sweated was pleaded from many platforms and in not a few newspapers, amongst which THE LANCET took its stand. In later decades the realistic school of journalism, and the establishment of University and public school settlements in the East-end of London, perhaps, too, the slumming expeditions which became a fashionable hobby in the early "eighties," brought the actual conditions of home labour still more vividly before the public. In 1890 Lord DUNRAVEN'S Committee was appointed which, after hearing evidence from 291 witnesses drawn from many different trades and localities, recorded the opinion that the evils of sweating "can hardly be exaggerated." But although still more indignation was expressed at the "grinding of the faces of the poor" no direct legislation resulted and attention was again flagging in the matter when the *Daily News* in 1906 organised a vigorous propaganda by means of an "Exhibition of Sweated Industries." This idea was borrowed from Berlin, where similar exhibitions had been held with success in 1904 and 1906, the first of which had been followed by a smaller exhibition organised by the Rev. J. E. WATTS-DITCHFIELD at Bethnal Green. It was the attention aroused by his venture that encouraged the *Daily News* to embark on its more ambitious enterprise two years later. We need say little about this exhibition, as doubtless many of our readers visited it and others will remember that we published an account of it which we received from our Sanitary Commissioner, but we may recall that its main purpose was to show to the public typical home workers in different sweated industries plying their trades under conditions representing as closely as possible their actual home surroundings. A carefully compiled handbook gave full information concerning the wages paid for the work which was exhibited and the number of hours of labour in the week which its production entailed. This exhibition afforded so impressive an object lesson that to it may be given a large share of credit in the appointment by the Government in 1907 of a Select Committee "to consider and report upon the conditions of labour in trades in which home work is prevalent, and the proposals including those for the establishment of wages boards and the licensing of work places which have been made for the remedy of existing abuses." This committee took a large body of expert evidence and reported it without comment, recommending the appointment of another committee in the next session of Parliament. The recommendation was carried out and the report of the 1908 committee is contained in the Blue-book which was issued during the summer recess and with which we are concerned at present.

The bulk of the Blue-book is made up of the minutes of evidence which was given by manufacturers, home workers at different trades, factory inspectors, social workers amongst the poor, and others having special knowledge of the question. Medicine had no direct representative, although the 1907 committee, which had almost the same constitution as that of 1908, heard the evidence of Dr. R. DUDFIELD, medical officer of health of Paddington, on the sanitary issues involved and many of the witnesses answered questions on cognate points. On the whole, however, the sanitary side of the problem was unduly subordinated to the industrial. If a national problem ever had to be faced in which these two factors were inextricably blended it is surely that presented by the home workers, for their physical and economic welfare are strictly interdependent. The somewhat one-sided view of the committee is shown in these lines from its report which prefaces the evidence: "It is doubtful whether there is any more important condition of individual and general well-being than the possibility of obtaining an income sufficient to enable those who earn it to secure at any rate the necessities of life." This is a sound enough maxim, for it is quite obvious that any legislation insuring a regular and proper "living wage" to a large body of workers must react favourably upon the health of the community. Better nutrition and better clothes for mothers and children will result in increased resistance to diseases amongst a class which at present forms a focus of varied infection. But the matter does not end with increasing by law the earnings of home-workers. The responsibility of the State is no less concerned in safeguarding their "individual and general well-being" by seeing to the healthfulness of their environment. Sanitary conditions of life should be the first condition of labour in the home no less than in the factory and should not be dependent upon the fruits of the labour. But this brings the argument round again to its economic side, and the problem of ways and means is hardly suited for discussion by a medical journal which may, however, properly record the chief of the committee's conclusions, some of which have important bearings upon the public health. In the first place it has proved by full evidence a matter of common knowledge "that the earnings of a large number of people—mainly women who work in their homes—are so small as alone to be insufficient to sustain life in the most meagre manner, even when they toil for extremely long hours," and it is also satisfied that sweating exists at present in such a degree as to call urgently for the interference of Parliament, a verdict that can be disputed by no one who reads the evidence on which it is based. We need only quote that given by a home worker, "Miss G."—admittedly the worst case examined by the committee—who stated that she worked from 6 in the morning till 12 at night at shirt finishing to earn about 5*s.* 6*d.* a week, and summed up her physical condition in the remark, "I can get a little bit of bread, and that is all we do get." We may add that her *bona fides* and that of all the industrial witnesses were established on good authority. Turning to the committee's report, we find that after giving a classification of home workers it proceeds to consider at some length the reasons of their scanty earnings. This section endorses the opinion expressed by the Labour Commission in 1894. "In the absence of organisation and in the face of the unlimited competition for the cheaper and less skilled kind of sempstress and similar work, there seems to be little to prevent wages from sinking to the point at which, in the words of one witness, 'it is easier to starve without

Paisley and Leith, to 16·7 in Greenock and 19·5 in Dundee. The 536 deaths in the eight towns showed a decline of 47 from the number returned in the previous week, and included 50 which were referred to the principal epidemic diseases, against numbers declining from 68 to 53 in the four preceding weeks; of these 50 deaths, 19 resulted from whooping-cough, 15 from diarrhœa, seven from diphtheria, six from scarlet fever, and three from "fever," but not one either from measles or small-pox. These 50 deaths were equal to an annual rate of 1·4 per 1000, exceeding by 0·1 the mean rate during the week from the same diseases in the 76 English towns. The 19 fatal cases of whooping-cough in the eight Scotch towns showed a further increase upon the numbers returned in recent weeks, and included 12 in Glasgow and three both in Dundee and Aberdeen. The deaths attributed to diarrhœa, which had been 25 and 18 in the two preceding weeks, further declined last week to 15, and were fewer than in any week since the beginning of July; 12 occurred in Glasgow and two in Dundee. Of the seven fatal cases of diphtheria five were returned in Glasgow and two in Dundee. The six deaths from scarlet fever, including three in Glasgow, corresponded with the number in the previous week. The three deaths referred to "fever" occurred in Glasgow; two were certified as cerebro-spinal fever and one as enteric. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 136, 133, and 113 in the three preceding weeks, rose again to 115 in the week under notice, but were 47 below the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·4 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·2, 22·2, and 23·8 per 1000 in the three preceding weeks, declined to 21·9 in the week ending Dec. 12th. During the first eleven weeks of the current quarter the death-rate in the city averaged 21·2 per 1000, whereas the mean rate during the same period did not exceed 14·1 in London and 13·9 in Edinburgh. The 166 deaths of Dublin residents during the week under notice showed a decline of 14 from the number returned in the previous week, and included 13 which were referred to the principal epidemic diseases, against 11 and 12 in the two preceding weeks. These 13 deaths were equal to an annual rate of 1·7 per 1000; the rate from these diseases in the same week did not exceed 1·1 in London and 0·3 in Edinburgh. Of the 13 deaths from these epidemic diseases in Dublin last week, seven resulted from measles, three from whooping-cough, and one each from diphtheria, "fever," and diarrhœa, but not one either from scarlet fever or small-pox. The seven fatal cases of measles showed a further increase upon recent weekly numbers, and the three of whooping-cough also showed an increase. The 166 deaths from all causes during the week included 34 of infants under one year of age and 47 of persons aged upwards of 60 years; both these numbers were below those returned in the previous week. Two inquest cases and two deaths from violence were registered during the week, and 67, or 40·4 per cent., of the deaths occurred in public institutions. The causes of four, or 2·4 per cent., of the deaths in Dublin last week were not certified; the proportion of uncertified causes of death in Edinburgh last week was equal to 1·9 per cent., while in London the causes of all the 1311 deaths were duly certified.

VITAL STATISTICS OF LONDON DURING NOVEMBER, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 9·2 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 6·3, 8·6, and 9·2 per 1000 respectively. The lowest rates last mo were recorded in Kensington, Hammersmith, St. Mar bone, Hampstead, the City of London, and Lambeth; the highest rates in Holborn, Shoreditch, Bethnal Gre Stepney, Poplar, and Battersea. The prevalence scarlet fever showed a slight decline from that corded in either of the two preceding months; disease was proportionally most prevalent in the of Westminster, Stoke Newington, Hackney, Shoredit Bethnal Green, Poplar, and Battersea. The Metropoli Asylums Hospitals contained 3787 scarlet fever patie at the end of last month, against 2807, 3431, and 3776 the end of the three preceding months; the wee admissions averaged 477, against 365, 506, and 493 in three preceding months. Diphtheria was more preval during November than in any preceding month of this ye among the various metropolitan boroughs the greatest portional prevalence was recorded in Fulham, Shoredit Stepney, Battersea, Lewisham, and Woolwich. The num of diphtheria patients remaining under treatment in Metropolitan Asylums Hospitals at the end of last mo was 1228, against 843, 953, and 1118 at the end of three preceding months; the weekly admissions averag 158, against 110, 128, and 158 in the three preced months. Enteric fever, which had shown a continuou increasing prevalence in each month since June, was ag considerably in excess last month; this disease was prop tionally most prevalent in Holborn, Finsbury, Shoredit Bethnal Green, and Bermondsey. There were 184 ente fever patients under treatment in the metropolitan asylu hospitals at the end of last month, against 69, 95, and at the end of the three preceding months; the wee admissions averaged 29, against 12, 18, and 24 in the th preceding months. The 18 cases of puerperal fever notif during the month included three which belonged Southwark and two each to Kensington, Fulham, a Lambeth. Of the six cases notified as cerebro-spinal men gitis three belonged to Wandsworth, and one each Islington, Stepney, and Lambeth.

The mortality statistics in the table relate to the deaths persons actually belonging to the various boroughs, the deat occurring in institutions having been distributed among t several boroughs in which the deceased persons had p viously resided. During the four weeks ending Nov. 28th t deaths of 5365 persons belonging to London were register equal to an annual rate of 14·6 per 1000; in the three p ceding months the rates had been 12·9, 12·8, and 12·3 1000. Among the several boroughs the death-rates l month ranged from 7·2 in Hampstead, 11·3 in Woolwi 11·6 in Battersea, 11·8 in Stoke Newington, 11·9 Greenwich, and 12·1 in Wandsworth, to 17·5 in Holbo and in Stepney, 18·2 in Shoreditch, 18·8 in Southwa 19·3 in Bermondsey, 20·9 in Finsbury, and 21·7 in t City of London. The 5365 deaths from all caus included 457 which were referred to the principal e demic diseases; of these, 123 resulted from measl 38 from scarlet fever, 82 from diphtheria, 31 fr whooping-cough, 39 from enteric fever, and 144 fr diarrhœa, but not any from small-pox, from typhus, from ill-defined pyrexia. No death from any of the diseases was recorded last month in the City of Londo among the metropolitan boroughs they caused the lowest deat rates in Hampstead, Stoke Newington, Wandsworth, a Camberwell; and the highest rates in Holborn, Finsbur Bethnal Green, Stepney, Bermondsey, and Lewishar The 123 deaths from measles were equal to the avera number in the corresponding period of the five precedi years; the greatest proportional mortality from this disea was recorded in Chelsea, St. Marylebone, Finsbury, Bethn Green, Stepney, Bermondsey, and Lewisham. The 38 fat cases of scarlet fever were slightly fewer than the correct average number; this disease was proportionally most fat in Paddington, Hackney, Shoreditch, Bethnal Gree Stepney, and Woolwich. The 82 deaths from diphther were 19 in excess of the average number in the correspondin weeks of the five preceding years; the highest death-rates from this disease last month were recorded in Fulham, Stepney, Poplar, Southwark, Lambeth, Lewisham, and Woolwich. The 31 fatal cases of whooping-cough were 24 fewer than the corrected average number; this disease was proportionally most fatal in Paddington, Fulham, Islington, Shoreditch, Bethnal Green, Stepney, and Woolwich.

Arras, Angers, Besançon, Caen, Clermont, Dijon, Grenoble, Limoges, Poitiers, Reims, Rouen, and Tours. In the former students can study for the whole 16 terms of the curriculum, in the latter only for the 12 early terms, and in both cases the final examination must be taken before a faculty. There is a dean (*doyen*) at the head of each faculty who is appointed by the Minister of Public Instruction for a period of three years, and is chosen from the titular professors. The professoriate is divided into two classes—titular professors and *agrégés*. The latter are appointed for stated periods, usually nine years, but the period can be extended by the Minister. They assist in the examinations, replace the professors when they are absent, and give courses supplementary to those of the professors. There are two varieties of the diploma of Doctor of Medicine in France—that of a university and that of the State. The university diploma is open to foreigners; it is purely academic and is only of value as a scientific qualification. It does not confer the right to practise or any other of the privileges of the State diploma. Certain regulations must be conformed to, certain examinations taken, and fees paid amounting to 1400 francs in order to obtain this diploma. For the State diploma the curriculum is four years, divided into 16 terms. Various examinations have to be passed, a thesis written on some subject, and fees of 1390 francs paid. This part also contains information regarding the military, naval, and colonial medical services and the various associations of students both in Paris and elsewhere.

The second part is devoted to the University of Paris, to the hospitals and institutions in that city, and to the various medical societies. The Faculty of Medicine of the University of Paris was founded in 1808 in succession to the Ecole de Santé, which was itself the successor of the old Faculty of Medicine suppressed in 1793 at the same time as the College of Surgery. Full information is given of the various courses of lectures to be given during the academic year 1908–09 and of the special courses to be held during the vacations. The various hospitals of Paris are described, the staff of each is given, and the courses of instruction and the clinical facilities afforded by each are set forth. A special chapter is devoted to the Pasteur Institute and Hospital. The institute is described and the nature of the work carried on there is briefly outlined. It is of interest to learn that since 1889 more than 1000 persons have attended the lectures and practical courses of microbiological technique, while nearly an equal number have attended the lectures only, showing what an important part the institute has played as an educational body as well as a home of research. A special chapter is devoted to the consideration of the preliminary scientific education of the medical student who has to produce a certificate of having passed the P.C.N. (i.e., physics, chemistry, and natural history). This preliminary year is under the control of the Faculty of Science. The four dental schools in Paris are next described. The dental course extends over three years and the examinations are carried out by the Faculty of Medicine. The fees vary from 1000 to 1500 francs and the examination fees amount to 250 francs. The second part is brought to a close by an interesting account of the various medical societies. The constitution of the well-known Academy of Medicine is detailed and the prizes offered by it, amounting to nearly 60, are enumerated.

The third part is concerned chiefly with the provincial universities and schools, and gives the various courses of lectures and practical work afforded in them. An interesting appendix to it gives brief details of foreign universities in which the French language is employed, including the Belgian universities of Brussels, Ghent, Liége, and Louvain, the Universities of Geneva, Lausanne, Bucharest, and Jassy, and the Faculties of Medicine of the Laval University in Quebec and Montreal. The fourth and concluding part is specially addressed to the practitioner. It opens with some general advice to those newly qualified concerning registration, starting in practice, professional secrecy, the signing of certificates, responsibility, and the many difficult problems with which the professional man may be called upon to deal. The various laws, rules, and regulations concerning medical practice are then summarised, including special laws dealing with the practice of pharmacy and the supply of therapeutic serums and similar products. The various societies for professional assistance and protection are next described, with their objects and aims. The concluding section is devoted to the thermal stations and mineral springs of France and gives useful accounts of the chief features of these waters and the indications for their use. *Le Progrès Medical* is to be congratulated upon this very useful production; it should be of great value to all people in this country who are interested in medical education in France and to those who propose to pursue post-graduate or vacation courses of study in Paris or at any other of the great medical centres in France.

Annotations.

"Ne quid nimis."

NATIONAL HEALTH.

ON Dec. 11th the third annual meeting of the National League for Physical Education and Improvement was held in the Jerusalem Chamber adjoining the south side of Westminster Abbey under the presidency of the Bishop of Ripon. His lordship, in moving the adoption of the report and the accounts, said that the object of the league was to make people as physically "fit" as possible. It had lately been realised that the mind could not be properly educated unless the body was so too. By means of proper care and forethought much infantile mortality might be prevented. The Lord Mayor, who seconded the motion, said that unless they began with the child they would never teach the alphabet of regeneration. A pure milk supply was of the most vital importance. He was going to do all he could to make his year of office a children's year. The report and accounts were adopted, the former containing a recommendation that Poor-law authorities should be granted powers to acquire farms in Canada and other suitable sites in the empire. The Archbishop of Canterbury said that they could not separate man into two parts. Both the physical and the spiritual sides must be dealt with. It was often asked why the legislature did not do something, but the legislature had done its part, it was owing to the apathy of the public that so little had been done. The meeting then terminated. For our part we think that the problems which the league has set itself to solve are among the most

The 39 deaths referred to enteric fever showed a slight decline from the average number in the corresponding period of the five preceding years; the highest death-rates from this disease last month were recorded in Chelsea, Islington, Holborn, Finsbury, Bethnal Green, Stepney, Bermondsey, and Deptford. The 144 fatal cases of diarrhœa were 35 in excess of the corrected average number; this disease showed the greatest proportional mortality in Holborn, Finsbury, Southwark, Bermondsey, Deptford, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 9·5 per cent. above the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 128 per 1000. The lowest rates of infant mortality last month were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, Bethnal Green, and Woolwich; and the highest rates in St. Pancras, Finsbury, the City of London, Southwark, Bermondsey, Camberwell, Deptford, and Lewisham.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: C. J. E. Cock to the *Queen*, on recommissioning; and C. R. Sheward to the *Majestic*. Surgeons: W. H. Edgar to the *Vengeance*; G. A. Bradshaw to the *Magnificent*; G. L. Buckeridge to the *Kinsha*; and H. M. Braithwaite to Portland Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain Henry J. McGrigor retires, receiving a gratuity (dated Dec. 16th, 1908). The undermentioned officers are seconded for service under the Colonial Office (dated Nov. 27th, 1908):—Captain William M. B. Sparkes, Lieutenant Harold T. Treves, and Lieutenant Gerald J. Keane.

TERRITORIAL FORCE.

Unattached List for the Territorial Force.—The undermentioned officer, from the disbanded 1st Flintshire Royal Engineers (Volunteers), is appointed to the Unattached List, with rank and precedence as in the Voluntter Force (dated April 1st, 1908):—Surgeon-Captain George Osborne Morgan Lunt.

Royal Field Artillery.

1st West Riding Brigade: The undermentioned officers from the 1st West Riding of Yorkshire Royal Garrison Artillery (Volunteers) are appointed to the brigade, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Arthur Longley Whitehead and Surgeon-Captain John Nightingale.

Infantry.

7th Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant Charles G. Maclagan resigns his commission (dated Oct. 1st, 1908).

Royal Army Medical Corps.

For attachment to Units other than Medical Units:—Captain Frederick Newman Grinling from the 1st Northumbrian Field Ambulance Royal Army Medical Corps to be Captain (dated Oct. 20th, 1908). James McHoul to be Lieutenant (dated Oct. 19th, 1908). The undermentioned officers from the 1st Battalion, The Herefordshire Regiment, are appointed Captain and Lieutenant respectively (dated Oct. 15th, 1908):—Surgeon-Captain James Neil Macmullan and Surgeon-Lieutenant Arthur Llewellyn Baldwin Green. Surgeon-Captain James Aitken, from the 4th Battalion, The Essex Regiment, to be Captain (dated April 1st, 1908). Captain (Honorary Captain in the Army) George G. Oakley, from the Yorkshire Mounted Brigade Field Ambulance, to be Major, with precedence next below Major William K. Clayton (dated April 1st, 1908). Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Duncan Stewart, from the 4th Battalion, The Northumberland Fusiliers, to be Major with the honorary rank of Surgeon-Lieutenant-Colonel, with precedence from June 4th, 1902 (dated April 1st, 1908). Surgeon-Lieutenant James Graham Miller, from the 4th Battalion, The Northumberland Fusiliers, to be Lieutenant (dated April 1st, 1908).

2nd Southern General Hospital: James Paul Bush, C M G (late Surgeon-Lieutenant, 1st (City of Bristol) Volunteer Battalion, The Gloucestershire Regiment), to be Lieutenant-Colonel (dated April 1st, 1908). Arthur Launcelot Flemming to be Major (dated Nov. 7th, 1908). Charles Ferrier Walters to be Quartermaster, with the honorary rank of Lieutenant (dated Nov. 7th, 1908).

East Lancashire Division: Honorary Colonel Wa Whitehead, from the Western Command Manchester C panies Royal Army Medical Corps (Volunteers), is appoi to the Honorary Colonelcy, with precedence as in the Vol teers (dated April 1st, 1908).

Welsh Border Mounted Brigade Field Ambulance: S geon-Lieutenant George Jubb, from the 6th Battalion, T Highland Light Infantry, to be Lieutenant (dated July 1 1908).

1st West Lancashire Field Ambulance: Lieutenant-Colo Frederick Joseph Knowles, Royal Army Medical Corps, Ter torial Force, to be Lieutenant-Colonel (dated April 1st, 190 The undermentioned officers from the Volunteer Force a appointed to the unit, with precedence as in the Volunte Force (dated April 1st, 1908):—Surgeon-Captain Davi Smart, from the 2nd Volunteer Battalion, The King's (Liver pool Regiment), to be Captain. Surgeon-Captain Archibal Gordon Gullan from the 8th (Scottish) Volunteer Battalion The King's (Liverpool Regiment) to be Captain. Lieutenant Creighton Hutchinson Lindsay from the Western Command, Manchester Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant.

2nd West Lancashire Field Ambulance: Lieutenant-Colonel Thomas Moore Dawson, Royal Army Medical Corps, Territorial Force, to be Lieutenant-Colonel (dated April 1st, 1908). Major Thomas Stevenson, Royal Army Medical Corps, Territorial Force, to be Major (dated April 1st, 1908) Surgeon-Major John Joseph O'Hagan, from the 5th Volunteer Battalion, The King's (Liverpool Regiment), to be Major, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd West Lancashire Field Ambulance: Captain Elisha H. Monks, Royal Army Medical Corps, Territorial Force, to be Captain (dated April 1st, 1908). The undermentioned officers from the Volunteer Force are appointed to the unit with rank and precedence as in the Volunteers (dated April 1st, 1908):—Major William Baron Cockill, from Lancaster and Border Bearer Company, Royal Army Medical Corps (Volunteers); Captain Claude William Scott Saberton, from the Western Command, Manchester Companies, Royal Army Medical Corps (Volunteers); Captain Henry Dodgson, from the Lancaster and Border Bearer Company Royal Army Medical Corps (Volunteers).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 3rd Kent (Royal Arsenal): The undermentioned officers resign their commissions (dated March 31st, 1908):—Surgeon-Lieutenant Bernard Hudson and Surgeon-Lieutenant Henry S. Desprez. 1st Norfolk: Surgeon-Captain Harold M. Evans resigns hi commission (dated March 31st, 1908).

Rifle: 2nd Volunteer Battalion, The Duke of Edinburgh' (Wiltshire Regiment): Honorary Assistant Surgeon Charle W. Pitt resigns his commission (dated March 31st, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command, Edinburgh Company: The resignation of his commission by Captain David Waterston which appeared in the *London Gazette* of Dec. 8th, 1908, is cancelled.

The undermentioned officer, not having signified his wish to join the Territorial Force, is struck off the strength of the battalion:—2nd (Prince of Wales) Volunteer Battalion, The Devonshire Regiment: Surgeon-Lieutenant Peter George Moran (dated Dec. 16th, 1908).

SHELL-FISH AND ENTERIC FEVER.

The General Officer Commanding the South-Western Defence and Plymouth Garrison has recently issued the following order:—*The origin of a recent case of enteric fever in a soldier having been attributed to eating shell-fish, the troops are warned against the danger of eating such fish, even when cooked.*

stimulate women to increased readiness to undertake work in branches of public service in which the coöperation of women is specially required and would foster their consciousness of citizenship.

CHRISTMAS CHEER PSYCHOLOGICALLY AND PHYSIOLOGICALLY CONSIDERED.

WHEN persons determine to make a season festive they as a rule pay little heed to the teachings of physiology about the evils of excess or to what chemistry may have to say in regard to the composition of the good things which they mean to enjoy. Undue indulgence, however, brings at length a convincing proof of the physiological machine having been overtaxed in the shape of various unpleasant symptoms eloquent of the action of toxic agents. If, in short, the body cannot deal with the amount of food administered to it part of that food becomes more or less a poison. Nevertheless, there can be no doubt that when a person is situated in circumstances which tend to make him happy his digestive powers are stimulated and increased. Christmas is a time of good cheer and therefore is a season which should be calculated to help those psychical influences which are an important factor in the great processes of alimentation. The meal partaken in the house of mourning has a much less chance of actually ministering to the needs of the body than has a meal partaken in the house of joy. This is an interesting example of the effect of mental influence to which to some extent the digestive functions are subservient and which is constantly in evidence. No man unless his instincts are more brutal than refined sits down for choice to a meal alone or drinks his wine in solitary silence. He regards his food not merely as a bodily necessity but as something also that can be artistic and elegant, and he is led to seek an environment during a repast which is mentally as well as physically congenial, and in doing so his digestion is facilitated. To partake of food under the influences of pleasurable refinements is an excellent physiological proceeding. There is nothing physically or physiologically immoral therefore in the cheerful feast; it is not a sin to enjoy food or to secure the partaking of it under agreeable surroundings. On the contrary, such procedure is perfectly compatible with physiological law, and it is not at the risk of offending physiology to wish those persons a merry Christmas who can enjoy creature comforts wisely, who know the evils of excess, and who act accordingly.

FRESH AIR IN THE TREATMENT OF PNEUMONIA.

IN the *American Journal of the Medical Sciences* for November Dr. G. W. Norris has reported good results from fresh air in the treatment of pneumonia at the Philadelphia General Hospital, where the type of the disease is of unusual severity. Most of the patients are advanced in years and often suffer from arterio-sclerosis and chronic nephritis, and a large number of tramps and drunkards is also comprised. As might be expected, the mortality was high—53 per cent. before adoption of this treatment and 43 per cent. after its adoption. If the patients who died within the first 24 hours—i.e., were moribund on admission—be deducted the latter mortality was 38 per cent. Apart from the constantly open doors and windows no other innovation was made in the previous treatment. Dr. Norris observes that the use of alcohol is steadily falling more and more into disfavour, and justly so, since it does more to relax the vaso-motor system than to stimulate the heart, and that it has been shown by the researches of Paessler and Rolly that death in pneumonia is due to failure of this system. He admits, however, that habitual drunkards are often benefited by a reasonable amount of alcohol. Sponging with cold water was used frequently and with good results, not so much for the purpose of reducing the temperature, which it does satisfactorily, but with a view to increase the tone of the vaso-motor system, for which purpose it seemed to be the most useful remedy. The value of fresh air is illustrated by the case of a big negro on the third day of an attack of pneumonia. In the general medical ward he was restless, feverish, and panting, the typical picture of the anguish so often seen in these cases. An hour later he was seen in the pneumonia ward to which he had been transferred. It was a cold March day and the doors and windows were wide open, so that a constant current of fresh cold air blew over the beds. The patient greeted Dr. Norris with a smile and said, "I feel like another man here." It certainly requires, as Dr. Norris observes, some courage and persuasive power over the patient's relatives to adopt this treatment but once tried he is convinced that the practitioner will not abandon it. We may add that good results have been reported from the open-air treatment of pneumonia by another American writer, Dr. Northrup, and also by Dr. G. E. Rennie in the Prince Alfred Hospital, Sydney. The last writer places his patients at once on the balcony or verandah of the hospital, where they are kept night and day. A screen is kept round the head of the bed to prevent the cold air from blowing directly on the patient. This seems to us a necessary precaution, for however valuable fresh air may be few will regard a draught as desirable in pneumonia. Dr. Rennie at first hesitated to adopt this method when complications such as bronchitis were present but even then he found it equally successful. In one case which he reports, a girl, aged 12 years, had marked dyspnœa and cyanosis and a temperature of nearly 104° F., a rapid weak pulse, and extensive labial herpes. There were signs of consolidation at both bases. She was inclined to be delirious and had not slept for two nights. She was placed on the balcony with a screen round her head. On the first night she slept well and improved much.

MORTALITY OF THE MEDICAL PROFESSION IN GERMANY.

A CORRESPONDENT writes: "Investigation into the mortality of the medical profession in Germany has been published[1] by Mr. A. Böhme, an actuary in Leipsic. He emphasises the fact that the oft-quoted mortality given by Caspar in 1835 was considerably too high, owing to an erroneous method of calculation. In 1886 the Gotha Lebensversicherungsbank published an investigation into 1058 deaths of medical men, a larger number than had been collected up to that time, and sufficient to give trustworthy results at least as to the main features. Alongside of this the author places Geisser's investigations on the medical men of Saxony and Weinberg's on those of Wurtemberg, which he examines critically. Among the results which emerge from his investigation it will be found that in all the figures there is an excess of mortality at the time of entrance into the profession, continuing for some five years thereafter in a decided degree, whilst the lowest mortality is found almost as late as the middle of the thirties. Radestock (who continued Geisser's work) suggests as the cause of this not merely the influence of hereditary disease and of acquired defects (e.g., alcoholism), but also the fact that the younger practitioner has not developed in his system the necessary proportion of alexins and antitoxins which contact with infective disease has produced in older physicians. The figures in each case give a mortality among medical men in evidence of tubercle; and 3 were discharged in whom there was undoubted evidence of tubercle—viz., one case of phthisis advanced to cavitation and two patients suffering from tubercular peritonitis, having masses easily felt in the abdomen. Of 7 cases where tubercle was suspected one positive reaction occurred (the diagnosis resting between sarcoma and tubercle); tubercle was found at the operation. Of the remaining six, the diagnosis resting between empyema and tubercle, all failed to react, and were operated upon and found to be empyemata. Two died later and no tubercle was found at the post-mortem examination.

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[1] Zeitschrift fur Versicherungs-Wissenschaft, 1908, p. 652.

Two cases where the reaction was so indefinite (with 1 per cent. solution) that it was queried positive were found at the necropsy to be tubercle. These I have not included. It will be seen that in every case where a positive reaction was obtained tubercle was either found post mortem or definite clinical signs were evident. Three inaccuracies out of 45 cases occurred, but these were of the negative order. The patients submitted to the test were all under the care of the senior physicians, to whom I am indebted for the publication.

I am, Sir, yours faithfully,
HENLEY H. MOYLE.

East London Hospital for Children, Shadwell, E.,
Nov. 28th, 1908.

EPSOM ASYLUMS.

To the Editor of THE LANCET.

SIR,—In your issue of Dec. 5th is a short comment on the public meeting held in Epsom to protest against the walking parties from the lunatic asylums of the London County Council. As your remarks are likely, I think, to give a wrong impression as to the feeling in this locality on the question of the exercise of the lunatics in public, and also as to the object and result of the meeting, I hope you will give publication to these remarks. There were several motions before the meeting in addition to the one asking the London County Council to put a stop to "the practice of walking parties outside the asylum grounds" which you allude to, and one of the most important was the one asking the London County Council to direct attention to the escapes of lunatics. The result of the meeting was that the motions were passed and not lost by a large majority as you state. There were no direct attacks made on the medical superintendents as such, though, of course, the administration which permitted the walking parties and the escapes was adversely criticised, but the "attacks," if they can be called such, were directed against the asylums committee as a whole. As regards "the improvement in the mental state of the lunatics likely to be derived from the change of air and scene" there is some divergence of opinion amongst the medical superintendents of the asylums in this district as regards change of scene, for the medical superintendent of one of the asylums here does not permit the lunatics to exercise outside the grounds of the asylum he is in charge of, and his results are as good as the results of those who permit the walking parties outside the asylum grounds.

As was pointed out at the public meeting, the grounds of the asylums near here are extensive and give ample room for exercise, but no doubt popular opinion would be pacified if the asylums committee were only to allow small parties of selected patients with adequate escort to walk the public roads, and also if the asylum authorities take more active measures as regards escapes. As a result of the meeting a committee is to wait upon the Prime Minister, the Home Secretary, and the Lunacy Commissioners if found necessary.

I am, Sir, yours faithfully,
HORTON.

Dec. 8th, 1908.

A SERUM TREATMENT OF CARCINOMA IN MICE.

To the Editor of THE LANCET.

SIR,—You were good enough to verify by a note to my letter published in THE LANCET of Nov. 28th a quotation from a letter written to me by Dr. Borrel on Nov. 12th last, in which he said that he had done "nothing resembling" my experiments with sera upon carcinoma in mice. Dr. Blair Bell has stated that I had repeated Dr. Borrel's experiments. I have shown conclusively that I did nothing of the kind. He stated that I was self-invited to the Liverpool Medical Institution. I was not. In spite of this, in his letter to you published on Dec. 12th Dr. Bell attempts to maintain his original position, although he uses vague words of apology.

I am, Sir, yours faithfully,
CHARLES WALKER.

Cancer Research Laboratory, University of Liverpool
Dec. 12th, 1908.

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—In the discussion on "The Cause and Prevention of Dental Caries," which has been published in recent numbers of THE LANCET, it has been assumed that extreme frequency in the occurrence of dental caries is a purely modern phenomenon which most writers attribute to "modern dietetics" or "the changes the food of man has undergone during the last few centuries."

I would like to call attention to the fact that 5000 years ago, in the time of the Pyramid builders, dental caries and alveolar abscesses were at least as common amongst the adult aristocracy of Egypt as they are in Europe to-day, although dental caries was rare among the people of lower social status and almost unknown in children. Among several thousand children found in ancient Egyptian graves I have seen only three instances of caries in deciduous teeth.

These facts, I think, support the general conclusions to which the discussion has pointed.

I am, Sir, yours faithfully,
G. ELLIOT SMITH.

Cairo, Dec. 7th, 1908.

THE USE AND ABUSE OF ALCOHOL.

To the Editor of THE LANCET.

SIR,—Last night I attended a meeting of the Unite Services Medical Society, held at the Royal Army Medica College, when a most interesting and instructive discussio took place on the use and abuse of alcohol. The questio was raised as to whether the total abstaining races, such a the Hindoos, the Persians, and the Fellaheen of Egypt showed any evidence of being more moral or progressiv than the races that take alcohol, and it was also pointed ou that all the progressive races, including the Japanese, take i The total abstainers present did not attempt to answer th point, but it would be interesting if some of them could d so in your columns. Incidentally, they might also try t explain why the total abstainers have practically neve produced great admirals, generals, or statesmen.

I am, Sir, yours faithfully,
H. N. ROBSON.

Junior Constitutional Club, Piccadilly, W., Dec. 11th, 1908.

THE STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

To the Editor of THE LANCET.

SIR,—Your correspondents, referring to my brief co tribution to your journal of Nov. 28th, overlooked the mo essential point to which I directed attention—viz., that waters free from suspended matter and of fair organic purity almost infinitesimal amount of chlorine suffices for practic sterilisation. Experiments now being conducted on a larg scale indicate that the same results are obtainable as laboratory experiments. I believe that I am in possession all the reports which have been referred to, and hitherto the amounts of chlorine which have been used for sewages and dirty waters, whilst showing that even such waters were capable of being sterilised, gave very little ground for hoping that the process could be made a practical one.

May I also direct attention to an error in the original paper? I find that the hypochlorite can be purchased at £7 per ton, or less than half the price I first had quoted. This means that about 25,000 gallons can be sterilised for one penny. When electrical treatment can be shown to produce the same effect for less money I will give it further attention.

I am, Sir, yours faithfully,
JOHN C. THRESH.

London Hospital Medical College,
Dec. 15th, 1908

improvements have been made in taking black and white pictures during the past 12 years, and if lens makers, emulsion makers, and machinery makers will do their share great improvement will be possible in animated photography in colours. He emphasised his obligations to Mr. Urban for his assistance in the mechanical part of the work. The lens maker has done nothing so far to contribute towards this success and Mr. Smith wants him to do so. Mr. Smith, moreover, has to take the ordinary film used for black and white work and to sensitise it himself to make it see colours as he wants it to. He stated that he has to make a harmony between the human eye and the plate, as if the average observer were asked to state in order the luminosity values of colour he would probably put white at the top and then give yellow as the next brightest colour, afterwards naming in order orange, red, green, blue, and violet, but the photographic plate does not give that answer at all. The photographic plate says white at the top but blue next, and it places yellow very low down in the list and red it scarcely knows anything about at all. It was thus necessary to alter the plate to make it see colour as we see it. Mr. Smith added the interesting information that it was in watching the brilliant uniforms at the funeral service at Windsor of the late Queen Victoria that he first took an interest in colour photography, regretting that he could not record the scene. Mr. Smith showed on the screen several attractive and life-like pictures, including persons with pink dresses, red coats, green sashes, red parasols, plaid shawls, and so forth—viz., "An Animated Duchess of Devonshire," a lady smelling and admiring differently coloured flowers, a row on the sea, a motor-boat race, Henley Regatta, a game of croquet, the red-coated Gordon Highlanders marching to church at Aldershot, a grey donkey eating carrots, a rabbit-hutch with rabbits of several colours and green cabbage leaves, the band of the Cameron Highlanders marching down the West Pier at Brighton, a farmyard, and a scene entitled "Reaping" where the sleek or glossy brown of the horses' coats was admirably and perfectly rendered, as also was the glitter of the varnish on a racing yacht as it veered in the sunshine. Sir Henry Truman Wood thought that the greys, most difficult usually to render, were perfect, but the blues and the greens might be slightly improved; he added that if nothing further were done a great advance had been made and the meeting would be a memorable one. A hearty vote of thanks to Mr. Smith and Mr. Urban terminated the meeting.

THE LATEST "LUSUS NATURÆ."

SPANISH journals are commenting in the day now passing on a "lusus naturæ" which to them is as strange as any recorded in the annals of teratology. To the headquarters of his mission in Spain, the Father Agostino Camarizano writes from Alanquer in Manaos that a fisherman's wife, approaching her confinement, having missed her husband for many hours, went down to the seashore in quest of him, only to find his dead body lying on a rocky recess. He had manifestly been killed in an encounter with a huge serpent, which was still coiled round him—a reptile known in those parts as the "giboia." Frantic under the impression of the gruesome spectacle the poor woman was shortly afterwards seized with the pains of parturition and was delivered of a male child, in all respects normal but covered with a skin resembling that of the "giboia," having similar scales and markings, red and black. This integument the practitioner who was called in found to be non-adherent to the true skin, the "cutis vera"; it simply covered the normal epidermis. To keep the child alive it had to be kept continually moist on the surface, necessitating frequent bathing throughout the 24 hours. If the bath was suspended for any considerable part of the day the skin with its scales began to swell. Further, the woman told her medical attendant that when she gave it the breast the infant would make with its tongue a kind of tiny hiss resembling that of the reptile. All this notwithstanding, the Father Agostino baptised the little monster in the chapel of the Alanquer Mission, and the local authority has made an official entry of the birth in the parish register. This latest Spanish freak is probably not so fabulous as at first sight it appears, inasmuch as it is, no doubt, an example of so-called fœtal ichthyosis. In this condition the skin of the fœtus is covered by thick horny epidermic plates, yellowish in colour, separated by fissures of a red or bluish tint. The appearance has been compared to that of a coat of mail, or to the covering of an armadillo, and it is not surprising therefore that the ignorant Spaniards should have thought the infant was covered with the skin of a serpent. The story that the medical man called in found a sort of outer covering for the true skin is in accordance with the fact that the scales are derived from the stratum corneum, the rete Malpighi being practically unaltered. It is of extreme interest to note in the description of this so-called monster that it was necessary to keep the skin constantly moistened with water, since in these cases there is very marked atrophy of the sebaceous glands. As Ballantyne points out in his interesting account of this rare condition, the weak and buzzing cry, which might well be thought to resemble the hiss of a serpent, was called attention to by Vrolik as long ago as 1849 and is due to the extreme eversion of the lips and the marked deformity of the mouth which are usually present. Naturally enough, a maternal impression is invoked as the cause of such a monster. As a matter of fact, this disease usually develops as early as the fourth month of intra-uterine life, and in the great majority of cases both parents are quite healthy, although it occasionally affects successive children of the same mother.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

ON Dec. 14th, at Marlborough House, the Prince of Wales presided over a general meeting of King Edward's Hospital Fund for London, when it was stated that the amount received by the Fund for the present year up to Dec. 10th and after payment of expenses amounted to £156,748. In moving the adoption of the report, which was carried unanimously, the Prince of Wales said that the donations for 1903 included the munificent gifts of £100,000 from Lord Mount-Stephen and £10,000 from Lord Iveagh, both sums being placed to capital. His Royal Highness referred with satisfaction to the fact that the Fund had been able to allocate to hospitals, convalescent homes, and country sanatoriums for consumption £140,000, an increase of £19,000 over the sum distributed last year. Among the largest grants are that of £5000 more to the removal fund of King's College Hospital, making a total of £27,000 granted to this hospital for the purpose, and £12,000 to the London Hospital, including £2000 towards the reduction of its debt. The report is a very satisfactory one and as his Royal Highness pointed out it is most encouraging to think that in the past ten years almost without exception there has been a steady increase in the annual amount available for distribution. The Fund continues to encourage the amalgamation of the smaller hospitals and also adheres to the policy of aiding the extension of hospitals situated in, or near to, the poorer districts and remote from the larger general hospitals. In the report of the Convalescent Homes Committee it is noted with regret that the number of sanatoriums for consumption which have applied for grants is small and the committee also calls attention to the however, they fail to avail themselves of this teaching they are to be menaced by the law, snatched from their homes and forcibly isolated. But have the teachers themselves always profited by every opportunity of learning? How about the Johns Hopkins Hospital? It is not afflicted with poverty. Money has been lavished so that the latest improvements might be introduced. Nor is it in the hands of "a class of people that cannot be taught." On the contrary, it is a seat of learning and an annexe of the Baltimore University. Nevertheless, extraordinary ignorance is displayed in regard to so important a matter as ventilation. An elaborate system for providing such an essential as pure air at a desirable temperature is allowed to fall into disuse. The principal object-lesson which could have been provided to the visitors who came from all parts of the world and who, in many cases, had been students of Dr. Billings's work was completely lost sight of. What was most in the minds of those who received us was not the Johns Hopkins Hospital itself but a recently constructed annexe known as the Phipps Dispensary. This is simply an out-patients' ward devoted solely to cases of tuberculosis—an excellent thing in its way but I failed to see anything specially novel or instructive in its structure. A few patients come here on their own initiative but the greater part are sent by the visiting nurses or are transferred from the general out-patient wards. This dispensary has no beds at its disposal but works in conjunction with the city and Jews' hospitals for advanced cases. It has been in existence for three years, with about 600 patients the first year, 800 the second year, and 1000 the third year. This is the largest dispensary in Baltimore and there is a sanatorium at Endowood with 30 beds for advanced cases and 60 beds for incipient cases. Then there are 150 beds in the city hospitals for cases of tuberculosis; altogether there are 250 beds available for the treatment of this disease. The State of Maryland is now building a sanatorium for 300 early cases, but as it is estimated that there are some 10,000 such cases in this State it does not seem that Maryland has very much to teach Europe in this respect. On the other hand, the book on ventilation by Dr. Billings is the work of an American which is known and highly appreciated in Europe. Therefore the visitors who came to Baltimore from Europe would have been greatly edified if they could have seen a practical application of Dr. Billings's teaching.

In all other respects the visitors to Baltimore can only congratulate themselves on the excellent reception which they enjoyed. The greatest care was taken of them, every courtesy was shown, and all left Baltimore with regret at parting so soon from such amiable hosts. Dr. T. B. Futcher, the chairman of the reception committee, was indefatigable and Dr. Henry Barton Jacobs entertained all the visitors to an excellent banquet. The greatest friendliness and cordiality prevailed and our hosts showed a truly international spirit in the welcome which they gave us.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

Professor Hillhouse, who has been connected with Mason College and with the University for about 25 years, and who has held the chair of botany in both institutions, has informed the council that he wishes to retire from active work at the end of the present academic year. He is one of the oldest members of the staff and all his colleagues regret the long-continued ill-health which has made Professor Hillhouse feel that he must lead a less laborious life. He is well known and universally respected and will carry with him not only the good wishes of the University staff but also of a large circle of friends.

The Women's Hospital.

A new branch of the Women's Hospital League has recently been instituted in Moseley, a wealthy residential district quite capable of providing the whole of the additional £1000 a year which it is one of the league's objects to attain, and if the local branch now instituted works energetically and tactfully the result of its efforts will be very valuable to the Women's Hospital. In proposing the formation of the branch, Mrs. Nettlefold, the president of the league, gave an interesting *résumé* of the histor of the hospital. It was established at first in small private house in the Crescent which provide eight beds. In a few years expansion became necessar and the committee secured a farmhouse in Stratford-roa which was capable of adaptation. The building wa gradually enlarged until the number of beds was increase to over 30 and excellent work was done. Further enlargement in Stratford-road eventually became impossible, bu the increase of the work continued, so a building fund wa started and the present in-patient hospital and convalescen home in Sparkhill were obtained. 60 beds are now availabl and an additional £1000 a year has become a necessity if th work is to be continued properly. Mrs. Nettlefold struck th right note when she pointed out to the large meeting whic she addressed the fact that the hospital was doing specia work, that it required special appliances, and that if th work done was to produce the greatest advantage the hospital must be kept in the front rank of the Birmingha hospitals. During the time that the hospital has been in existence the death-rate for the special conditions with whic it deals has fallen from 60 per cent. to 2¾ per cent., an the difference between the two rates means a very grea alleviation of suffering. Any very considerable further fal of the mortality rate is not possible but the work of the hospital can still be increased, and the object is one which ought to appeal strongly to all the women of Birmingham, and particularly to those who are themselves to a certain extent shielded from the dangers to which their less fortunate sisters are exposed.

The Research Defence Society.

A general meeting of the Birmingham branch of the Research Defence Society was held on Dec. 11th. Professor R. F. C. Leith, who occupied the chair, referred to the objects of the society and pointed out that when the branch was started in May last it possessed only 14 members. Since then 68 additional members have joined, of whom 30 are non-medical and five are ladies. The society now includes many of the influential and thoughtful citizens of Birmingham, who recognise that the primary object of man is the welfare of mankind. The meeting appointed a small executive committee, to which it gave a general instruction to take the necessary steps to bring the objects of the society before the general public.

Jubilee of the Birmingham Dental Hospital.

The jubilee of the Birmingham Dental Hospital was celebrated on Dec. 10th by a reception which was especially well attended. After the reception the prizes won during the year were presented to the successful students by Mr. Matheson who gave an interesting address upon the Relation of the Teeth to General Health. The fiftieth anniversary of the foundation of the hospital has happened to fall in the year which has shown by the increased entry of students that the public are beginning to realise that the Birmingham Dental School is one of the best-equipped schools in the country and for that reason, together with the fact that it is intimately associated with the University, it offers special facilities to the dental students who have every opportunity of preparing themselves for the diplomas of the various licensing bodies or the degrees of the University, whilst at the same time they have unrivalled opportunities of obtaining that practical experience which is so essential for future success.

The New Dispensary Scheme.

It is intended to commence the work of the new provident dispensary with the coming of the New Year and steps are being taken to bring the scheme to the notice of that part of the public which is likely to make use of it. The objects of the scheme are to give facilities to those who cannot pay ordinary fees but who are still able to pay something for medical help and to reduce the pressure in the out-patient departments of the hospitals. The committee of control consists of seven adult members of the dispensary; seven members of the medical profession nominated in the first instance by the General Medical Practitioners' Union and afterwards appointed annually, one by each of the seven branches of the dispensary staff; seven members appointed by the Birmingham branch of the British Medical Association; the remaining eight members of the general committee are appointed as follows—one by each of improvements have been made in taking black and white pictures during the past 12 years, and if lens makers, emulsion makers, and machinery makers will do their share great improvement will be possible in animated photography in colours. He emphasised his obligations to Mr. Urban for his assistance in the mechanical part of the work. The lens maker has done nothing so far to contribute towards this success and Mr. Smith wants him to do so. Mr. Smith, moreover, has to take the ordinary film used for black and white work and to sensitise it himself to make it see colours as he wants it to. He stated that he has to make a harmony between the human eye and the plate, as if the average observer were asked to state in order the luminosity values of colour he would probably put white at the top and then give yellow as the next brightest colour, afterwards naming in order orange, red, green, blue, and violet, but the photographic plate does not give that answer at all. The photographic plate says white at the top but blue next, and it places yellow very low down in the list and red it scarcely knows anything about at all. It was thus necessary to alter the plate to make it see colour as we see it. Mr. Smith added the interesting information that it was in watching the brilliant uniforms at the funeral service at Windsor of the late Queen Victoria that he first took an interest in colour photography, regretting that he could not record the scene. Mr. Smith showed on the screen several attractive and life-like pictures, including persons with pink dresses, red coats, green sashes, red parasols, plaid-shawls, and so forth—viz., "An Animated Duchess of Devonshire," a lady smelling and admiring differently coloured flowers, a row on the sea, a motor-boat race, Henley Regatta, a game of croquet, the red-coated Gordon Highlanders marching to church at Aldershot, a grey donkey eating carrots, a rabbit-hutch with rabbits of several colours and green cabbage leaves, the band of the Cameron Highlanders marching down the West Pier at Brighton, a farmyard, and a scene entitled "Reaping" where the sleek or glossy brown of the horses' coats was admirably and perfectly rendered, as also was the glitter of the varnish on a racing yacht as it veered in the sunshine. Sir Henry Truman Wood thought that the greys, most difficult usually to render, were perfect, but the blues and the greens might be slightly improved; he added that if nothing further were done a great advance had been made and the meeting would be a memorable one. A hearty vote of thanks to Mr. Smith and Mr. Urban terminated the meeting.

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Spanish journals are commenting in the day now passing on a "lusus naturæ" which to them is as strange as any recorded in the annals of teratology. To the headquarters of his mission in Spain, the Father Agostino Camarizano writes from Alanquer in Manaos that a fisherman's wife, approaching her confinement, having missed her husband for many hours, went down to the seashore in quest of him, only to find his dead body lying on a rocky recess. He had manifestly been killed in an encounter with a huge serpent, which was still coiled round him—a reptile known in those parts as the "giboia." Frantic under the impression of the gruesome spectacle the poor woman was shortly afterwards seized with the pains of parturition and was delivered of a male child, in all respects normal but covered with a skin resembling that of the "giboia," having similar scales and markings, red and black. This integument the practitioner who was called in found to be non-adherent to the true skin, the "cutis vera"; it simply covered the normal epidermis. To keep the child alive it had to be kept continually moist on the surface, necessitating frequent bathing throughout the 24 hours. If the bath was suspended for any considerable part of the day the skin with its scales began to swell. Further, the woman told her medical attendant that when she gave it the breast the infant would make with its tongue a kind of tiny hiss resembling that of the reptile. All this notwithstanding, the Father Agostino baptised the little monster in the chapel of the Alanquer Mission, and the local authority has made an official entry of the birth in the parish register. This latest Spanish freak is probably not so fabulous as at first sight it appears, inasmuch as it is, no doubt, an example of so-called fœtal ichthyosis. In this condition the skin of the fœtus is covered by thick horny epidermic plates, yellowish in colour, separated by fissures of a red or bluish tint. The appearance has been compared to that of a coat of mail, or to the covering of an armadillo, and it is not surprising therefore that the ignorant Spaniards should have thought the infant was covered with the skin of a serpent. The story that the medical man called in found a sort of outer covering for the true skin is in accordance with the fact that the scales are derived from the stratum corneum, the rete Malpighi being practically unaltered. It is of extreme interest to note in the description of this so-called monster that it was necessary to keep the skin constantly moistened with water, since in these cases there is very marked atrophy of the sebaceous glands. As Ballantyne points out in his interesting account of this rare condition, the weak and buzzing cry, which might well be thought to resemble the hiss of a serpent, was called attention to by Vrolik as long ago as 1849 and is due to the extreme eversion of the lips and the marked deformity of the mouth which are usually present. Naturally enough, a maternal impression is invoked as the cause of such a monster. As a matter of fact, this disease usually develops as early as the fourth month of intra-uterine life, and in the great majority of cases both parents are quite healthy, although it occasionally affects successive children of the same mother.

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It is most satisfactory to know that steps are apparently now to be taken to put an end to the state of affairs, almost unthinkable in a public hospital, but which now exists at the infirmary as a result of the action of the governors last February in prohibiting any religious service in the infirmary.

Dec. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Women Graduates and the University Franchise.

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Dec. 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Old Age Pensions Act and the Dispensary Medical Office Certificate.

ONE aspect of the Old Age Pensions Act presents a fla which has been energetically exposed by Dr. G. E. Greene of Ferns in a letter to the daily press, as a facto taken out of bed for the first time and was seated in an armchair. Suddenly, about 3.30 P.M., she uttered muffled cries and lost consciousness and her respiration became panting. Her expression was haggard, her face was congested, and her eyes projected. Consciousness was regained in about ten minutes but she remained in a state of hebetude, muttering incoherent words. In the evening she was prostrate and complained of severe headache and vomited. Kernig's sign was not present, the neck was supple, and the pulse was 96 and regular. On the following days she remained in a state of torpor with a severe headache, which nothing relieved, and vomiting. The temperature gradually rose to 103·1° and then fell again. On Dec. 1st the temperature was 101·1° and the wrist-joint was again inflamed. On the 7th the patient was much better and the temperature was 99·5°. On the morning of the 8th she suddenly cried out that she was being suffocated. She was found sitting up in bed and covered with perspiration, her face congested, and her eyes widely open and projecting, as in the previous attack. She was much excited, had the impression that something had burst in her head and that she was about to die, and complained of intense occipital headache. In the evening the temperature was 98·6° and she was calmer and seemed to be entering into a state of coma. She vomited and had severe headache. The pupils were small and did not react to light and there was divergent strabismus. The neck was not stiff but there was a suspicion of Kernig's sign and the plantar reflex was extensor. On the 9th she was comatose. Lumbar puncture yielded blackish-red fluid. Centrifugalisation separated this into a yellowish fluid and a large clot which microscopically was found to consist of pure blood. Direct examination and cultures showed that the fluid was sterile. Death occurred on the following day. The necropsy showed no signs of endocarditis. There was slight interstitial nephritis. The pia mater and the brain were much congested and at the base were blackish subarachnoid clots which descended through the foramen magnum. The condition of the brain was characteristic of cerebral rheumatism. The meningeal hæmorrhage could not be attributed to any other cause than the rheumatism. As regards the nephritis, there was never albuminuria and the arteries were not atheromatous. The symptoms indicated that two attacks of hæmorrhage occurred. Meningeal hæmorrhage has been described in other infectious diseases, such as variola, scarlet fever, measles, tuberculosis, syphilis, septicæmia, influenza, anthrax, diphtheria, and also in acute uræmia.

THE Department of Public Health of Queensland in a bulletin dated Nov. 7th states that for the week ending at noon on that day 1 case of plague was notified—namely, that of a male infant, aged six weeks, who died on Nov. 5th. As regards the Mauritius, a telegram from the Acting Governor received at the Colonial Office on Dec. 11th states that *for the week ending Dec. 10th there* were 7 cases of plague and 5 deaths from the disease. A telegram from the Acting Governor of the Mauritius, received at the Colonial Office on Dec. 7th, states that for the week ending Dec. 6th there was one case of plague and one death from the disease.

L'Académie de Médecine de Paris at its meeting on Dec. 11th awarded the Godard prize for 1903 to the work of Dr. F. W. Pavy on "Carbohydrate Metabolism and Diabetes," translated by Dr. Aigre.

A DISCUSSION will take place on Wednesday, Jan. 13th, 1909, at 8 P.M., at the Royal Sanitary Institute on the Purification of Water by Ozone and other Chemical Substances. The debate will be opened by Dr. S. Rideal and the chair will be taken by Mr. E. B. Barnard, M.P., chairman of the Metropolitan Water Board. A general discussion is invited.

ON Wednesday afternoon, Dec. 16th, the Education Committee of the London County Council adopted a recommendation to ask the Council at its meeting next Tuesday for power to draw a sum of £10,000 from the county rates for the provision of meals to underfed school children. At the same meeting the committee adopted the report of the sub-committee on the medical treatment of children, with special reference to such children as may require operative or in-patient treatment at the hospitals. The recommendation of the sub-committee is that children thus removed from the direct superintendence of the education authority require no further steps to be taken in their behalf, but that the Council should establish school clinics at suitable centres in the metropolis. An amendment, however, was carried to the effect that financial help should be given to the existing institutions taking charge of such in-patients, and that where the required institutions do not exist the Council should consider whether it should make the provision itself.

THE Midwives Act Committee appointed by the Lord President of the Council to consider the working of the Midwives Act held a preliminary meeting on Wednesday afternoon, Dec. 16th, at the Privy Council office. Mr. Almeric FitzRoy was in the chair and all the members were present. The course of procedure was arranged, and it was decided to hold the first meeting for the hearing of evidence on Wednesday, Jan. 20th. It is requested that any communications to the committee may be addressed to the secretary, Midwives Act Committee, Privy Council Office, Whitehall, S.W.

MANCHESTER INFIRMARY.—On Dec. 1st the old infirmary in Piccadilly was left, as it were, desolate by the removal of all the in-patients to the new infirmary in Oxford-road. For some days preparations for the great flitting had been going on; ward equipments, furniture, and other accessories were taken away in vans but the patients still remained. On that day at noon horse ambulances, landaus, &c., drew up at the infirmary entrance and the first relay of patients was carried down the well-worn steps and carefully placed in the various conveyances. There were five city ambulances, the Salford motor ambulance, half-a-dozen landaus, a couple of "taxies," as they have already been dubbed, and the infirmary's own Cheadle Homes omnibus. The surgical cases, of course, required very careful handling, but wrapped up in blankets they were borne down the steps by the strong and willing arms of medical men, students, and nurses without any of the patients being the worse for the removal from ward to ambulance, the journey to Oxford-road, and the welcome change from ambulance to ward again. All this was accomplished in a damp, chilly fog that added much to the weird character of the scene. In spite of the fog, however, crowds of people watched the proceedings to the end, both round the infirmary railings and at the entrance to the hospital in Oxford-road, for any spectacle is attractive to those who have nothing to do. It was somewhat pathetic to notice that many of the patients took little or no interest in what was being done; others were, of course, quite awake to all that occurred. It was no light undertaking to transfer 120 or 130 patients to a new hospital one and a half miles or more away, and all interested were thankful when the task was finished without any mishap. It had been a hard day for all who had helped to carry through the work. Those patients who were not too ill or too tired to notice their surroundings expressed pleasure at the change. They were "comfortable enough" at the old place "but this beats it hollow" and so on. The link with Piccadilly is at last broken and the associations of more than 100 years with the old infirmary and its history are now gone, but it may still be said—Long live the infirmary.

questions of property as administered by the Chancery Division of the High Court.

It is most satisfactory to know that steps are apparently now to be taken to put an end to the state of affairs, almost unthinkable in a public hospital, but which now exists at the infirmary as a result of the action of the governors last February in prohibiting any religious service in the infirmary.

Dec. 15th.

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As has been noted in THE LANCET from time to time, some of the women graduates of the Universities of St. Andrews and Edinburgh had carried to the Court of Session in the first place, and to the House of Lords finally, the contention that they were entitled to vote at the election of a Member of Parliament for the Universities in virtue of having received the University degree and of being enrolled as members of the general council of their University. The House of Lords gave its decision on Dec. 10th and, as was anticipated by those who followed the case, the decision was adverse to the claims of the women. The Lord Chancellor stated that two points had been raised: (1) the right to vote and (2) the right to get voting papers; and he dealt with the questions in that order. He held that no authentic and plain case of a woman giving a vote had been submitted, although various anomalies may have occurred and been overlooked in confused times. A few equivocal cases had been referred to and he was surprised how few they were. In regard to judicial precedents, two passages might be found in which judges are reported as saying that women may vote at Parliamentary elections, but these dicta were derived from an ancient manuscript of no weight. Lord Coke referred to the disability of women, and this disability, the Lord Chancellor held, had been taken for granted. He thought it incomprehensible that anyone acquainted with our laws and the methods by which they are ascertained could think there was room for argument on such a point. It was notorious that the right of voting has been confined to men. Not only has it been the constant tradition but it has been the constant practice from the earliest times. Numberless rights rest upon a similar basis; indeed, the whole body of the common law has no other foundation. He held that if this legal disability is to be removed it must be done by Act of Parliament. The appellants hold that it has been so removed, but the Lord Chancellor equally strongly sets aside this contention. Lord Robertson followed the same line, arguing in detail against the view that Parliament in the case of the Scottish Universities had departed from the fact that from immemorial time men only had voted. The appeal was dismissed with costs.

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ONE aspect of the Old Age Pensions Act presents a flaw which has been energetically exposed by Dr. G. E. J. Greene of Ferns in a letter to the daily press, as a factor there were very few surgeons like John of Ardern. When the wars lulled the surgeons felt the pinch of poverty and in 1423 they entered into an agreement with the physicians who practised in London to form a single profession. The union did not last long, for the wars began again and the surgeons hurried away to France. In the early Tudor period, when peace became more assured and the standard of living became higher, the surgeons again felt the stress of poverty and made overtures for a union with the barbers. The proposed union fell through, and it was not until 1540 that the Company of Barbers consented to join the fraternity of Surgeons to form the United Company of Barbers and Surgeons, the union being brought about, I believe, by a desire to check the enormous increase in quackery which marked the whole reign of Henry VIII., owing to the Acts of 1511, which successively transferred the licensing of barber surgeons in London to the Dean and Chapter of St. Paul's Cathedral and allowed anyone to practise. The union was advantageous to both parties. The surgeons obtained wholesome financial advice, the goodwill of very worthy citizens, and a local habitation, to say nothing of a lucrative connexion with a number of practitioners who often found it necessary to invoke the assistance of their friends amongst the surgeons. Thus sheltered and protected from the necessity of earning a precarious existence surgery grew and developed into the science which made such remarkable advances during the reign of Elizabeth. The barbers on their side gained in position and influence by the new alliance. They entered heartily into the proposals of the surgeons and acted very much the part that the lay board of a modern hospital does to the medical committee. Surgical education prospered under the sway of the United Company. Lectures were delivered and anatomy was taught by the best teachers of the time, usually by physicians who afterwards attained to eminence, whilst a high ethical standard was enforced by fine and imprisonment. The thoroughness with which surgery was taught is shown by the fact that there were two grades of surgeons in the Company, the one who had passed the ordinary examinations and a second who had taken a higher qualification known as "the Grand Diploma." I should very much like to trace the history of this Grand Diploma. It corresponded in some measure to the Serjeancy in law, to the M.A. at the universities under the old system, or to the Doctorate, and it is represented in modern times by the F.R.C.S. examination. The alliance of the barbers with the surgeons was thus mutually beneficial. But mark what happened as soon as the separation took place. The surgeons almost immediately showed their want of business capacity and proved that they had owed their corporate financial success to the barbers. Within 20 years the Surgeons' Company was bankrupt and discredited. The Master was able to say with truth in his celebrated philippic, "Your theatre is without lectures, your library room without books is converted into an office for your clerk, and your committee room is become his parlour." Without the help of the barbers it is very possible that we might have reached this degree of degradation early in the Stuart period instead of late in Hanoverian times. Now, again, the barbers have shown their old cordiality to us. By a graceful courtesy they have arranged that one of the most eminent members of our profession, who has filled most worthily the office of President of the Royal College of Surgeons of England, shall to-night occupy the Master's chair, and by inviting us here this evening it has enabled us to participate in an occasion which takes us back in memory to a very early time in our professional career. Without further words, therefore, I give you the toast of the evening, "The Worshipful Company of Barbers, root and branch, may it flourish for ever." I would couple with the toast the name of Mr. Sidney Young, the only begetter of this feast, as true a friend of the Company as he is to all who know him and the most distinguished historian of this aspect of our profession. To him we wish continued health, prosperity, and a long life.

The toast was responded to by Mr. SIDNEY YOUNG, Past Master of the Barbers' Company.

The toast of "The Visitors" was proposed by Mr. RICHARD ROBERTS, Past Master of the Barbers' Company, and was responded to by the Bishop of OXFORD (a son of Sir James Paget) and Sir ROBERT BALL.

Sir FREDERICK TREVES proposed "The Health of the Master," dwelling upon the learning and powers of work which he was known to possess, after responding to which Sir JOHN TWEEDY proposed the health of "The Worshipful Company of Grocers" in whose hall the banquet was taking place. The proceedings closed with a few words of reply from Mr. F. A. ROBERTS, Master of the Grocers' Company.

Between the speeches an excellent musical programme was provided by Mr. Tom Clare.

THE FOURTH INTERNATIONAL CONGRESS OF ELECTROLOGY AND RADIOLOGY AT AMSTERDAM.

THIS Congress is held once in three years and is of importance from the fact that not only is nearly every country where the sciences are cultivated well represented, but those who attend make it almost a point of honour to put forth their very best efforts to make the scientific side of the Congress a conspicuous success. That held this year in Amsterdam on Sept. 1st to 5th was no exception to this rule and indeed, under the inspiring influence of the President, Professor J. K. A. WERTHEIM SALOMONSON, it could not very well be otherwise. His own contributions to the proceedings were as extensive as they were important and gave evidence of an enormous amount of painstaking research.

In his opening address the PRESIDENT first expressed his indebtedness to the burgomaster of Amsterdam for his kind encouragement and assistance and also to the university authorities who placed their buildings, rooms, &c., at the disposal of the Congress. He reminded his hearers of the important work done by Dutch men of science for electrical progress—from the "Leyden Jar of Musschenbrock" of Leyden in 1746, of the experiments bearing on the transformation of electricity into heat by Marum in 1785, and right down to the quartz-fibre galvanometer of Einthoven, an instrument of such marvellous sensitiveness and accuracy that it has opened up new avenues of experimental research the existence of which was never before suspected.

In giving a *résumé* of the scientific proceedings it will be best to take the papers in groups relating to each particular branch of the work of the Congress, and we cannot do better than lead off with those bearing on the oldest branches,

Electro-Diagnosis and Electro-therapeutics.

Professor BORUTTAU (Berlin) in his paper on the Current of Action showed how the presence of electrical currents in normal muscle in action could be detected by the electrodes at the sides and ends of the muscle and joining them up to the Einthoven galvanometer above referred to. His paper also dealt with the histological and chemical changes, which were of considerable interest.

The PRESIDENT read a paper on somewhat similar lines—the Currents of Action in Reflex Contraction and Muscular Clonus in the Human Subject. He obtained his currents in practically the same way but used the quadriceps and excited it by means of the patellar reflex. In this way he avoided the confusion that was sure to arise when using an outside current and an instrument so sensitive as Einthoven's galvanometer. The current so obtained was quite free from such disturbance and he had found the method useful in investigating obscure cases of nervous disease.

Dr. HOORIVEG, in dealing with the Law of Excitation of Muscles and Nerves, produced an elaborate discourse all tending to disprove the law of Dubois Reymond.

Dr. CLUZET (Toulouse) made an appeal in his paper for a unification of measurements and methods in electro-diagnosis, a matter upon the desirability of which all are agreed, but it was also agreed that to bring it into practical shape would be attended with no small amount of difficulty.

The PRESIDENT in another paper on the Coefficient of Muscular Contraction and the Coefficient of Polarity drew attention to the fact that there existed a constant relation between the current just sufficiently intense to produce a kathodal closing contracture and an intensity just causing tetanus—this was the coefficient of contraction. The relation between the least current to produce a kathodal

he has obtained by cinnamate of sodium in pulmonary tuberculosis. Both he and Dr. Buisson have used this drug in their clinics. It had been tried previously by Landerer of Stuttgart in intravenous injections of 25-milligramme doses, and in Spain better results have been got with larger doses. M. Reynier uses subcutaneous injections of 10 centigrammes dissolved in 10 cubic centimetres of physiological serum, prolonged over a certain period. In tuberculous patients submitted to this treatment the appetite and nutrition and strength improve, the fever becomes less, the cough clears up, and progressive cicatrisation of the lesions is promoted. M. Reynier warmly recommends a trial of the drug.

The Academy of Medicine.

The Academy of Medicine at the same meeting by 77 out of 81 votes elected Dr. Letulle to the section of pathological anatomy in the place unhappily left vacant by the death of Professor Cornil. Dr. Letulle, who is a physician of the Boucicaut Hospital and an *agrégé* of the faculty, was one of Professor Cornil's most brilliant pupils. He was secretary-general of the International Congress of Tuberculosis.

The Value of Œsophagoscopy in Cases of Cicatricial Stenosis.

At the Paris Hospital Internes' Society M. Suisez showed recently a series of patients suffering from cicatricial stenosis caused by swallowing caustic fluids. All were impermeable to ordinary bougies. Six had undergone gastrostomy and the others were just going to have that operation performed. Not even liquid food could be swallowed. By means of œsophagoscopy in all these cases it proved easy to find the narrow lumen, which was often situated eccentrically, and to pass a filiform bougie, then either by simple dilatation with progressively larger bougies or by the use of a circular electrode, to restore the calibre of the œsophagus gradually to nearly its normal size. All these patients are now able to feed themselves and the gastric fistulæ have been allowed to close up.

The Treatment of Cancerous Diseases by Fulguration.

At the Paris Society of Medicine M. de Keating-Hart expounded his method, which is a combination of a powerful high-frequency current with excision of the affected parts.[1] This surgical intervention in the cases shown dealt only with the macroscopic lesions, and its incompleteness affords a proof of the specific activity of the rays which remove that portion of the growth which cannot be seen. The technique is by no means simple, which accounts for numerous failures. On the other hand, the favourable results are increasing, as was proved by the patients shown at the demonstration.

The Indications for Inferior Tracheo-bronchoscopy.

At the meeting of the Paris Society of Medicine M. Cauzard read a paper upon this subject. Inferior tracheo-bronchoscopy is that form in which the instrument is introduced through a tracheotomy wound. It is true that this method has the disadvantage of requiring a tracheotomy wound; but, on the other hand, it has the following advantages over the bronchoscopy per the larynx. It permits of the introduction of a larger tube, of easier manipulations, and of the use of larger forceps and other instruments. M. Cauzard referred to two cases, the one occurring in the practice of M. Variot and M. Cuisez, and the other in his own. In both patients a bean had become impacted in the bronchus and could not be removed by bronchoscopy through the mouth and larynx (*bronchoscopie supérieure*) and in both cases there was no time to do a second operation after tracheotomy. M. Cauzard drew the moral that in cases of impaction of beans and other bodies which become soft and pasty tracheotomy and inferior bronchoscopy should be the operation performed from the first.

Dec. 14th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Hospital Service.

INTERNATIONAL congresses of professors and practitioners of the healing art have many attractions for those who frequent them—not the least of these being the insight which they afford into the management and service of the hospitals characteristic of the country in which the congresses are he Italian physicians and surgeons have been heard to say t when such an occasion takes them to the British Isles t have, *inter alia*, been specially interested in the econor equipment, and general efficiency of the great charita institutions in which disease or injury is gratuitously treat interested not only in the professional skill of the clinic but also in that of the subordinate *personnel*—to wit, nurses and the assistant staff in general—organised in patients' service. Not only so, but the air of comfort, e of good cheer, pervading the wards, coincident with cleanliness, a tidiness, a diffused sense of the "becomin (Plato's τὸ πρέπον), are coefficients all making for recov or cure; the *ensemble* in itself constituting an object-les amounting to an admonition which the foreign, particula the Italian, visitor may well profit by. Italy indeed much leeway to make up before her "ospedali," even in great centres of population, can court comparison with humblest infirmaries or hospitals in the British Isles. that she is behindhand in the clinical, or purely prof sional, side; but in the subordinate *personnel* just referred above all in the assistant staff on which the physician surgeon must rely—to say nothing of the features of com and cleanliness already noted—she is lamentably defect. A great congress has lately been held at Siena to discuss to formulate the innovations required to remedy this stat things—a "Congresso degli Infermieri" (hospital "helps the second of a series which, I fear, bids fair to be extended one before the desired consummation is brou about. Inadequate in number and miserably underpaid th "infermieri" complain that there is no attraction for d qualified aspirants to join their ranks, their remunerat being barely enough to keep soul and body together, with ab lutely nothing on which to support a family or to provide old age or supersession by illness. In terms urgent in tone even pathetic in language they call upon the Governmen take prompt and practical cognisance of their circumstanc and they remind the Premier, Signor Gioletti, and administration of the promises obtained from them Signori Barzilai and Turati that 1909 would see them plac in conditions under which they could live and thrive in th honourable service. Failing this reform, they admon the Government that a resignation of the "infermie *en masse* throughout the whole country must surely foll Seldom has a better justified appeal been made to Par ment. Indeed, the lay journals are supporting it, not o in the interests of the public but to avert what threaten become a national scandal. Hardly a week passes with painful incidents being made *publici juris* as to the *vie int* even of the metropolitan hospitals—in which deeds of violer mutiny, flight of patients from the wards bear testimony too eloquent to the deficiency of the "infirmieri" in poin number and competence. In Rome on the same day occur two such scenes—one in the Policlinico, another in Santo Spirito—as would of themselves suffice to hasten to give lasting effect to the appeal of the Siena Congress. the former a surgical patient, a married man with a fam received a visit from a girl with whom he had been on te of improper intimacy. At once they exchanged hea language, followed by the girl's wounding the patient the left scapula with a stiletto. The man promptly sei the weapon, leaped out of bed, and dealt a violent blow the girl who fell wounded in the abdomen. Her cries brou the "infermieri" to the spot, followed by the surgeon duty—the patients in the ward meanwhile drawing th coverlets over their heads in horror at the spectacle. B assailant and assailed were put under special treatment no instant too soon, the result of which has yet to be made kno In the latter hospital, the Santo Spirito, there was a mutiny the patients, beginning with one of these launching a cup in the face of a nurse (because the bread which she handed to him was not to his liking) and inflicting a deep wound in the left parietal region. This outrage was followed by another in the consumptive wards where a patient (having managed clandestinely to get wine) began, in his excitement, to denounce vociferously the whole *personnel* of the hospital where, he said, the victims to tuberculosis were maltreated. Protesting that he would go out, he was conducted to the isolation hall when, swinging an iron bar, *en route*, he swore he would break the head of anyone who came near him. He then called on other patients to join him, and several of these, laying hold of any weapon that seemed handy, threatened

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[1] THE LANCET, Nov. 14th, 1908, p. 1436.

Dr. HALLS DALLY (London) explained in his paper—which his absence was read by Dr. REGINALD MORTON (London) the great accuracy with which it was possible to measure e various respiratory movements by the aid of the orthoiagraph.

Dr. HENRARDE (Brussels) explained his method of extractig foreign bodies from the œsophagus with the aid of the corescent screen.

Radiotherapy.

Almost the first thing thought of when this subject is entioned is that of x-ray measurement, and the upperost thought in the minds of many was one of questionng as to the probability of some satisfactory method eing forthcoming. Now that it is all over it must e confessed that we are very much where we were. t the same time we did not come altogether empty away s further experience has shown that some of the earliest nethods are quite capable of giving very even results in ctual practice.

Dr. HARET read the first paper on this subject in which he dvocated the use of the Sabouraud pastille.

This brought the PRESIDENT to his feet who spoke against the method in the strongest terms. The fact that it was entirely inaccurate and untrustworthy in a moist climate such as that of Amsterdam was sufficient to prove its unsuitability for any accurate work. His method was to measure the quantity of energy put into the focus tube. In any given x ray outfit this would be determined by the voltage and ampèrage in the primary and the equivalent spark-gap in the secondary. By keeping all these constant he found that he could rely with confidence on obtaining the same dose.

Professor OUDIN agreed with the President and thought that the only variable factors should be distance and time.

Mr. KLINGELFUSS (Switzerland) also found that the measurement of the primary energy was sufficient and in his hands had given results that were quite satisfactory. Each worker had of course to determine the factors for his own apparatus by experience.

Professor BÉCLÈRE apparently uses most, if not all, of the methods at the same time but he admitted that he could not do without the measurement of the primary energy and the time. He thought that the criticisms on the Sabouraud pastille had been unnecessarily severe.

Dr. LURASCHI (Italy) thought the solution of the problem would be found to lie in the use of the selenium cell the resistance of which changed under the influence of x rays. It may be pointed out, however, that there is no evidence to show that this property runs parallel to that of producing histological changes in living tissues.

Dr. DEANE BUTCHER (London) gave his experience in the Use of Radium for Treatment. He is the fortunate possessor of a very excellent specimen which is no doubt a powerful factor in the results attained. He dwelt specially on its analgesic and antipruritic properties which he thought were due to the decomposition of lecithin in the nerve fibres. He had found it useful in lupus, epithelioma, and primary syphilitic chancre.

Dr. HAUCAMPS (Brussels) also had good results with radium in epithelioma and the resulting scar was always very satisfactory as regards softness and elasticity.

Dr. VAN DER GOOT and Professor SCHIFF both related their experiences with x rays in cutaneous diseases, including epithelioma, and showed photographs of successful cases.

Mr. DESSAUER described his method of treating deep-seated malignant disease. To get more even irradiation of the deeper structure he removed the tube some distance from the patient and made up for the loss in power by having six or more tubes at work at the same time and a long exposure. Further experience was necessary to test the value of the idea.

With regard to the exhibition the radiographs of Dr. Leonard, Dr. Hulst, and Professor Wenckebach mark a very great advance in radio-diagnosis. To anyone who has not kept in touch with the latest progress they would come as a perfect revelation. The same also applies to the lantern slides, &c., shown by the President of muscle currents, &c. Apart from the extensive exhibit he gave to the Congress a demonstration in his own laboratory of the way in which these were prepared. Among x ray tubes the most noteworthy was the regenerating tube of Bauer. This was effected on the principle that a certain kind of porcelain was pervious to air but not to mercury. Normally the porcelain disc mounted in the tube was covered with mercury, but when the latter was temporarily displaced a minute quantity of air percolated through the disc and so lowered the vacuum of the tube. Among apparatus those of Snook, Schall, and Grisson should be mentioned. They all aimed at the same thing—viz., to produce a uni-directional current for x ray work and so to eliminate the inverse discharge which was such a bugbear to coil users. All of these achieved the same end, each in its own way, but the Snook apparatus was the most powerful and could pass the largest currents through the x ray tube. The whole arrangements, social and scientific, reflect the greatest credit on the President and the committee. The next Congress in 1910 is to be held in Barcelona.

MEDICINE AND THE LAW.

The Case of Elizabeth Whitaker.

THE manner in which an inquest was held recently at Cowling, near Keighley, in the West Riding of Yorkshire, by the district coroner, Mr. Edgar Wood, led to an application being made in the King's Bench Division that the inquisition should be quashed and a fresh inquest held. The deceased was the daughter of a small farmer who with his family occupied two farmhouses situated about half a mile apart. The father and mother with four daughters and a son lived at Park Farm, and the deceased, who was 23 years of age, lived with two brothers of the respective ages of 20 and 11 years at Lumb Farm. On the evening of Nov. 11th the deceased was in the farm kitchen with her two brothers until they went upstairs to bed and on the morning of Nov. 12th her dead body, naked except for her stockings and clogs, was found in a partially charred condition with fragments of burnt clothing lying near it in an empty pigsty about 60 yards from the door of the farmhouse. The nature of the inquest, which the coroner held and concluded on the afternoon of the same day at Lumb Farm, may be judged from the statement of counsel in the Divisional Court that two witnesses only were called, no post-mortem examination was made and no medical evidence was adduced, at least four persons who helped to lay out the body were not called, nor were three others who were acquainted with the habits and movements of the deceased. Another exceptional feature of the case was the destruction before the inquest of nearly all the remains of clothing found near the body. This was done by some of the neighbours, including a man named Nelson, who was the tenant of a farm close by. It was carried out after the arrival and departure of a policeman who might reasonably have been expected to take steps to prevent such acts. The jury, on such materials as were laid before them on the afternoon following the death, delivered a verdict that the deceased was found burned to death (a finding based on no evidence) and added that the evidence was insufficient to show how the fire had originated. It was to be expected in the circumstances that suspicion would arise and that uneasiness would prevail in the neighbourhood as to a tragic occurrence the proved features of which were consistent with the commission of a brutal crime. The inadequate nature of the inquiry held by the coroner soon became apparent and attracted attention beyond that of the rustic inhabitants of the district and of their clergyman who was emphatic in the expression of his opinion from the pulpit. It therefore became the duty of the chief constable of the West Riding to move in the High Court that the inquisition should be brought up and quashed and an order made for the holding of a fresh inquest. This was done successfully after the papers had been laid before the Attorney-General and his fiat obtained. The second inquest was held in the Liberal Club at Cowling by the same coroner and jury and a considerable amount of evidence was heard, including that of three medical men, Dr. H. J. Campbell, Dr. J. G. Moffatt, and Mr. A. G. Hebblethwaite, who had made a post-mortem examination of the exhumed body. These gentlemen proved that the body of the dead girl afforded no evidence either of outrage or of any violent or criminal act conducing to her death, thus setting at rest rumours which the absence of medical evidence at the first inquest had allowed to circulate unchecked. Dr. Campbell described the wounds caused by the burning in detail. The charring involved practically the whole of the

he has obtained by cinnamate of sodium in pulmonary tuberculosis. Both he and Dr. Buisson have used this drug in their clinics. It had been tried previously by Landerer of Stuttgart in intravenous injections of 25-milligramme doses, and in Spain better results have been got with larger doses. M. Reynier uses subcutaneous injections of 10 centigrammes dissolved in 10 cubic centimetres of physiological serum, prolonged over a certain period. In tuberculous patients submitted to this treatment the appetite and nutrition and strength improve, the fever becomes less, the cough clears up, and progressive cicatrisation of the lesions is promoted. M. Reynier warmly recommends a trial of the drug.

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Dec. 14th.

ITALY.

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Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 18th, 1830.

PRACTICAL RIGHTS OF PHYSICIANS AND APOTHECARIES.

To the Editor of THE LANCET.

SIR,—I have just received THE LANCET for the 20th, and therein I find that when speaking of the privileges of physicians, you seem to differ with Mr. Willcock, who maintains that they possessed the power to prepare medicines according to their own prescriptions prior to the passing of the Apothecaries' Act; and moreover, that these privileges were granted them in the "saving rights" of that act. Now there is one question which I hope you will answer in your next Number. Can a physician prepare his own medicines out of London, that is, any-where in the country? For you say yourself, "In a word, neither a fellow of the London College of Physicians, nor a graduate of the University of Edinburgh, can follow the business of an apothecary avowedly as an apothecary in *this town.*" By your merely mentioning "this town," therefore, it would appear that they can exercise the art of an apothecary any-where but there.

I remain, Sir,
Your obedient servant,
AN EARNEST INQUIRER.*

⁂ Physicians did enjoy the right of preparing their own prescriptions before the Apothecaries' Act was passed, but that right was not preserved to them in the saving clause of the Act.—ED. L.

A physician cannot practise as an apothecary, either in or out of London, unless he be a licentiate of the Apothecaries' Company.—ED. L.

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* "*An earnest* Inquirer:"—In our correspondent's extreme anxiety, he forgot to pay the postage of his letter, which amounted to one shilling and three-pence. It gives us pleasure, at all times, to afford to querists whatever information we may happen to possess respecting any subject on which they may be desirous of obtaining information, and in common fairness we ought to be excused from the payment of postage. The tax of postage, has of late become so exceedingly burdensome, that we have been compelled, in our own defence, to resolve that no letters in future shall be taken from the postman, unless they are postage free. The amount of postage in one week for unpaid letters, has exceeded thirty shillings.—ED. L.

With reference to the then Editor's rebuke to the "Earnest Inquirer" which now (in December, 1908) forms an interesting historical note, we may say that "The British Almanac" for the year 1829 set out the rates of postage for letters then in force. In England, if single, they ranged from "not exceeding 15 miles 4*d.*" to "above 300 miles but not exceeding 400, 13*d*," and above that, for every 100 miles or part thereof, 1*d.* more. The average, however, was about 7*d.* each, exclusive of Members of Parliament who might frank 10 and receive 15 daily. Packets of 1 ounce weight were charged as four single letters. The smallest sheet, if cut in two, was charged double postage. Letters between England and Ireland paid, over and above the common rates, a "packet postage" of 3*d.*, 4*d.*, or 5*d.*, and, if an ounce weight, 9*d.* There was a 2*d.* postage in London, however, for letters going from one part of the town to another (1*d.* in some other towns) and each letter was allowed to weigh not more than 4 ounces. Mr. Rowland Hill's scheme for a penny postage throughout the United Kingdom did not come into operation until Jan. 10th, 1840, every letter at that rate then having to be below half an ounce in weight. It is recorded by one annalist, apparently with pride, that on that day "no less than seven-eights were prepaid."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7639 births and 4834 deaths were registered during the week ending Dec. 12th. The annual rate of mortality in these towns, which had been equal to 15·6 per 1000 in each of the three preceding weeks, declined to 15·5 in the week under notice. During the first eleven weeks of the current quarter the annual death-rate in these towns averaged 14·8 per 1000, and in London the mean rate during the same period did not exceed 14·1. The lowest annual death-rates in these towns last week were 5·6 in Hornsey, 7·5 in Barrow-in-Furness, 8·3 in Wallasey, and 9·1 in Leyton; the rates in the other towns ranged upwards, however, to 23·3 in Wigan, 23·5 in Rochdale and in Stockton-on-Tees, 23·7 in Rotherham and in Middlesbrough, and 26·0 in Oldham. In London the death-rate last week did not exceed 14·3 per 1000. The 4834 deaths from all causes in the 76 towns showed a decline of 29 from the low numbers in recent weeks, and included 412 which were referred to the principal epidemic diseases, and exceeded by 44 the low number in the previous week; of these 412 deaths, 182 resulted from measles, 76 from diphtheria, 48 from diarrhœa, 38 from scarlet fever, 37 from whooping-cough, and 31 from "fever" (principally enteric), and not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·3 per 1000, against 1·3 and 1·2 in the two preceding weeks; in London the rate from these diseases did not exceed 1·1 per 1000. No death from any of these epidemic diseases was registered last week in Bolton, Birkenhead, Tottenham, Leyton, or in eight other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·3 in Oldham and in Huddersfield, 4·3 in Leicester, 4·4 in Bury, and 5·1 in Middlesbrough. The 182 fatal cases of measles during last week in the 76 towns showed a further increase of 40 upon the steadily increasing numbers in recent weeks and considerably exceeded the number returned in any previous week of this year; they caused annual death-rates equal to 2·8 in Huddersfield, 2·9 in Grimsby, 3·5 in Bury, 4·3 in Leicester, and 6·5 in Middlesbrough. The 76 deaths from diphtheria also showed a further increase upon recent weekly numbers, and were proportionally most numerous in Salford, Swansea, York, Rhondda, King's Norton, and West Ham; nine fatal cases also occurred in Liverpool and six in Manchester. The deaths attributed to diarrhœa, showed a further marked decline, and were fewer than in any week since the middle of May last. The 38 fatal cases of scarlet fever corresponded with the number returned in the previous week; the highest rates from this disease during the week were 1·2 in Blackburn and 1·5 in Handsworth. The 37 deaths from whooping-cough showed some increase, but were again below the average; the three in Wolverhampton were, however, equal to an annual rate of 1·5 per 1000. The 31 deaths referred to "fever" were fewer than the number in any recent week; the three in Wigan were, however, equal to an annual death-rate of 1·7 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3831 and 3747 on the two preceding Saturdays, had further declined to 3704 on Dec. 12th; the new cases of this disease admitted to these hospitals during the week under notice were 426, against 495 and 405 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 334, 318, and 295 in the three preceding weeks, further declined during last week to 284, and were 125 below the corrected average number in the corresponding week of the five years 1903-07. The causes of 52, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 47 other towns; the 52 uncertified causes of death in the 76 towns included, however, 10 in Liverpool, nine in Birmingham, six in Sheffield, and five in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·3 16·4, and 16·5 in the three preceding weeks, declined to 15·2 in the week ending Dec. 12th. During the first eleven weeks of the current quarter the annual death-rate in these eight towns averaged 15·1 per 1000, and exceeded by 0·3 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 5·8 and 8·0 per 1000 in

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Hospital Service.

INTERNATIONAL congresses of professors and practitioners of the healing art have many attractions for those who frequent them—not the least of these being the insight which they afford into the management and service of the hospitals characteristic of the country in which the congresses are held. Italian physicians and surgeons have been heard to say that when such an occasion takes them to the British Isles they have, *inter alia*, been specially interested in the economy, equipment, and general efficiency of the great charitable institutions in which disease or injury is gratuitously treated; interested not only in the professional skill of the clinical, but also in that of the subordinate *personnel*—to wit, the nurses and the assistant staff in general—organised in the patients' service. Not only so, but the air of comfort, even of good cheer, pervading the wards, coincident with a cleanliness, a tidiness, a diffused sense of the "becoming" (Plato's τὸ πρέπον), are coefficients all making for recovery or cure; the *ensemble* in itself constituting an object-lesson amounting to an admonition which the foreign, particularly the Italian, visitor may well profit by. Italy indeed has much leeway to make up before her "ospedali," even in her great centres of population, can court comparison with the humblest infirmaries or hospitals in the British Isles. Not that she is behindhand in the clinical, or purely professional, side; but in the subordinate *personnel* just referred to, above all in the assistant staff on which the physician or surgeon must rely—to say nothing of the features of comfort and cleanliness already noted—she is lamentably defective. A great congress has lately been held at Siena to discuss and to formulate the innovations required to remedy this state of things—a "Congresso degli Infermieri" (hospital "helps"), the second of a series which, I fear, bids fair to be an extended one before the desired consummation is brought about. Inadequate in number and miserably underpaid these "infermieri" complain that there is no attraction for duly qualified aspirants to join their ranks, their remuneration being barely enough to keep soul and body together, with absolutely nothing on which to support a family or to provide for old age or supersession by illness. In terms urgent in tone and even pathetic in language they call upon the Government to take prompt and practical cognisance of their circumstances; and they remind the Premier, Signor Gioletti, and his administration of the promises obtained from them by Signori Barzilai and Turati that 1909 would see them placed in conditions under which they could live and thrive in their honourable service. Failing this reform, they admonish the Government that a resignation of the "infermieri" *en masse* throughout the whole country must surely follow. Seldom has a better justified appeal been made to Parliament. Indeed, the lay journals are supporting it, not only in the interests of the public but to avert what threatens to become a national scandal. Hardly a week passes without [illegible] painful incidents being [illegible] even of the metropolitan [illegible] mutiny, flight of patients from the wards bear testimony all too eloquent to the deficiency of the "infirmieri" in point of number and competence. In Rome on the same day occurred two such scenes—one in the Policlinico, another in the Santo Spirito—as would of themselves suffice to hasten and to give lasting effect to the appeal of the Siena Congress. In the former a surgical patient, a married man with a family, received a visit from a girl with whom he had been on terms of improper intimacy. At once they exchanged heated language, followed by the girl's wounding the patient near the left scapula with a stiletto. The man promptly seized the weapon, leaped out of bed, and dealt a violent blow at the girl who fell wounded in the abdomen. Her cries brought the "infermieri" to the spot, followed by the surgeon on duty—the patients in the ward meanwhile drawing their coverlets over their heads in horror at the spectacle. Both assailant and assailed were put under special treatment not an instant too soon, the result of which has yet to be made known. In the latter hospital, the Santo Spirito, there was a mutiny of the patients, beginning with one of these launching a cup in the face of a nurse (because the bread which she handed to him was not to his liking) and inflicting a deep wound in the left parietal region. This outrage was followed by another in the consumptive wards where a patient (having managed clandestinely to get wine) began, in his excitement, to denounce vociferously the whole *personnel* of the hospital where, he said, the victims to tuberculosis were maltreated. Protesting that he would go out, he was conducted to the isolation hall when, swinging an iron bar, *en route*, he swore he would break the head of anyone who came near him. He then called on other patients to join him, and several of these, laying hold of any weapon that seemed handy, threatened

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[1] THE LANCET, Nov. 14th, 1908, p. 1436.

ANALYSIS OF SICKNESS

(*Specially compiled for* THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1903.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,705,757	—	2013	752	—	209	—	18	384	6	3382	9·2	—	123	38	82	31	—	89	—	144	457	1·2	5365	14·6	128
West Districts.																										
Paddington	150,023	—	76	10	—	8	—	—	12	—	106	9·2	—	3	2	—	4	—	—	—	5	14	1·2	155	13·4	119
Kensington	182,752	—	46	21	—	9	—	2	11	—	89	6·3	—	2	2	3	1	—	2	—	1	11	0·8	188	13·4	110
Hammersmith	124,012	—	27	13	—	1	—	—	7	—	48	5·0	—	—	1	—	1	—	1	—	4	7	0·7	138	14·5	128
Fulham	171,562	—	50	40	—	4	—	2	9	—	105	8·0	—	—	1	4	2	—	—	—	6	13	1·0	168	12·8	115
Chelsea	75,049	—	20	14	—	2	—	1	8	—	45	7·8	—	3	—	1	—	—	2	—	3	9	1·6	92	16·0	135
City of Westminster	170,545	—	98	17	—	3	—	—	5	—	123	9·4	—	4	—	3	—	—	—	—	3	10	0·8	182	13·9	141
North Districts.																										
St. Marylebone	126,867	—	21	11	—	6	—	1	14	—	53	5·4	—	5	—	1	—	—	—	—	4	10	1·0	147	15·1	72
Hampstead	92,654	—	28	5	—	2	—	—	3	—	38	5·3	—	—	—	—	—	—	—	—	1	1	0·1	51	7·2	61
St. Pancras	237,075	—	74	32	—	9	—	1	15	—	131	7·2	—	5	1	3	2	—	1	—	5	17	0·9	287	15·8	144
Islington	349,091	—	128	46	—	18	—	1	17	1	211	7·9	—	8	3	7	4	—	5	—	8	35	1·3	397	14·8	129
Stoke Newington	54,015	—	31	3	—	3	—	—	3	—	40	9·7	—	—	1	—	—	—	—	—	—	1	0·2	49	11·8	92
Hackney	235,253	—	128	25	—	8	—	1	20	—	182	10·1	—	3	4	1	2	—	2	—	4	16	0·9	247	13·7	124
Central Districts.																										
Holborn	54,466	—	27	7	—	9	—	—	6	—	49	11·7	—	2	1	—	—	—	3	—	4	10	2·4	73	17·5	75
Finsbury	96,007	—	38	18	—	7	—	—	8	—	71	9·6	—	5	—	2	—	—	2	—	6	15	2·0	154	20·9	166
City of London	19,252	—	6	2	—	—	—	—	—	—	8	5·4	—	—	—	—	—	—	—	—	—	—	—	32	21·7	200
East Districts.																										
Shoreditch	115,227	—	78	22	—	12	—	—	17	—	129	14·6	—	2	5	2	2	—	—	—	4	15	1·7	161	18·2	125
Bethnal Green	131,066	—	73	18	—	15	—	—	25	—	131	13·0	—	13	3	—	2	—	4	—	2	24	2·4	163	16·2	96
Stepney	310,706	—	176	60	—	11	—	—	33	1	281	11·8	—	25	4	11	6	—	5	—	13	64	2·7	417	17·5	137
Poplar	171,516	—	106	19	—	8	—	1	26	—	160	12·2	—	3	2	4	—	—	1	—	8	18	1·4	208	15·8	120
South Districts.																										
Southwark	210,442	—	79	23	—	9	—	3	16	—	130	8·1	—	6	1	5	—	—	2	—	11	25	1·5	303	18·8	174
Bermondsey	127,910	—	53	22	—	12	—	1	13	—	101	10·3	—	13	1	2	—	—	3	—	8	27	2·8	189	19·3	179
Lambeth	321,344	—	97	39	—	12	—	2	16	1	167	6·8	—	5	2	12	—	—	1	—	6	26	1·1	349	14·2	108
Battersea	183,873	—	139	52	—	8	—	—	10	—	209	14·8	—	3	—	1	1	—	—	—	5	10	0·7	164	11·6	125
Wandsworth	289,506	—	133	44	—	7	—	1	19	3	207	9·3	—	3	—	4	2	—	1	—	3	13	0·6	268	12·1	112
Camberwell	280,022	—	91	52	—	4	—	1	24	—	172	8·0	—	1	—	5	—	—	1	—	5	12	0·6	291	13·5	145
Deptford	117,539	—	61	16	—	5	—	—	15	—	97	10·8	—	—	1	—	—	—	2	—	9	12	1·3	129	14·3	103
Greenwich	109,110	—	35	16	—	6	—	—	12	—	69	8·2	—	1	1	—	—	—	1	—	5	8	1·0	100	11·9	111
Lewisham	156,027	—	41	74	—	8	—	—	8	—	131	10·9	—	8	—	6	—	—	—	—	10	24	2·0	149	12·4	164
Woolwich	131,346	—	53	31	—	3	—	—	11	—	98	9·7	—	—	2	5	2	—	—	—	1	10	1·0	114	11·3	61
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Earl Grey, who declared the exhibition open. Amongst others who have delivered addresses were Dr. Herman Biggs, New York; Dr. Knopf, New York; Dr. Charles A. Hodgetts, of the Ontario Board of Health, Toronto; Dr. A. J. Richer, of the Ste. Agathe Sanatorium, near Montreal; Professor Adami and Dr. W. F. Hamilton. Lieutenant-Colonel Burland of Montreal has given $50,000 for a dispensary. Dr. Hamilton thus summed up the needs for the anti-tuberculosis campaign in Montreal: A larger dispensary, soon to be realised through the gifts of Colonel Burland; a quinquennial census of the city; a larger number of nurses; two more inspectors; greater support by the board of health with increased powers; fuller coöperation by the hospitals; a sanatorium in the Laurentian mountains and camps near Montreal; home for incurable cases, with farm attached to accommodate 400 patients; better enforcement of the laws against spitting and the requirement of notification and registration of tuberculous cases. Dr. Hamilton, in his public lecture before the exhibition, told of the work which had been done in Montreal during the past six years. Up to March last 1105 patients have been under supervision during the existence of the Montreal League for the Prevention of Tuberculosis. In the same period 4186 persons have died in Montreal from tuberculosis. 20,000 visits were paid to these 1105 patients, 9000 cuspidors were distributed, 40,000 leaflets were put forth, and 3000 rooms and houses were disinfected. All the work had been done on an expenditure of $12,724.

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Dr. R. A. Reeve, Dean of the Medical Department of the University of Toronto for the past 12 years, has retired and has been succeeded by Dr. Charles K. Clarke, superintendent of the Toronto Provincial Hospital for the Insane. During his tenure of office Dr. Reeve took a very active interest in all that pertained to the medical department as well as to the wider field of university affairs. He was ever zealous in the cause of the medical students. He was for years President of the Alumni Association of the University, and during the meeting of the British Medical Association in Toronto in 1906 was its President. His valuable experience and services will not be lost to the medical department as he retains his position as professor of ophthalmology, being also chief of that department in the Toronto General Hospital.

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During the month of October there were 500 cases of enteric fever in this province with 126 deaths, compared with 50 deaths for the corresponding month last year. 50 cases of small-pox were reported occurring in 15 centres. The total number of deaths from all causes throughout the province was 2327, making a death-rate of 13·8 per 1000.

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The Western Hospital, Toronto, recently received a donation of $25,000 from a citizen of that town. A by-law will be voted on in Toronto at the municipal elections in Jan. 1st, 1909, to provide for the raising of $200,000 to be divided equally between the Toronto General, St. Michael's, Grace, and the Western Hospitals. Dr. D. J. Gibb Wishart, Toronto, has been advanced to the position of chief of the ear, nose, and throat service in the Toronto General Hospital. Mr. I. H. Cameron, LL.D., has been appointed chief of the surgical service in St. Michael's Hospital and Dr. Walter McKeown, chief of another surgical service in the same institution. Dr. H. B. Anderson and Dr. R. J. Dwyer have been made chiefs of the two services in medicine. Dr. F. Fenton is chief of the obstetric service and Dr. G. H. Burnham of the ophthalmology service. Dr. J. N. E. Brown, superintendent of the Toronto General Hospital, is recommending to the board of governors that all "drunks" should be excluded from that institution in the future. Chronic "drunks" should go to the gaol and acute cases to the Provincial Hospital for the Insane until recovered.

Toronto, Dec. 1st.

THE TRURO TOWN COUNCIL AND THE LOCAL GOVERNMENT BOARD.—At a meeting of the Truro town council, held on Dec. 8th, it was decided to acquiesce in the Local Government Board's suggestion that the office of surveyor and sanitary inspector should be held by two persons, instead of by one as hitherto.

Obituary.

CHARLES EDWARD BEEVOR, M.D. LOND., M.R.C.S. ENG., F.R.C.P. LOND.,

PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED EPILEPTIC AND TO THE GREAT NORTHERN CENTRAL HOSPITAL, E

IT is with sincere regret that the medical profession a great number of personal friends have heard of the su death of Dr. C. E. Beevor in the early hours of Dec. due to an attack consequent on an atheromatous conditio the coronary arteries.

Charles Edward Beevor was the eldest son of the Charles Beevor, F.R.C.S., and Elizabeth, daughte Thomas Burrell. Dr. Beevor was born in London in 1854 was educated first at Blackheath Proprietary School and at University College, London. He received his medical ed tion at University College Hospital, becoming M.R.C.S. in 1878, M.B. Lond. in 1879, L.S.A. in 1880, M.D. Lon 1881, and M.R.C.P. Lond. early in 1882. In May, 1882, Beevor was studying at Vienna with Obersteiner and atte various clinics in that city, especially those dealing with throat and the eye. From August, 1882, to May, 1893, his t was passed at Leipsic, at first with Cohnheim and then Weigert, with whom he studied microscope technique and methods of mounting and staining sections. Whilst Leipsic the clinic of the neurologist Erb naturally attra the close attention of Dr. Beevor, after which he repa to Berlin where he divided his time between the var hospitals in that city. The celebrated teachers in P including Charcot, Marie, and Déjerine, were attende various times by Dr. Beevor, and it might be said tha spared no trouble or labour to fit himself by every mean his power for the prosecution of his studies.

In 1883 he became physician to the National Hospital the Paralysed and Epileptic, Queen-square, a post which retained to his death, as was also the case with the offic physician to the Great Northern Central Hospital whic obtained in 1885. He became a Fellow of the Royal Col of Physicians of London in 1888. On his return f Germany in 1883 he was engaged for some four years Sir Victor Horsley on an experimental research, the sub of which was the minute representation of movement in cerebral cortex and in the internal capsule. Notwithsta ing the convincing demonstration that Dr. David Ferrier given at the International Medical Congress held in Lon in 1881, that certain areas of the cortex were defini related to certain motor and sensory functions, opinion remained to a certain extent unstable with regard to fundamental question of cerebral localisation, and research was of far-reaching importance, not only beca it led to a vast increase in our knowledge of the functi of the brain, but also because it had the effect of crystallis in the minds of the profession the truths of cerebral locali tion. From the date of the publication of this work Beevor became one of the recognised neurological aut rities of the country.

Last May he went to the United States in response a pressing and special invitation from the neurologists that country. He lectured in Philadelphia, New York, Chicago. He received a most enthusiastic reception f the American Neurological Society and from the Neu logical Section of the American Medical Association. Lett received from the United States by one of our corresponde in this country showed how deep an impression his visit made and how greatly his personal charm and profou knowledge had impressed American neurologists. The lect which attracted most attention in America was delive before the members of the Section on Nervous and Men Diseases of the fifty-ninth annual session of the Americ Medical Association held at Chicago; the subject of lecture was the Coördination of Single Muscular Moveme in the Central Nervous System. He was also the honour guest of the Neurological Society of America before wh he read a paper on the Arterial Supply of the Brain. Boston the medical profession induced him to address the on Localisation of Brain Centres and accorded to him welcome that was as cordial as it was sincere.

Dr. Beevor contributed many articles to *Brain* and t leading medical journals, his "Handbook on Diseases of t Nervous System" being characterised by such depth of i sight and such marked literary ability that the wo showed the author to be not only master of h

Correspondence.

"Audi alteram partem."

TANDARDISATION OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—With regard to Messrs. McDougall's letter on this ubject which appeared in THE LANCET of Dec. 5th, I am esired by my board to state that they fully agree with the riters as to the desirability of a definite method of test for scertaining the germicidal value of disinfectants, and that hilst they see no reason for questioning the sufficiency of e "Rideal-Walker" method they would be among the rst to adopt any better test were it available.

But they cannot agree that because they have now secured e services of Mr. Ainslie Walker, one of the authors of at test, as their managing director and consulting chemist, e test should therefore be in any way discredited. Messrs. IcDougall know perfectly well that when they or we claim certain coefficiency for our respective products that claim s not adjudicated by the authors of the test but by ndependent experts who fully understand the method, as it s now in very general use in this country and elsewhere. hey should also know that the amplification of the test to neet the case of disinfectants that separate out into layers of different coefficiencies is simply a recognition of a practice which has long prevailed and which was foreseen and provided for in the recommendations of the expert committee of the Royal Sanitary Institute.

With regard to the particular questions that have arisen between Messrs. McDougall and ourselves, and which appear to have occasioned their letter to you, we think it undesirable to make any statement at present, seeing that Messrs. McDougall have indicated the possibility of their seeking the intervention of the court in the matter.

I am, Sir, yours faithfully,
For JEYES' SANITARY COMPOUNDS CO., LIMITED,
WM. PLANNER, Secretary.
Cannon-street, E.C., Dec. 14th, 1908.

To the Editor of THE LANCET.

SIR,—As Messrs. McDougall Bros. and Messrs. Jeyes have both been clients of mine in the past, may I write to say that it seems unfortunate that the letter which Mr. Ainslie Walker and myself sent to you on Sept. 19th should have given rise to any dispute. Both firms should be in a position to know what has been done for the standardisation of disinfectants, so that I am surprised at the suggestions which Messrs. McDougall Bros. now make. The whole question may be resolved into a matter of dates.

1. There is already a well-known standard bacteriological test for disinfectants accepted by all workers here and in the colonies. Five years ago the Royal Sanitary Institute appointed a special committee, consisting of members whose qualifications and whose disinterestedness cannot be questioned, to decide on a definite standard. Their labours extended over two years, and their decision has been accepted and made use of by all workers both at home and abroad, and consisted in recommending for general work the test which Mr. Ainslie Walker and myself had *suggested* at Bradford in 1903. It should be pointed out that Mr. Walker's appointment in Messrs. Jeyes' Company was two years after the reading of this paper; but even if this had not been the case it should not detract from the value of our method.

2. The offer of a subscription to the cost of such an inquiry is also somewhat belated. When the question was submitted to the Royal Sanitary Institute, Messrs. Jeyes, through me, formally offered to bear its entire cost, but the institute preferred to meet the expenses out of their own funds and so happily averted the possibility of any suggestion of commercial influence on the result of the committee's work.

3. The last clause of that committee's report read thus: "Where special conditions exist which may interfere with the activity of the disinfectants, the consumer should be advised to call for the same conditions to be embodied in the test." Of late, medical officers of the City of London and other important towns have inserted in their tender forms a stipulation which, whilst requiring no change in the technique of the original test, calls for a modification of the condition in which the disinfectant is presented for examination; and it was with the object of introducing some uniformity in the method of controlling this condition—too indefinite as it stands—that we put forward the suggestion which appears in our letter of Sept. 19th. In that letter we did not intend to modify in any way the value of the simple test as originally put forward and should be very sorry if other readers of the letter should put such an interpretation upon it.

In conclusion, Sir, the matter may be summed up thus: There is, and has been for some years, an authoritative standard which has met with general acceptance. The inclusion of the condition of behaviour on standing has been suggested by several medical officers of health acting in the interests of the public. Both firms tell you that they have some preparation that conforms to the Rideal-Walker test after the disinfectant has been diluted, so proving that this *new condition of non-separation* on standing is fulfilled. I have not yet had an opportunity of examining a sample of Messrs. McDougall's preparation in this way but do not doubt their word. In that case they will be able to compete in the open market under conditions which are open to all other manufacturers. I am, Sir, yours faithfully,

Victoria-street, Westminster, Dec. 11th, 1908. SAMUEL RIDEAL.

⁂ In our footnote to a letter from Messrs. McDougall Bros. we said that there was a need for a standard method of conducting bacteriological tests for disinfectants. Nothing in Dr. Rideal's letter leads us to change our opinion. Dr. Rideal omits to say that the report of the special committee appointed by the Royal Sanitary Institute was not adopted by that body. It is not officially published.—ED. L.

THE VALUE OF CALMETTE'S OPHTHALMO-TUBERCULIN REACTION IN DISEASES OF CHILDREN.

To the Editor of THE LANCET.

SIR,—There has been recently considerable discussion as to the diagnostic value of Calmette's ophthalmo-tuberculin test in tuberculous disease. Whilst some believe it to be of great value, other observers are sceptical of its use, putting forward morbid conditions other than tubercle which give the reaction. Of its use in adult diseases not seen in a children's hospital I have had practically no experience, but venture to think that the following collection of cases clearly shows that the test, at least in children, is highly satisfactory. The solutions used (0·5 per cent. and 1 per cent.) were made from the powder, which is decidedly cheaper and as efficient as that made up ready for use in ampoules. The 1 per cent. is recommended to be used in those cases of suspected tuberculous disease where failure has occurred with the 0·5 per cent., but I found that those rare cases that failed to react with the weaker solution failed also with the stronger, or produced such an indefinite reaction as to be reckoned a query positive. The accepted reaction implies reddening of the ocular conjunctiva, the conjunctiva of lower eyelid and caruncle; but the delicate pink blush of the conjunctiva alone, by far the most frequent manifestation, is sufficient for a positive reaction. Some subjects give the reaction in both eyes when only one has been put to the test, and in one or two cases the opposite eye to that tested has actually been seen to react, the one treated remaining normal.

With regard to the time of reaction, although the whole cycle may be complete in eight hours, the reaction usually begins about the sixth hour, reaches its maximum in 12, and lasts 24 hours. In only one case out of 45 was there the least anxiety felt. Here the patient, a tuberculous child, reacted strongly, causing slight chemosis and photophobia. This, however, cleared up with frequent washings of boric acid lotion in four days.

In all Calmette's solution was used on 45 children varying in age from 3 months to 14 years. Of these 21 gave the positive reaction; 16 were verified by post-mortem examination, and 5 gave clinical evidence of tubercle. Of 17 cases of suspected tubercle, negative to Calmette's test, 9 at the necropsy were found to be free from any sign of tubercle; 5 where an examination could not be obtained gave no clinical

Earl Grey, who declared the exhibition open. Amongst others who have delivered addresses were Dr. Herman Biggs, New York; Dr. Knopf, New York; Dr. Charles A. Hodgetts, of the Ontario Board of Health, Toronto; Dr. A. J. Richer, of the Ste. Agathe Sanatorium, near Montreal; Professor Adami and Dr. W. F. Hamilton. Lieutenant-Colonel Burland of Montreal has given $50,000 for a dispensary. Dr. Hamilton thus summed up the needs for the anti-tuberculosis campaign in Montreal: A larger dispensary, soon to be realised through the gifts of Colonel Burland; a quinquennial census of the city; a larger number of nurses; two more inspectors; greater support by the board of health with increased powers; fuller coöperation by the hospitals; a sanatorium in the Laurentian mountains and camps near Montreal; home for incurable cases, with farm attached to accommodate 400 patients; better enforcement of the laws against spitting and the requirement of notification and registration of tuberculous cases. Dr. Hamilton, in his public lecture before the exhibition, told of the work which had been done in Montreal during the past six years. Up to March last 1105 patients have been under supervision during the existence of the Montreal League for the Prevention of Tuberculosis. In the same period 4186 persons have died in Montreal from tuberculosis. 20,000 visits were paid to these 1105 patients, 9000 cuspidors were distributed, 40,000 leaflets were put forth, and 3000 rooms and houses were disinfected. All the work had been done on an expenditure of $12,724.

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The Western Hospital, Toronto, recently received a donation of $25,000 from a citizen of that town. A by-law will be voted on in Toronto at the municipal elections in Jan. 1st, 1909, to provide for the raising of $200,000 to be divided equally between the Toronto General, St. Michael's, Grace, and the Western Hospitals. Dr. D. J. Gibb Wishart, Toronto, has been advanced to the position of chief of the ear, nose, and throat service in the Toronto General Hospital. Mr. I. H. Cameron, LL.D., has been appointed chief of the surgical service in St. Michael's Hospital and Dr. Walter McKeown, chief of another surgical service in the same institution. Dr. H. B. Anderson and Dr. R. J. Dwyer have been made chiefs of the two services in medicine. Dr. F. Fenton is chief of the obstetric service and Dr. G. H. Burnham of the ophthalmology service. Dr. J. N. E. Brown, superintendent of the Toronto General Hospital, is recommending to the board of governors that all "drunks" should be excluded from that institution in the future. Chronic "drunks" should go to the gaol and acute cases to the Provincial Hospital for the Insane until recovered.

Toronto, Dec. 1st.

THE TRURO TOWN COUNCIL AND THE LOCAL GOVERNMENT BOARD.—At a meeting of the Truro town council, held on Dec. 8th, it was decided to acquiesce in the Local Government Board's suggestion that the office of surveyor and sanitary inspector should be held by two persons, instead of by one as hitherto.

Obituary.

CHARLES EDWARD BEEVOR, M.D. LOND., M.R.C.S. ENG., F.R.C.P. LOND.,

PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED A EPILEPTIC AND TO THE GREAT NORTHERN CENTRAL HOSPITAL, ETC

IT is with sincere regret that the medical profession an great number of personal friends have heard of the sudd death of Dr. C. E. Beevor in the early hours of Dec. 5 due to an attack consequent on an atheromatous condition the coronary arteries.

Charles Edward Beevor was the eldest son of the l Charles Beevor, F.R.C.S., and Elizabeth, daughter Thomas Burrell. Dr. Beevor was born in London in 1854 a was educated first at Blackheath Proprietary School and th at University College, London. He received his medical edu tion at University College Hospital, becoming M.R.C.S. E in 1878, M.B. Lond. in 1879, L.S.A. in 1880, M.D. Lond. 1881, and M.R.C.P. Lond. early in 1882. In May, 1882, I Beevor was studying at Vienna with Obersteiner and attend various clinics in that city, especially those dealing with t throat and the eye. From August, 1882, to May, 1893, his ti was passed at Leipsic, at first with Cohnheim and then w Weigert, with whom he studied microscope technique and t methods of mounting and staining sections. Whilst Leipsic the clinic of the neurologist Erb naturally attract the close attention of Dr. Beevor, after which he repair to Berlin where he divided his time between the vario hospitals in that city. The celebrated teachers in Par including Charcot, Marie, and Déjerine, were attended various times by Dr. Beevor, and it might be said that spared no trouble or labour to fit himself by every means his power for the prosecution of his studies.

In 1883 he became physician to the National Hospital the Paralysed and Epileptic, Queen-square, a post which retained to his death, as was also the case with the office physician to the Great Northern Central Hospital which obtained in 1885. He became a Fellow of the Royal Colle of Physicians of London in 1888. On his return fro Germany in 1883 he was engaged for some four years wi Sir Victor Horsley on an experimental research, the subje of which was the minute representation of movement in t cerebral cortex and in the internal capsule. Notwithstan ing the convincing demonstration that Dr. David Ferrier h given at the International Medical Congress held in Lond in 1881, that certain areas of the cortex were definite related to certain motor and sensory functions, opinion st remained to a certain extent unstable with regard to t fundamental question of cerebral localisation, and th research was of far-reaching importance, not only becau it led to a vast increase in our knowledge of the functio of the brain, but also because it had the effect of crystallisi in the minds of the profession the truths of cerebral localis tion. From the date of the publication of this work D Beevor became one of the recognised neurological auth rities of the country.

Last May he went to the United States in response a pressing and special invitation from the neurologists that country. He lectured in Philadelphia, New York, a Chicago. He received a most enthusiastic reception fro the American Neurological Society and from the Neur logical Section of the American Medical Association. Lette received from the United States by one of our corresponden in this country showed how deep an impression his visit ha made and how greatly his personal charm and profou knowledge had impressed American neurologists. The lectu which attracted most attention in America was delivere before the members of the Section on Nervous and Ment Diseases of the fifty-ninth annual session of the America Medical Association held at Chicago; the subject of t lecture was the Coördination of Single Muscular Movemen in the Central Nervous System. He was also the honoure guest of the Neurological Society of America before who he read a paper on the Arterial Supply of the Brain. A Boston the medical profession induced him to address the on Localisation of Brain Centres and accorded to him welcome that was as cordial as it was sincere.

Dr. Beevor contributed many articles to *Brain* and th leading medical journals, his "Handbook on Diseases of th Nervous System" being characterised by such depth of in sight and such marked literary ability that the wor showed the author to be not only master of hi

BALTIMORE AND THE JOHNS HOPKINS HOSPITAL.

(From our Special Sanitary Commissioner.)

THE city of Baltimore is celebrated throughout the world, at least among University scholars and the medical profession, for its Johns Hopkins University and the Johns Hopkins Hospital. It is only in America that such institutions spring into existence at the bidding of one single individual. This is certainly not an unmixed blessing but it is a very remarkable fact. A merchant named Mr. Johns Hopkins died in 1873 and bequeathed £700,000 so that a university should be established at Baltimore. The special features of this University are the inducements and facilities offered for post-graduate work. So much is this the case that more than half the 700 to 800 students attending have already graduated in other universities. Not only did the late Mr. Johns Hopkins endow the University but he left a sum nearly as large—namely, £600,000—so that a model hospital which should serve as a scientific and charitable institution might be built in connexion with the University. In these circumstances it was only natural that the foreign members of the International Congress on Tuberculosis which recently met at Washington should be invited to visit Baltimore and its University, and this they did in large numbers. They were well received. The services of numerous motor-cars had been secured and in the early morning the visitors were fetched from their various hotels and conveyed to the town hall. Here the mayor and the secretary of the State of Maryland said a few words of welcome and then the automobiles took the visitors over the town and away into the beautiful wooded parks that surround the city. The residential quarters are specially favoured, for the houses are not high and yet many of the avenues are so broad that there are gardens and trees down the centre of these thoroughfares. But undoubtedly the principal object to be seen was the Johns Hopkins Hospital which was reached later in the morning. The magnificence of the site and the abundance of surrounding open space constitute the first favourable impression. This is all the more remarkable as the hospital is not in the outskirts but in the centre of the city, and furthermore it stands on an elevation on the crest of rising ground. Thus outdoor treatment can be employed here. The fine open galleries running from pavilion to pavilion provide broad terraces where beds can be wheeled out and the patients left to enjoy the open air.

There is room in this celebrated hospital for 380 in-patients but some of these are paying patients and are charged £1 (sometimes even £2) a day, all included. Dr. John S. Billings of the United States Army had helped to design the hospital and he is one of the best known authorities on warming and ventilating. In these circumstances I hastened to the surgical ward where it was probable that Dr. Billings's system would be most carefully applied. This is a circular ward, with a big towering shaft in the centre and the beds in the outer circle, their heads being against the wall and between the windows. Dr. Billings prefers this arrangement to that of the circular ward at the Antwerp Hospital, of which he gives an illustration in his text-book. The original object of a circular ward was to disinfect the air that came from small-pox patients. Then the beds were placed against the central trunk or tower; the air came through the outer circle or walls and reached the beds only at the end of its journey, and it was then at once drawn into the tower where it was sterilised by passing through fire before it was discharged into the open. The scheme was to allow 1200 cubic feet of air per bed, so that for 12 beds 120,000 cubic feet of air should be supplied per hour. Primed by these teachings, derived from Dr. Billings's standard work, I naturally inquired to what extent they were realised at the Johns Hopkins Hospital. From the members of the medical staff who were showing us round I first asked what was the cubic space allowed per bed. They did not know. Then I asked what was the system of ventilation. About this they were equally ignorant and it seemed to them quite a new idea to have to consider such matters. Some of the medical men whom I questioned had followed the clinics in this hospital for many years but it had never occurred to them to inquire how the building was warmed and ventilated. It was obvious that an elaborate system of ventilation had been devised but it was equally obvious that no one seemed to have taken any concern about it.

Considering that the visitors to the Johns Hopkins Hospital had come from the Congress on the prevention of tuberculosis; considering that a plentiful supply of fresh air is the best preventive of tuberculosis and a powerful aid in its cure; considering further, that Dr. John S. Billings is one of the greatest authorities on ventilation and that he helped to design the hospital, it was natural to expect that the system of ventilation would have been in full working order and that experts would have been on the spot to explain all the details. As a matter of fact, this most important phase of the problems at issue was entirely overlooked. Yet one of the leading representatives of the medical profession of Baltimore, Dr. Henry Barton Jacobs, had read a paper at the Washington Congress on the necessity of teaching hygiene in the schools. In this paper he said:—"Hospitals, sanatoria, dispensaries, camps may have great influence in alleviating, or even curing, those already infected with tuberculosis or other infectious diseases, but their influence in checking the spread of that disease is to be found in education as to necessary precautions and the proper manner of life. These institutions, therefore, become schools in which *hygiene* is taught to their inmates." Then further he adds: "The public schools, academies, and colleges are a series of institutions which are moulding the growing intelligence of the country, their pupils of to-day will be the men and women of to-morrow, and if in them the same kind of instruction in hygiene could be given in a practical, effective, and convincing manner as is given to patients in sanatoria, they would be sending out into the world a youth ready for the emergencies of life and with an understanding of how to avoid the preventative diseases."

These undoubtedly are excellent sentiments but how are the children in the schools to be taught hygiene when the professors in the universities fail to apply its principles? Having secured the help of one of the greatest living authorities on the subject, the Johns Hopkins Hospital should be an object-lesson to all comers in the science of supplying, without draught or any inconvenience, exactly the right volume of air at the necessary temperature to every person in the building. Instead of a model institution I found the utmost confusion and ignorance. In a medical ward there was a little wirework object under the beds that looked like a rat-trap. It covered what was stated to be an air outlet and a fan was supposed to draw the air down into an exhaust shaft. But the fan was not working when I tested this supposed outlet. Then, as windows were open close by, the air would go from the window to the outlet in a direct line and only affect the greater part of the ward by an occasional eddy. The temperature at the time of my visit was 62° F. Windows were opened according to the fancy of individuals who knew nothing whatever as to the system of ventilation and seemed quite unaware that it sufficed to open a window to destroy effectively most systems of ventilation. So complete was the confusion that apertures said to be inlets were acting as outlets when I tested them. All this was most disappointing and I could not but wonder whether Dr. Billings is aware how the good work which he has done has been forgotten, neglected, or misapplied.

At the Washington Congress there was also a paper read by Miss Mary E. Lent, graduate of Johns Hopkins Hospital, head nurse of the Instructive Visiting Nurse Association. Miss Lent explained that during the last four years some 3000 tuberculous patients had been visited in their own homes at Baltimore by the nurses of her association. The object of these visits was quite as much to teach as to tend the sick and their families. But "the work of teaching was slow" and "in the case of the very poor it is impossible to teach them to persistently apply the principles of prophylaxis to their daily lives." When this was the case "something more radical had to be done." The nurse should inform the public so that the public might decide on the segregation of patients who were dangerous to the community. Thus spoke Miss Lent at Washington. So here is a picture of some 3000 patients living at Baltimore where they are taught by Miss Lent and her assistant nurses to adopt all kinds of precautions and to make the utmost use of the very slender advantages which, in spite of their poverty, they may enjoy. If, he four general hospitals, two by the General Dispensary, one by the City of Birmingham Aid Society, and one by the Hospital Sunday Fund. The interests of the medical proession are therefore well guarded, for it will always have at least 14 members on the general committee. The fees payable by the members are 5*s.* a year, or 5*d.* a month for each individual, or for every member of a family up to four, and for each additional member of a family above four and residing in the same house 3*d.* per month. The members may make their own selection from the medical staff and every qualified medical man of good repute who does not hold a private club appointment may become a member of the staff. In order that the various provisions above enumerated may become generally known, printed copies of a brief statement of the objects, advantages, and scales of payment are being supplied to the four general hospitals for distribution in the out-patient departments. Similar statements will also be distributed at the seven branches of the General Dispensary, circulars will be sent out to 2000 firms asking them to display notices in placard form in their works, and a circular will be addressed to the members of the medical profession asking them to coöperate and to become members of the staff of the new dispensary.

Dec. 15th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Biennial Dinner of the Clinical School of the University of Liverpool.

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Winwick Asylum: New Annexe.

The new annexe at Winwick Asylum was formally opened last week by the chairman of the committee, Mr. S. S. Brown. It is intended to accommodate 120 idiot children and 12 adult females, and has cost a little under £22,000. The average cost per bed is thus a little more than £166. The chairman explained that this was an extremely low average. The total cost of the main building was £460,000, which for 2000 patients gave an average cost per bed of £230. Some of the recently built London and Yorkshire asylums cost from £400 to £430 per bed. He hoped the Asylums Board would now consider the advisability of erecting a similar annexe for the accommodation of the girls. Mr. N. W. Helme, M.P., the chairman of the Lancashire Asylums Board, complimented the committee on taking the lead in the care and treatment of the feeble-minded. He endorsed the chairman's hope as to the provision of a new annexe for the girls.

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A special meeting of the house committee of the Royal Victoria Infirmary is to be held on Thursday, Dec. 17th, to discuss matters in connexion with the infirmary chapel. The important business before the meeting will be the consideration of the following proposition to be moved by Dr. G. H. Hume, consulting surgeon to the infirmary. The terms of the motion are:—

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likely to prove productive of much annoyance and unjustifiable misrepresentation to the long-suffering dispensary medical officer. He points out that: "It seems to be a frequent practice of members of Pension Committees, to save themselves the odium and trouble of *verifying, or rather falsifying*, the statements of naturally fluent and persuasive applicants, who may often possess *a better knowledge of the Act or how to* come within it than they, to refer all such applicants to the district medical officer, with sometimes the injunction, 'He (the Doctor) can get it (the pension) for you, if he wishes.'" All of us who possess any intimate knowledge of the rural life and medical practice of Ireland recognise the vivid truthfulness of this representation. And as Dr. Greene indignantly—and most justly—asks: "Why endeavour to place more trouble and responsibility on the shoulders of the long-suffering dispensary doctor which he is not legally bound to undertake, when a reference to the relieving officer's or clerk of union's book would settle matters at once. A straightforward and honest statement to these poor and deserving, but most persistent and not always truthful, applicants—'That they cannot obtain any benefit under the Act till it has been changed by Parliament'—would save much time, troubling, and heart-burning." Dr. Greene, who is discussing the defect in the Act with regard to recipients of out-door relief who under the Act are most unjustly excluded from its beneficent provisions, is not only a dispensary medical officer and the holder of an exceptionally large number of other professional appointments, but he is also a magistrate, so that he has had the full opportunities of verifying his data and testing his own opinions.

Death-rates in Irish Towns.

The principal capital cities and seaports of the western Irish counties have been distinguishing themselves during the past week by *the unenviable notoriety* of an enormously high death-rate. Sligo leads off with the startling figure of 43·2, while Limerick and Galway have each exceeded 30. The lowest record was that of Ballymena, which was 4·8, while Tralee (5·3) and Dundalk (8·0) were the only other town areas of which the registration was below 10. The aggregate record of the 22 principal town districts of Ireland for the week was 20·3; the average of the four weeks ending Dec. 5th was 19·6. The highest death-rate from epidemic disease was that of Lisburn (4·5). 16 of the town districts reported no death from epidemics. The average for all Ireland was but 1·0. Two deaths from scarlet fever occurred in Limerick; two from enteric fever in Belfast; while diphtheria accounted for 20 per cent. of the deaths in Lisburn. Dublin had 185 deaths and 196 births; 93 deaths of females outnumbered by one the births of girls (92). The week's record shows a decline in the number of deaths from epidemic disease. 65 of the deaths were of children under five years, 40 being of babies under one year. 51 of the deaths were of persons over 60, while 27 were over 70, *seven over 80, and one over 90* years of age. 63 of the deaths occurred in hospitals and public institutions; five of these were of persons who had been admitted from localities outside the Dublin registration area.

The Queen's University of Belfast.

By the will of the late Mr. M. G. Megaw of London the sum of £1000 is given to the University of Belfast for the purpose of founding scholarships for the sons of farmers.

Infectious Disease in Belfast.

At a meeting of the Belfast public health committee held on Dec. 10th the medical officer of health drew attention to the fact that as compared with other populous centres a very small proportion of the cases of dangerous infectious disease was treated in hospital, notwithstanding the fact that the patients were without proper lodging or accommodation. The department looked to the medical practitioners to recommend cases occurring in their practice where there was not proper accommodation to go into hospital, as the department hesitated putting into force the powers conferred upon it by Section 141 of the Public Health Act; but in the interests of the general public it would be obliged to do so if there was not an improvement. It is really very amusing to hear this appeal made to the medical profession now, when the Ulster Medical Society some years ago sent a deputation to the public health committee objecting to the distance at which it was proposed to locate the fever hospital from the city of Belfast, and pointing out exactly what has since occurred—that the people, that is, the relatives of those ill, would object, owing to the great distance of the hospital (especially in case of their being summoned in an emergency) from the city of Belfast. All this was brought out at the Health Commission, but now the *presence of fever cases in the city is* frightening the authorities who apparently think by appealing to the profession whom they *would not condescend to listen to formerly* they may get their position strengthened.

Ulster Medical Society.

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Dec. 15th.

PARIS.

(*FROM OUR OWN CORRESPONDENT.*)

The Treatment of Epilepsy.

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Rabies in Young Dogs.

M. Remlinger brought this subject to the notice of the Biological Society on Nov. 28th. Although rabies is always the result of infection from another rabid animal, and the incubation period is nearly always a long one, the disease occurs in very young animals, even when they are but a *month or two old*. Young puppies are, indeed, much more susceptible to rabies than are grown dogs. The incubation period is distinctly shorter, *sometimes not more than a week*. Puppies, too, are much more dangerous because when they bite they only seem to be playing. As a rule, the virulence of the organism is exalted in its passage through young dogs. When this reinforced virus is inoculated beneath the dura mater of the rabbit it at once becomes a "fixed virus." Hence arises the necessity of early intensive treatment in the case of a bite.

Cinnamate of Sodium in the Treatment of Pulmonary Tuberculosis.

M. Paul Reynier made a communication to the Academy of Medicine *on Dec. 1st* concerning the good results which kely to prove productive of much annoyance and unjustifi-ble misrepresentation to the long-suffering dispensary medi-al officer. He points out that: "It seems to be a frequent ractice of members of Pension Committees, to save themselves he odium and trouble of verifying, or rather falsifying, the tatements of naturally fluent and persuasive applicants, who ay often possess a better knowledge of the Act or how to ome within it than they, to refer all such applicants to the istrict medical officer, with sometimes the injunction, 'He the Doctor) can get it (the pension) for you, if he wishes.'" ll of us who possess any intimate knowledge of the rural ife and medical practice of Ireland recognise the vivid truth-ulness of this representation. And as Dr. Greene indig-antly—and most justly—asks: "Why endeavour to place ore trouble and responsibility on the shoulders of the long-uffering dispensary doctor which he is not legally bound to ndertake, when a reference to the relieving officer's or lerk of union's book would settle matters at once. A traightforward and honest statement to these poor and eserving, but most persistent and not always truthful, pplicants—'That they cannot obtain any benefit under he Act till it has been changed by Parliament'—would ave much *time, troubling, and heart-burning.*" *Dr. Greene*, who is discussing the defect in the Act with regard to recipients of out-door relief who under the Act are most unjustly excluded from its beneficent provisions, is not only a dispensary medical officer and the holder of an exceptionally large number of other professional appoint-ments, but he is also a magistrate, so that he has had the full opportunities of verifying his data and testing his own opinions.

Death-rates in Irish Towns.

The principal capital cities and seaports of the western Irish counties have been distinguishing themselves during the past week by the unenviable notoriety of an enormously high death-rate. Sligo leads off with the startling figure of 43·2, while Limerick and Galway have each exceeded 30. The lowest record was that of Ballymena, which was 4·8, while Tralee (5·3) and Dundalk (8·0) were the only other town areas of which the registration was below 10. The aggregate record of the 22 principal town districts of Ireland for the week was 20·3; the average of the four weeks ending Dec. 5th was 19·6. The highest death-rate from epidemic disease was that of Lisburn (4·5). 16 of the town districts reported no death from epidemics. The average for all Ireland was but 1·0. *Two deaths from* scarlet fever occurred in Limerick; two from enteric fever in Belfast; while diphtheria accounted for 20 per cent. of the deaths in Lisburn. Dublin had 185 deaths and 196 births; 93 deaths of females outnumbered by one the births of girls (92). The week's record shows a decline in the number of deaths from epidemic disease. 65 of the deaths were of children under five years, 40 being of babies under one year. 51 of the deaths were of persons over 60, while 27 were over 70, seven over 80, and *one over 90* years of age. 63 of the deaths occurred in hospitals and public institutions; five of these were of persons who had been admitted from localities outside the Dublin registration area.

The Queen's University of Belfast.

By the will of the late Mr. M. G. Megaw of London the sum of £1000 is given to the University of Belfast for the purpose of founding scholarships for the sons of farmers.

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The Chamber of Deputies has just been debating on the fects or abuses above noted—*taking special cognisance of* e sanitary and medical surveillance of the State prisons. *gnor Romussi, an able and accomplished Milanese repre-* ntative, drew attention to the fact that inadequate *rsonnel* is a prominent factor in the disturbances that have cently characterised prison life, where the conditions all und, including the viands served out, are such as to make the res of the inmates intolerable, with the result that in Milan one the last 13 months have witnessed 19 suicides, effective abortive, among the "detenuti." The local prison has but e medical officer for 1100 convicts and 77 guardians, and is officer is expected to treat all their ailments, to examine em clinically on arrival and departure, with no other help an some casual "infermieri," two of whom are themselves nvicts. The medicaments at his disposal are few and anti- ated, the list being confined to magnesia, castor oil, and vaselina borica," for all the ailments under treatment and s "rimedi generali." The same deficiency is found in the urgical department, there being no "sala d'operazione" operating room) whatever, and *instruments and appliances*, hen wanted, having to be brought from the Ospedale Maggiore! A commission composed of medical men and Members of Parliament is loudly called for, if only to retrieve he good name of Italy throughout Christendom as a leading European Power.

Dec. 6th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Restricting the Sale of Patent Medicines in Canada.

IT has been ordained by the Dominion Government that the federal law passed at the last session of the Canadian Parliament will come into force on April 1st, 1909. This Proprietary Medicine Act will prohibit absolutely the sale of patent medicines which contain cocaine or any *of its salts* and preparations. With regard to other drugs, such as morphine, opium, and so on, the sale may be made but under very close restrictions. Every manufacturer, importer, or agent must see to it that when the medicine is sold there is printed conspicuously on the bottle or label or box a formula setting forth the drugs *contained*, the amount, and the name and address of the vendor. There is, however, an alternative to this procedure. The manufacturer may transmit directly to the Department of Inland Revenue at Ottawa the formula showing what ingredients are contained therein and obtain from it a certificate to the effect that the preparation does not contain such a proportion of the drug as to be injurious to health. The use of the certificate as bearing on the merits of the preparation is forbidden and a penalty is provided. Before the Act comes into force the 3000 druggists in Canada must register their businesses with the Department of Inland Revenue and also the formula for each preparation which they put up. Almost every druggist in Canada puts forth a preparation or preparations of his own, and this means that he must either publish the formula of all on each parcel or submit and register it in the Inland Revenue Department of the Canadian Government. All druggists manufacturing a patent medicine must obtain from the Department Inland Revenue stamps, and if they sell any of their preparations without one of these selfsame stamps affixed thereto the penalty for the first offence will be $50.

The Experience of the Hospital for Sick Children, Toronto, in Broncho-pneumonia.

Dr. C. S. McVicar, of the Hospital for Sick Children, Toronto, reports the experience of that institution in the past seven years with broncho-pneumonia, in the November issue of the *Dominion Medical Monthly*. During those years 75 cases were admitted to the medical wards of the institution: primary, 64; secondary, 11. The deaths from the former were 25, 39 per cent.; from the latter 8, 73 per cent. 38 per cent. of the cases occurred in winter, 25 per cent. in spring, 24 per cent. in autumn, and 13 per cent. in summer, the month of greatest incidence being February. The character of the temperature was remittent in 56, or 75 per cent.; continuous in 19, or 25 per cent. In 42 cases with recovery, decline was by lysis in 29 cases, or 69 per cent.; by crisis in 13, or 31 per cent. Cough was present in 75 cases; cyanosis was noted in 61 cases, or 80 per cent. In 39 primary cases with recovery the average maximum temperature was 104° F.; *average maximum pulse, 153*; average maximum respiration, 58. In 25 primary cases with death these ranged as follows: 104°, 161, 68. From the experience of this hospital it is inferred that the increased respiration-rate is the most serious feature in determining the prognosis. In the whole series of 75 cases the temperature rose above 106° in four cases—three with death and one with recovery. Eight cases with recovery were treated without stimulation or local application of any sort. 18 cases with recovery were treated without stimulation. Anti-pyretic drugs were used in five cases, of which two died and three recovered. Hydrotherapy has proved of the greatest value. The child was always given as much fluid by the mouth as he or she would take. The hot pack was found to be the best external means of controlling nervous symptoms and it seldom failed to keep the temperature within bounds. Cold packs and cold sponging are not to be recommended as they are distressing to the patient. Local applications of any kind did not seem to be of any benefit. For cardio-vascular *distress* strychnine and whisky were used in 57 cases. The whisky seemed to exert the greatest benefit because of its action as a cerebral sedative. No benefit could be put down to the use of expectorants. Belladonna or atropine was used in nine cases; no results ensued except in three cases, as an anti-spasmodic in cough. *Oxygen* was used in 19 cases, 10 of which were fatal. In the nine cases with recovery the severity of the cases is shown by the average maximum temperature, pulse, and respiration as follows: 104°, 163, 64. Dr. McVicar gives it as his opinion from his experience that oxygen inhalations are more useful than any other treatment in this disease.

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In addition to the distinctions mentioned, Dr. Beevor was oonian lecturer to the Royal College of Physicians of ndon in 1903, when he took as his subject Muscular Movements and their Representation in the Central Nervous stem.[1] One of the most remarkable and valuable of the any contributions to medical literature by Dr. Beevor was s work on the distribution of the different arteries supplyg the brain published in the Philosophical Transactions of e Royal Society of London of this year. This work was dertaken to ascertain the area of distribution of the fferent arteries of the brain, when they were injected multaneously under the same pressure with gelatin conining soluble colours in place of the usual method of jecting the arteries singly and successively with insoluble lours held in suspension. He succeeded in the difficult sk of injecting simultaneously five arteries of the brain on e same side—viz., the anterior, middle, and posterior rebrals, the anterior choroidal, and the posterior communicating arteries—with naphthol green, carmine, icholson's blue, acridin yellow, and Bismarck brown spectively. The method employed gave such exact sults and a differentiation so definite that Dr. Beevor as able by means of coronal sections to show that e corpus subthalamicum (Luy's body) had a double terial supply sometimes, its superior external part being jected by the posterior communicating artery, while its ternal inferior part was injected by the posterior rebral artery. The fact, therefore, that so small body as the corpus subthalamicum can receive s blood-supply from two different arteries is against e theory hitherto advanced that the arrangement of the ood-supply has a functional significance, as Dr. Beevor's vestigation shows the blood-supply to be purely anatomical d not distributed according to the physiological action of e part. By this method Dr. Beevor exactly determined e blood-supply to the different parts of the corpus llosum, especially of its posterior constituents, and experiment the direction of the flow of blood the posterior communicating artery has been found be from the carotid to the posterior cerebral tery. To sum up the value of this work of Dr. eevor very briefly, it may be said that until his work was blished there was no book which gave a description of the terial supply to all parts of the brain. The accurate owledge of the area of supply of any particular tery is not only of importance from the point of ew of anatomy but it is also of great value from the athological side, as it is necessary to know for the purposes diagnosing disease the exact portion of the brain hich is liable to undergo softening when any particular tery is blocked by a clot of blood.

In his private life Dr. Beevor gained the affection and teem of all who knew him, and his musical gifts and artistic abilities rendered him as popular as he was beloved for his amiability and gentleness. He leaves a widow, a son, and a daughter to mourn their loss, and to them in their bereavement we tender our sympathy, hoping that the knowledge that this brief record of the life and work of a good and learned man summarises the feelings of all his friends and fellow-workers will do something to lessen their pain.

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Mr. J. D. Hillis, who was one of the most popular and highly respected of Dublin suburban practitioners, died suddenly and quite unexpectedly on Dec. 8th, at his residence, 10, Leinster-square. Up to the hour of the fatal attack of "failure of the heart" the deceased gentleman was actively engaged in his professional duties. He was of English birth and parentage but received his professional education at the School of Surgery of the Royal College of Surgeons in Ireland, of which corporation he became a Licentiate in 1867. In the same year he received the diplomas of Licentiate and Licentiate in Midwifery of the (King and Queen's, now) Royal College of Physicians of Ireland. He secured an appointment soon after obtaining these qualifications in the Government Medical Service, British Guiana. His sojourn in Demerara in charge of a lepers' hospital gave him rare opportunities of observing a loathsome—and still decidedly mysterious—disease. One of the special results was the production of a volume, after retiring from the Government service and obtaining a pension, bearing the title, "Leprosy in British Guiana: An Account of West Indian Leprosy." It was published in 1881, after its author had settled in Dublin. It is illustrated by 20 lithographic plates and gives one of the most graphic accounts of the disease which have hitherto appeared in the English language. The continuation of his interest in the subject pecialty but also widely read in the various branches f his profession. His scientific contributions to the arious medical societies gained for him the esteem and egard of the leading men in neurology and allied branches, o that all who knew him felt that it was an honour well leserved when he was elected president of the Neurological ection of the Royal Society of Medicine, an office that he illed with distinction and dignity, alas, for so very short a ime. The Medical Society also was glad to bestow office nd honours on him, for he was *Lettsomian lecturer* in their ast session and worthily upheld the great traditions of that ost. He was also intimately connected with the internal conomy of that society as one of their trustees. At the ommencement of the last meeting of the members the resident, Mr. C. B. Lockwood, in an eloquent appreciation f Dr. Beevor's services, pointed out that not only was he rustee for the real estate of the Medical Society of London ut had been also one of their honorary secretaries, and was known personally to almost all their members. Mr. Lockwood, speaking as one who had been for many years one of Dr. Beevor's colleagues at the Great Northern Central Hospital, found it unnecessary to speak of Dr. Beevor's professional distinctions, but bore eloquent testimony to his qualities as a courteous, pleasant colleague or friend, and as a man who performed all the duties which he undertook in a most painstaking manner, sympathetic words which admirably expressed the feelings of those present.

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